



**SETTLEMENT CHANGE
ACROSS MEDIEVAL EUROPE
OLD PARADIGMS AND NEW VISTAS**

edited by NIALL BRADY & CLAUDIA THEUNE

RURALIA XII

**SETTLEMENT CHANGE
ACROSS MEDIEVAL EUROPE**
OLD PARADIGMS AND NEW VISTAS



**SETTLEMENT CHANGE
ACROSS MEDIEVAL EUROPE**
OLD PARADIGMS AND NEW VISTAS

edited by NIALL BRADY & CLAUDIA THEUNE

RURALIA XII

© 2019 Individual authors

The authors are responsible for the content of the papers (incl. image credits).

Published by Sidestone Press, Leiden
www.sidestone.com

Imprint: Sidestone Press Academics

Lay-out & cover design: Sidestone Press

Photograph cover: Tintern Abbey, County Wexford, Ireland © Daniel M. Cisilino | Dreamstime.com

ISBN 978-90-8890-806-4 (softcover)

ISBN 978-90-8890-807-1 (hardcover)

ISBN 978-90-8890-808-8 (PDF e-book)

ISSN 2565-8883

The conference and this conference volume has been sponsored by the Heritage Council / An Chomhairle Oidhreachta; Roscommon County Council; the National Monuments Section at the Department of Culture, Heritage and the Gaeltacht; Kilkenny County Council; the National University of Ireland, Galway; Queen's University Belfast; Trinity College Dublin; the University of Vienna and ADCO – The Archaeological and Commercial Diving Company Ltd.



An Roinn
Cultúir, Oidhreachta agus Gaeltachta
Department of
Culture, Heritage and the Gaeltacht



Contents

Foreword	9
<i>Niall Brady and Claudia Theune</i>	
Introduction	13
<i>Claudia Theune and Niall Brady</i>	
PART ONE: TRANSFORMATION OF THE ROMAN WORLD	17
Transformations of settlements for agricultural production between Late Antiquity and the Early Middle Ages in Italy	19
<i>Marcello Rotili</i>	
Beyond the borders. Transformations, acculturation, and adaptation between Lazio and Campania during the Lombard Period (6th – 8th centuries)	29
<i>Cristina Corsi</i>	
Deciphering transformations of rural settlement and land-use patterns in central Adriatic Italy between the 6th and the 12th centuries AD	43
<i>Francesca Carboni and Frank Vermeulen</i>	
Rural settlement and economy in Campania (South Italy) between Late Antiquity and the Middle Ages	55
<i>Nicola Busino</i>	
Post-Roman land-use transformations. Analysing the early medieval countryside in Castelo de Vide (Portugal)	65
<i>Sara Prata</i>	
Change and continuity in rural early medieval Hispania. A comparative multidisciplinary approach to the countryside of Egítania (Idanha-A-Velha, Portugal) and Emerita (Mérida, Spain)	73
<i>Tomás Cordero Ruiz</i>	
Mountain communities in the Catalan Pyrenees: 25 years of archaeological research	81
<i>Walter Alegría-Tejedor, Marta Sancho-Planas & Maria Soler-Sala</i>	
Not so dark centuries: Changes and continuities in the Catalan landscape (6th – 12th centuries)	91
<i>Jordi Bolòs</i>	
Endogenous and exogenous characteristics of settlement development of an early medieval settlement at Sursee (Canton of Lucerne, Switzerland)	103
<i>Christian Auf der Maur</i>	

Counting heads: Post-Roman population decline in the Rhine-Meuse delta (the Netherlands) and the need for more evidence-based reconstructions	113
<i>Rowin J. van Lanen & Bert J. Groenewoudt</i>	
PART TWO: FOUNDATION AND DESERTION: CAUSES AND EFFECTS	135
Rural settlement in later medieval Ireland through the lens of deserted settlements	137
<i>Niall Brady</i>	
New evidence for the transformative impact of depopulation on currently inhabited medieval rural settlements from archaeological test-pit excavation in England	147
<i>Carenza Lewis</i>	
Late medieval deserted settlements in southern Germany as a consequence of long-term landscape transformations	161
<i>Rainer Schreg</i>	
Crisis or transition? Risk and resilience during the Late Medieval agrarian crisis	171
<i>Eva Svensson</i>	
PART THREE: TRANSFORMATION AND TRANSITION THROUGH MEDIEVAL TIMES	183
Assembling in times of transitions. The case of cooking-pit sites	185
<i>Marie Ødegaard</i>	
Settlement abandonment in Dartmoor (England). Retreat of the margins reassessed in terms of market accessibility factors	195
<i>Lukáš Holata</i>	
Medieval settlement dynamics in peatland reclamations in the western, central and northern Netherlands	207
<i>Jan van Doesburg</i>	
Mendicant friaries and the changing landscapes of late medieval Ireland. The foundations of the Augustinian friars in counties Mayo and Sligo	223
<i>Anne-Julie Lafaye</i>	
Transformation and continuity in the Wexford countryside	233
<i>Breda Lynch</i>	
Silent witness: The deserted medieval borough of Newtown Jerpoint, Co. Kilkenny, Ireland	243
<i>Ian W. Doyle & Tadhg O'Keefe</i>	
The Anglo-Scottish Western March: A landscape in transition	257
<i>Caron Newman</i>	

Rural landscapes of north-eastern Rus' in transition. From the large unfortified settlements of the Viking Age to medieval villages	267
<i>Nikolaj Makarov</i>	
Change in rural settlement in eastern Central Europe from the Early to the Later Middle Ages	281
<i>Elisabeth Nowotny</i>	
Late medieval transformation of the rural landscape. A model of <i>melioratio terrae</i> on the examples of the land of Nysa-Otmuchów and the Kaczawskie Foothills, Silesia, Poland	293
<i>Maria Legut-Pintal</i>	
Breaking old ties: Settlement relocation in North-Brabant (NL) at the dawn of the Late Middle Ages	305
<i>Johan Verspay</i>	
Land-organisational changes in rural Denmark from AD 200-1200	319
<i>Jesper Hansen</i>	
Kopaniec in the Izera Mountains. An example of unusual transformation in a village after the Thirty Years' War period in Silesia (1618-1648)	331
<i>Paweł Duma, Anna Łuczak & Jerzy Piekalski</i>	
Socio-economic mobility and property transmission among peasants. The Cheb Region (Czech Republic) in the Late Middle Ages	341
<i>Tomáš Klír</i>	
PART FOUR: CAUSES AND EFFECTS OF COLONISATION, MIGRATION, CONQUESTS, AND RECONQUESTS IN MEDIEVAL TIMES	357
The Hungarian conquest and the 9th – 10th-century settlements of the Pest Plain	359
<i>Tibor Ákos Rácz</i>	
Settlements, communication and power. Transforming spatial structure in the Danube-Tisza interfluvial region in the 15th – 17th centuries	371
<i>Edit Sárosi</i>	
The transformation of rural settlements in Slavonia in the period from the 12th to the 15th centuries	383
<i>Andrej Janeš & Ivana Hirschler Marić</i>	
No smoke without fire. Burning and changing settlements in 10th-century central-northern Portugal	395
<i>Catarina Tente</i>	

One land, two peasantries. Moriscos and Old Christians in the upper Genal Valley, Málaga (16th – 18th centuries)	405
<i>Esteban López-García, Ignacio Díaz and Félix Retamero</i>	
The impact of the Christian conquest on the agrarian areas in the lower Ebro Valley: The case of Xerta (Spain)	413
<i>Antoni Virgili and Helena Kirchner</i>	
PART FIVE: CAUSES AND EFFECTS WITH RESPECT TO CLIMATE CHANGE	421
The mid-6th century crises and their impacts on human activity and settlements in south-eastern Norway	423
<i>Steinar Solheim & Frode Iversen</i>	
Climate change and economic development in the Alps during the Middle Ages and the early modern Period	435
<i>Claudia Theune</i>	

Foreword

Niall Brady and Claudia Theune

This volume assembles the contributions of the 12th International Conference of the Ruralia association, which took place in Kilkenny, Ireland, in September 2017. The association's biennial conferences always focus on a specific theme, and this time it was 'Transitions and Transformations in the Medieval and Early Modern Countryside'.

The idea that the past was an era with long periods of little or no change is almost certainly false. Changes have always affected human society. Some of the catalysts for change were exogenous and lay in natural transformations. Others came from endogenous processes, such as demographic change and the resulting alterations in demographic pressure. They might be produced by economic changes in the agrarian economy or by technological developments in industry and manufacturing. Several other aspects should be considered as well, such as changes in ideology within society and even between principal groups, such as secular and ecclesiastical bodies. The impact of politics and warfare is another cogent force.

These innovations, transmissions, and transformations had profound spatial, economic, and social impacts on the natural environment and the human landscape, and are evident at the micro, meso and macro levels. Changes, alterations, modifications and innovations may affect how land was worked, how it was organised and the structure of buildings and rural complexes (homesteads, work buildings, villages, monasteries, towns, and landscapes). In particular, transmissions and transformations with a *longue durée* perspective, such as from early medieval times (ca. 500 AD) to the High Middle Ages (ca. 1000/1200 AD), and from medieval to post-medieval and early modern times (1700), fell within the focus of the conference.

Some 45 colleagues from 18 countries across Europe followed the call for papers, submitted an abstract, and presented the results of their research in lectures and posters during the conference. The contributions included regional and national comparative studies and specific case studies and were arranged in six panels of presentation.

Keeping with a good tradition of the Ruralia conferences, attendees have the opportunity to visit archaeological sites in the host region that speak to the principal interests of the association and to the conference topic. We were expertly led through the sites of the medieval town of Kilkenny by Coilín Ó Drisceoil, Newtown Jerpoint by Ian Doyle (see his co-authored paper in this volume), Jerpoint Abbey and Tintern Abbey by Breda Lynch (whose paper on Tintern is in this volume), Clonmines by Arnaud de Volder, Baginbun by Kieran O'Connor, and Harrylock Millstone Quarry by Niall Brady. The post-conference excursions brought us across the heart of medieval Ireland to Roscommon, visiting the early medieval monastic town of Clonmacnoise on the way, led by Kieran O'Connor, who also brought the group to Roscommon Abbey and Castle. Daniel Curley showed us Rathcroghan, while Niall Brady led us finally to Tulsk, Carns and Ballintober.

It is a pleasure to express our cordial gratitude to those who have supported the conference and its publication. First and foremost is the Heritage Council / *An Chomhairle Oidhreachta*. Not only did the conference receive a grant from the Heritage Council (HC Grant CH06689), but Michael Starrett, CEO, and Ian Doyle were also gracious hosts to the conference on our opening night when the group was invited to the Heritage Council's splendidly appointed offices and garden for a BBQ dinner. The conference also acknowledges the financial support of the National Monuments Service at the Department of Culture, Heritage and the Gaeltacht; Kilkenny County Council, who hosted a second evening event in St Mary's Church and now visitor centre; the National University of Ireland, Galway; the Queen's University Belfast; Roscommon County Council; Trinity College Dublin; and the University of Vienna. Particular thanks are due to the following individuals in these bodies who have supported the project: Ian Doyle, Nollaig Feeney, Aisling Hayes, Maura Hickey, Ann Lynch, Conleth Manning, and Michael Starrett. We also want to acknowledge the support of the landowners

and guides, who gave us access to their sites and lands: the Codd family at Clonmines, Dominic McNamara at Baginbun, Maeve O'Connell at Newtown Jerpoint, Pyers and Marguerite O'Connor Nash and Pat Garvey in Ballintober, and the Office of Public Works guides at Jerpoint Abbey, Tintern, and Clonmacnoise.

Our heartfelt thanks also go to our publisher Sidestone Press, in particular Karsten Wentink and his team.

The RURALIA XII conference in Kilkenny, Ireland was organised by the editors of this volume, Niall Brady and Claudia Theune. We were ably supported by the other members of the organising committee: Terry Barry, Mark Gardiner, Kieran O'Connor and Geraldine Stout. We are also most grateful to the following early careerists, who gave of their time to assist with the logistics of the conference itself: Eugene Costello of NUI Galway, Emma Hannah and Laura Patrick of the Queen's University Belfast, and John Tighe of Trinity College Dublin. A special thanks goes Daniel McNaughton for the proofreading and to Peter Hinterndorfer, University of Vienna, for his constant help during the preparation of the conference and throughout the editing work for this volume.

A party of our colleagues at Newtown Jerpoint, Co. Kilkenny. Mostly the Hungarian delegates. Photograph by Tomáš Klír.



The editors, at Harrylock Quarry on the Hook Peninsula, Co. Wexford. Claudia Theune on the left; Niall Brady on the right. Photograph by Tomáš Klír.

Arnaud De Volder presents the results of recent research conducted at Clonmines deserted settlement, Co. Wexford. Photograph by Tomáš Klír.



Kieran O'Connor leads our delegates through the details of Baginbun, Co. Wexford. Photograph by Tomáš Klír.

Introduction

Claudia Theune and Niall Brady

As archaeologists, we are always considering questions about human societies in past times and epochs. The epochs we analyse often span several hundred years, sometimes even more, and this also applies to medieval and modern/historical archaeology. Rarely can we grasp particular blocks of time, and often we can only skip over the time of one or of several generations. Yet if we look at our own lives, those of our parents, grandparents, or even great-grandparents, we quickly realise that even such a short period of time – in the archaeological sense – is rich in developments and changes.

For the Middle Ages, at least for continental Europe, our image of the period is still shaped by romantic ideas of the 19th century. For a long time, the sense of a time with few developments was and still is held by the general public. This is an integral aspect of programmatic accentuations of the modern era as a new beginning or revival of the cultural achievements of antiquity after a period of the 'dark' Middle Ages. The view was shaped not least by revolutionary developments such as book printing and other elementary inventions, but also by discoveries in the new world.

The idea that the past was an era with long periods of little or no change is almost certainly false. Change has always affected human society. Some of the catalysts for change were exogenous, or external, and lay in natural transformations such as climate change or plant and animal diseases. Even epidemics, such as the plague, can cause massive changes. Others came from endogenous, or internal, processes such as demographic change and the resulting alterations in demographic pressure. These might be produced by shifts in the agrarian economy such as crop- or stockbreeding or better agricultural practices that produced greater harvests. Equally, the catalysts might be from technological developments in industry and manufacturing, affecting traditional forms of production. Changes in ideology within society and differences between principal groups, such as secular and ecclesiastical bodies, can be catalysts as well, and consequently we need to consider the impact of politics and warfare.

These innovations, transmissions, and transformations had profound spatial, economic and social impacts on the environments, landscapes and habitats that are evident at the local or trans-regional level.

For some several years, archaeologists, historians and researchers in related disciplines have been emphasising the multitude of transformations, both smooth transitions and periods of upheaval through the course of the long history of the Middle Ages, but also the continuous developments into the early modern period. They show causes and effects as well as persistence, and also temporary and short-term phenomena. The aim is to shift away from the image of a time without major transformations, which in part still characterises our understanding, and to trace and highlight the multitude of developments that can now be seen more clearly.

This approach served as the impetus for the XII International Ruralia Conference, held in Kilkenny, Ireland.

The conference focused on contributions that considered such transmissions and transformations from a *longue durée* perspective, such as from early medieval times (ca. AD 500) to the High Middle Ages (ca. AD 1000/1200), and from medieval to post-medieval or early modern times (1700).

In addition, topics such as the shrinking and desertion of settlements, changes resulting from shifts in political power, social change, agrarian development, the shift from handwork to manufacturing, and demographic change were examined.

The 35 contributions presented here cover very different thematic fields, focusing on different regions, approaches, causes, and effects.

We present the contributions in four sections.

A group of colleagues, in particular from southern Europe, are looking at the changes that followed the decline of the Roman Empire. For southern Europe, that is, the area west of the Rhine and south of the Danube, which belonged to the Roman Empire during the first centuries AD, specific conditions have to be considered that were less relevant outside the borders of the Empire. The late-antique legacy and new formations in the early Middle Ages is discussed. These essays are presented under the topic **Transformation of the Roman world**. In four contributions (Marcello Rotili, Cristina Corsi, Francesca Carboni/Frank Vermeulen, and Nicola Busino), the authors deal with former central Roman landscapes in the Italian region, especially Lombardy, Lazio and Campania.

In general, in Late Antiquity (4th and 5th centuries) and in the Migration Period and consequently in the time of the arrival of the Lombards (from 568 onwards), first in the north of the country, but then also further south, there was a general decrease in population, cities experienced decline, and many rural areas were again frequently used. Yet the narrative is not all about decline. There is now increasing evidence of transformation, the start of new beginnings. At higher altitudes, small fortifications and probably also villages with central functions were built. It is generally assumed that the Roman road network still worked and that old roads as well as new routes were used. While other Roman structures were also reused, the wooden construction of new buildings became common practice. Anthropological investigations of cemeteries show two different morphotypes, indicating different groups, and are often associated with the indigenous population and the Lombards. Transformation processes can be traced in the area of economic activities, settlement structures, new monastic foundations, and acculturation phenomena, especially in the country's interior. This describes an adaptation to changed economic and social conditions. There are differences between the interior of

the country and the coastal zone, where Byzantine forms are more pronounced, both with regard to settlement structures and artefacts, and this is echoed in contemporary written sources. Specific investigations of ceramics, for example, show that there are no more imports of North African fine ceramics, and in their place are locally made potteries. Traditionally, such changes were regarded as negative indicators but today the interpretations are more positive and researchers are more confident in seeing these changes as positive adaptations to dynamic forces.

A comparable development can be observed for the east of Portugal and the west of Spain (Sara Prata, Tomás Cordero Ruiz).

Walter Alegría-Tejedor, Marta Sancho-Planas and Maria Soler-Sala (co-authors) and Jordi Bolòs take the narrative further by following the development into the Carolingian period and argue that from the 9th century there is an integration with Carolingian political structures. In particular, they cite the role of monasteries or church organisations. Christian Auf der Maur sees the same for the Swiss area. These new researches are part of the wider discipline's shifting narrative, and showcase the current thinking with respect to particular case studies; the approach allows for comparative analysis across Europe.

Rowin J. van Lanen and Bert J. Groenewoudt, in turn, have developed potential methods for a better understanding of the post-Roman population decline. Using an evidence-based settlement density model, they demonstrate that from the late Roman Imperial period onwards a population decline of up to 80% can be assumed in the Netherlands. The first signs of new growth can be detected from the late 7th century, when larger settlements appear again. This positive development continued until ca. 900, when a slight decline can be observed. Possible connections with climate change are to be considered here (see Steinar Solheim and Frode Iversen below).

Some authors advance fundamental assertions about the causes and effects of medieval village foundations and their desertion. These papers are included under: **Foundation and desertion: causes and effects**. The authors emphasise how ecological factors and technical innovations should be given greater consideration. Niall Brady considers some of the logistics behind settlement foundation and raises questions concerning their ultimate desertion. For Ireland, political developments in the Middle Ages are particularly noteworthy; Anglo-Norman colonisation led to numerous new village settlements. The new lords asserted themselves in productive arable landscapes despite the presence of pre-existing landholders. These secular forces could be strengthened by ecclesiastical initiatives. Similar developments can also be observed on the continent and in Scandinavia. Carena Lewis, Rainer Schreg, and Eva Svensson each

focus more on desertion processes. Lewis's paper presents a methodological approach that acquires a multitude of significant data, permitting the results to be applied more widely. It shows massive changes in settlements as well as reductions in size due to plague. Modern maps of villages today are often projected backwards to gauge the medieval settlement, but Lewis's approach reveals this to be erroneous. Even smaller settlement units such as villages reacted quickly to changes and cannot be described as conservative or static. Rainer Schreg deals explicitly with desertion processes. Desertion can be caused by restructuring processes and by centralisation processes that involved the Church as well. Such processes are coupled with economic and social changes, and he argues that this applies in particular to the emergence of the open-field system (German: *Dreizelgenwirtschaft*) on the continent. Eva Svensson looks at strategies of stress management and risk assessment in times of crisis. The situation in marginal landscapes seems particularly critical, where communities were more likely to have a chance of further development if they could build on a diverse agricultural and commercial system of management and so more readily weather such crises.

There are papers that deal with developments in regions as well as individual case studies. These authors focus on various aspects without losing sight of a broader context, and are presented under the title **Transformation and Transition through medieval times**.

Marie Ødegaard considers concentrations of cooking pits within the context of assembly sites in Norway. A number of contributions look at general settlement development in a region and identify specific reasons for change. Lukáš Holata stresses the importance of affordable market access for positive settlement development in Dartmoor (England). Desertion processes can be observed, especially in settlement areas with high precipitation or short vegetation periods and less-favourable soil quality. As Eva Svensson has already pointed out, positive settlement development is more likely to occur in settlements with a diversified and multifaceted economy or at locations with a settlement concentration. Jan van Doesburg cites the influence of Church institutions on colonisation and economic development and those institutions' systematic control and management. The bishops of Utrecht were very involved in the economic use of the peatlands and turf production. The influence of monastic communities on transformations is also emphasised in two contributions on medieval Ireland, one that looks at the Augustinian monks (Anne-Julie Lafaye) and the other at the Cistercians (Breda Lynch). The expansion and influence of both orders in Ireland is also related to Anglo-Norman and to native Irish-Gaelic settlement development (see also the paper of Niall Brady). The deserted settlement of Newtown Jerpoint, located close to

a Cistercian monastery is set to see a new wave of research (Ian Doyle and Tadhg O'Keeffe).

Caron Newman discusses the influence of political power on settlement development within the border area between England and Scotland.

A more general view of medieval settlement developments in different regions of Europe is taken by Nikolaj Makarov (Rus areas on the upper Dnieper, Russia), Elisabeth Nowotny (Lower Austria, Austria), Maria Legut-Pintal (Silesia, Poland) and Johan Verspay (Brabant, Netherlands). Here, too, the results coincide with the general conclusions mentioned above. In the course of the High Middle Ages relocations often occurred.

The long-term continuity of rural settlements in the late Middle Ages depended on a multifaceted economic system, where favourable topographical conditions for agriculture, economic prosperity and the preference of secular or ecclesiastical authorities for centralising or controlling processes were key to their success. Case studies from Denmark (Jesper Hansen) and Poland (Paweł Duma, Anna Łuczak and Jerzy Piekalski) show similar developments and transformations, while Tomáš Klír discusses economic prosperity on the basis of tax revenues and the significance of property, land ownership, and inheritance law in his case study of the Cheb region in the Czech Republic. He argues that rich landowners maintained a stable ownership situation, while poorer farms experienced more frequent changes of ownership. However, social mobility can also be observed.

The aspects of population change, colonisation and migration, as well as conquest and reconquest are other important topics, which we have gathered together under **Causes and effects of colonisation, migration, conquests and reconquests in medieval times**. Tibor Ákos Rácz and Edit Sárosi separately, as well as Andrej Janež and Ivana Hirschler Marić (co-authors) examine the situations in Hungary and Croatia after the Hungarian occupation of land and the effects of the Ottoman conquests respectively. In common with post-Roman developments in territories of the former Roman Empire, the authors hold that the previously often assumed major population shifts did not take place in Hungary or Croatia. The archaeological sources reveal a narrative that differs from what contemporary written sources have led us to believe. Excavations being conducted on settlement sites and on cemetery sites do not reveal evidence of significant change as a result of changes in the political framework.

Investigations on the Iberian Peninsula examining Muslim and Christian identity also fall into this category. Catarina Tente argues that control of the landscape in the north of Portugal was held by local elites, especially in buffer zones, while a team of authors, Esteban López-García, Ignacio Díaz and Félix Retamero, examines a small region near Málaga (Spain) in the late 15th and

16th centuries and conclude that a systematic separation of Muslims and Christians can be observed, and that Castilians often had larger property on better soils. Antoni Virgili and Helena Kirchner have approached this topic in a similar manner in their research of Andalusia from the 13th century.

The influence of climate on the development of settlements is touched on by several papers, but two contributions look at this aspect in more detail and are presented under the topic **Causes and effects with respect to climate change**. Steinar Solheim and Frode Iversen focus on the climatic anomaly of AD 536, known today as the Little Ice Age of Late Antiquity, which led to a massive abandonment of farmsteads in Scandinavia and possibly to a cultural collapse. It was not a short-term event, and economic recovery can only be traced in the 8th century. Claudia Theune focuses on the effects of the Little Ice Age of the early modern

era. She shows how Alpine farming was reduced as a result, while other economic activities, such as mining, were not affected.

Although the volume examines very different phenomena of transformation and transition in Europe, it reveals a series of parallels that can be seen in different European regions. Current research helps to tease out the detail in specific case studies; such work is generating new data that helps to interrogate older paradigms, which in many instances created the narratives used to characterise these time periods. It is of great importance that the focus of today's research is not one-dimensional but takes a multifaceted approach. It helps scholars assert observations with greater confidence, and this in turn is helping to reshape the narratives and present new vistas, where the individual – regardless of their social or economic status – can be glimpsed, and where the dynamic nature of the Middle Ages is revealed.

Part One

Transformation of the Roman world

Transformations of settlements for agricultural production between Late Antiquity and the Early Middle Ages in Italy

Marcello Rotili*

Abstract

From the 3rd-4th centuries on, the progressive decline of the *villae rusticae* and family farms, as a consequence of the economic and demographic crisis, led to the formation of settlements on the hills, in which a large part of the peasant population was gathering. This important aspect of the transformation of the Roman world has been highlighted by archaeological research that has shown the structures of these villages, or sometimes just the graves of their inhabitants. Excavations have also highlighted, particularly in the Italian regions of Friuli, Tuscany, and Campania, that the phenomenon intensified especially in the 5th and 6th centuries, when villages of huts and poor houses were founded (Montella, Sant'Angelo dei Lombardi); the living standards are similar to those elsewhere in Europe. There is no evidence, however, to claim that the spread of wooden building is a reflection of the presence of German populations in Italy (Lombards, for instance); the new settlement patterns and social groupings they express derived primarily from changes in the society and economy of Late Antiquity. The *curtis* was a significant example of the reorganization of production relationships.

Keywords: *Excavations, economy, rural societies, Early Middle Ages, countryside.*

Résumé

Transformations de l'habitat rural entre la fin de l'Antiquité et le début du Moyen âge en Italie
À partir du III^e-IV^e siècle après J.-C. l'effondrement progressif du système des *villae rusticae* et des fermes familiales, dû à la crise économique et démographique, donna naissance à des habitats de hauteur, où se rassembla la plupart de la population des campagnes. Cet aspect important de la transformation du monde romain a été bien mis en évidence par les recherches archéologiques qui ont mis au jour les structures de ces villages ou parfois seulement les cimetières. Les fouilles, notamment dans les régions du Frioul, de la Toscane et de la Campanie, ont également mis en évidence que le phénomène s'intensifia plus particulièrement aux V^e et VI^e siècles, lorsque furent fondés des villages de cabanes et de maisons misérables (Montella, Sant'Angelo dei Lombardi): le niveau de vie était semblable à celui rencontré ailleurs en Europe. Il n'existe pas de

* Dipartimento di Lettere e Beni Culturali
Università della Campania
"Luigi Vanvitelli"
Via R. Perla 1
81055 Santa Maria Capua Vetere (Caserta)
Italy
marcello.rotili@unicampania.it

preuve pour affirmer que le bâtiment en bois reflète la présence de populations germaniques en Italie (telles que les Lombards, par exemple) : les nouveaux modèles d'habitat et de communautés découlent en premier lieu des changements dans la société et dans l'économie de l'Antiquité tardive. La *curtis* est un exemple significatif de la réorganisation des rapports de production.

Mots-clés: *fouilles, économie, société agricole, Haut Moyen Âge, campagnes.*

Zusammenfassung

Transformation von Siedlungen für die landwirtschaftliche Produktion zwischen Spätantike und Frühmittelalter in Italien
Ab dem 3.-4. Jahrhundert n. Chr. führte der fortschreitende Verfall des Systems der Gutshöfe (*villa rustica*) und der familiengeführten Gehöfte infolge der ökonomischen und demographischen Krise zur Entstehung von Höhengiedlungen, in denen sich ein Großteil der ländlichen Bevölkerung zurückzog. Dieser

1. Late Antiquity landscapes in Southern Italy

Since the imperial age, there was a gradual dismantling of the *villae rusticae* and the formation of a structured pastoral landscape that played a significant role for production: the written sources provide several insights into the patrimony and the instrumental means of owners of large-scale herds (in reference to Late Antique landscapes in the north of Italy, see *Cracco Ruggini 1995*; about Campanian landscapes, see *Savino 2005*). These particularly rich entrepreneurs also had a large number of slaves.

The silvo-pastoral landscape was made up of the late Roman *saltus* (i.e. a huge land covered by woods or pasture), which were normally owned by the state and which were entrusted to the investors of the time: this legally precarious, revocable possession ended up stabilizing, acquiring in the public consciousness the dignity of a legal right. The *saltus* were improperly confused with the *latifundia* (some references about Late Antiquity land property in South Italy are in *Volpe – Turchiano 2005*). Sometimes they were so large that the owners could not ride around them in one day. In the municipal constitution the *saltus* were not considered as part of the municipalities. Although Roman Africa was one of the richest provinces of *saltus* (*Vera 1988, 973-976*), there were a good number of them in Southern Italy: for example, for northern Puglia, we know from archaeological surveys the *saltus Carmininesis*, a large imperial *predium* cited by the *Notitia Dignitatum* between the end of the 4th and the beginning of the following century (see *Volpe – Romano – Turchiano 2013*).

wichtige Aspekt der Transformation der römischen Welt wurde gut von der archäologischen Forschung untersucht, wobei der Aufbau dieser Siedlungen und in einigen Fällen der Begräbnisplätze im Fokus standen. Die Ausgrabungen, insbesondere in den Regionen Friaul, Toskana und Kampanien, haben weiterhin ergeben, dass sich dieses Phänomen vor allem im 5. und 6. Jahrhundert verstärkte, als Dörfer mit einfachen Gebäuden entstanden (Montella, Sant'Angelo dei Lombardi). Dies kann mit der Entwicklung in anderen Teilen Europas gut verglichen werden. Die These, nach der die Holzbauweise eine Folge der Anwesenheit germanischer Völker in Italien ist (wie der Langobarden beispielsweise), kann nicht bestätigt werden. Die neuen Siedlungsmodelle und die neuen Gemeinschaften können in erster Linie auf soziale und ökonomische Veränderungen der Spätantike zurückgeführt werden. Die *curtis* stellt ein signifikantes Beispiel für die Umorganisation der Produktionsbeziehungen dar.

Schlagwörter: *Wirtschaft, Ökonomie, bäuerliche Gesellschaft, Frühmittelalter, Feldnutzung.*

In the matter of availability of means of production and herds, Pliny reports a certain Gaius Caecilius Claudius Isidorus, who had lost much of his wealth in civil wars. Nevertheless, he was able to leave behind him 4,116 slaves; 3,600 yoke of oxen, and 257,000 head of other kinds of cattle; and 60,000,000 *sesterces* in currency. He ordered 1,100,000 *sesterces* to be spent on his funeral (*Pliny the Elder, XXXIII, 47*).

2. The system of villae in the Late-Antiquity countryside

A great number of slaves were working in the *villae* where the owners directly followed the activity. The crisis of the slave production system damaged production and would bring about the gradual dismantling of the *villae rusticae*. However, the displacement of wealthy citizens from the city to the *villae* partially curbed the collapse of *villae*. As matter of fact, archaeological excavations have proved the existence of a great '*villae* season' in the 4th-5th centuries (*Sfameni 2006*): these large complexes aimed to reorganize production and succeeded in partially reversing the trend. The consequent strengthening of rural dwellings in the 5th century is a special phenomenon of the degeneration of the city. Cassiodorus writes indeed that the notable citizens of Southern Italy preferred to live in their possessions in the countryside (*Cassiodori Senatoris, VIII, 31*). Nevertheless, during the administration of Theoderic the Great, the landed gentry returned to the cities (*Luiselli 1992, 669*), but this did not last long.

The *villa* was the expression of the power of the *dominus*: despite its crisis, the *villa* became once again, in the 5th century, the fulcrum of rural society. This was a real change from the ancient Roman structure based on cities, when the *villa* had a complementary role. A third type of settlement appeared: this was the system of *castra* and *castella*. These were built by the public administration of the Roman Empire and by local communities to defend Italy from the attacks of the Germanic populations. This defensive system protected the Alpine passages as well the Apennines. The castles were built in strategic positions along the main roads and along the main rivers of the Padana plain.

The *villae* were divided into an urban part (*pars urbana*), with a residential and administrative function that had a monumental character in relation to the owner's wealth and taste; and a rustic part (*pars rustica*), where productive activities were conducted: it was equipped with storage, processing facilities, and stables. There are some exceptional *villae* of *otium* located in areas of great importance, such as near Lake Garda, in Istria, Capri, and Baia or the *villa* of Adriano in Tivoli; even these *villae* were important production centers. The destruction and reduction in numbers of *villae* took place at least in northern Italy, where the archaeological evidence seems to confirm changes in property and production. This process is due to the reforms of the Tetrarchy (Rotili 2009, 344) and to the progressive abandonment of the territory; the situation looks different in the Iberian Peninsula and Gallia. In Southern Italy, the progressive abandonment of the *villae* began in the 3rd-4th centuries, sometimes even the 2nd; but in this part of the country it has been identified as a greater articulation of productive settlements, comprising not only *villae*, but also *vici* (villages with a peasant population) and small farms (Rotili 2009, 345-347).

However, by the 6th century the majority of *villae*, *vici*, and small farms had largely disappeared. In some areas of Basilicata and in the highly productive plain of northern Puglia they survived until the 7th century to ensure the grain supply to the largest cities such as Rome and Naples. In this area, between the 4th and the 6th centuries there is an increase of *villae* (about 50%) and even of the development of *urban pars*, reserved for the owner (Rotili 2011, 24-27). The cereal supply of Rome boosted the development of these sites. The cereal crops were transported to the port of Metaponto, whose territory could increase its size and its production as well as the territory of Crotona in the Calabria region (Volpe 2005, 228-229).

An opposite phenomenon took place in the middle valley of Miscano (Busino 2007) and in the high valleys of the Calore and Fredane Rivers, in the territory of Benevento (Rotili 2011, 12-15, 20-22). This is the interior

area of the Campania region, where much archaeological research has been carried out (Rotili 2011, 11-12). Therefore, the 'end of the *villae*' and other scattered settlements like little family farms or peasants' villages, as with the *vici*, follows a different chronology and different ways. The end of settlements is certainly more pronounced in the Apennines because of the depopulation and the economic crisis at the end of the Roman Empire. All these settlements would be replaced by centralized ones, often located on hilltops (Rotili 2011, 20-24).

The medieval excavations have brought to light in different parts of Italy simple houses, quite similar to huts, on the site of the *villae*, or very close by. This happened after the 'end of the *villae*' and during an historical moment of deterioration in the quality of life and reduction of production patterns. According to some scholars, the inhabitants of the huts would have been the same owners or peasants, depending on the property rules, as was the case before (Chavarría Arnau 2005, 65-67). By 'owners' we mean not so much the heirs of the Roman Senate class, but rather new owners like the church and the new Goth owners from the end of the 5th century on and, from the second half of the 6th, the Langobards.

3. The end of the *villae*

Riccardo Francovich has argued that the strong weakening of the authority in the country, immediately after the disappearance of large landowners, and the late Roman administration's collapse would correspond to the growth of a new class of farmers between the 6th and 7th centuries. These farmers would be free from duties and exempted from the payment of taxes and could benefit from large territories for settlement and farming (Francovich 2004).

In the Italian debate on settlement, in contrast to the theory held by many historians, archaeologists have developed a theory based on the results of the excavations and surveys of the territory. In particular, Riccardo Francovich elaborated the thesis of the progressive abandonment of widespread settlements and the formation of centralized settlements, often located on hilltops. On the contrary, some historians, relying on very few written sources, have developed the theory that the widespread settlement of the territory continued to exist from the end of the Roman Empire up to the 10th-11th centuries (Francovich – Hodges 2003; Rotili 2009, 349-351; for historians studying south Italy, see Figliuolo 1991). In their view, it was only at this time that the reorganization of the territory would have led to the founding of castles, not only as fortified villages but as new productive settlements. The peasant population had been charged by the great lay landowners or bishops or even the great monasteries with cultivating the wild lands for centuries.

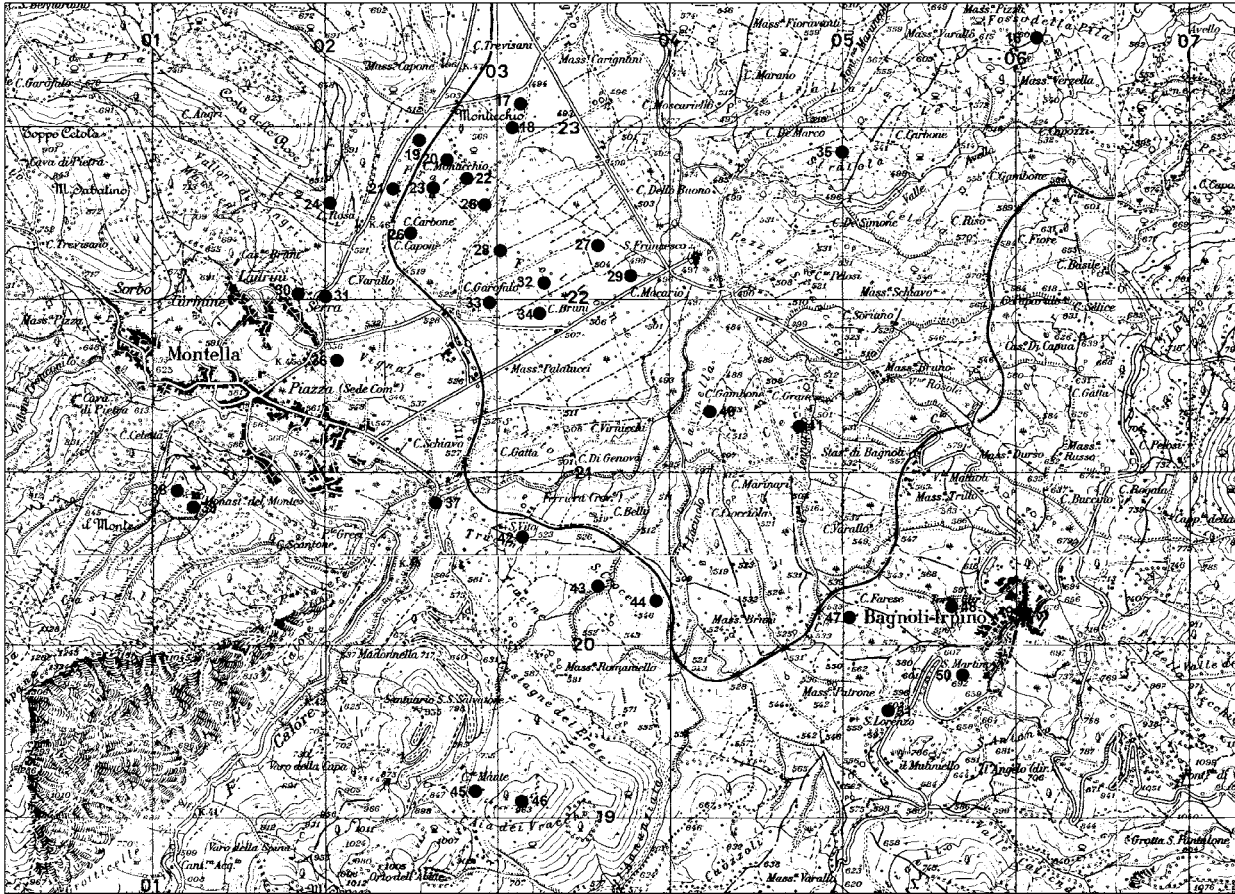


Fig. 1: The recognition sites in the territory of Montella (© Palmira Pratillo).

As a result, the spread of the *saltus* follows the progressive crisis of the *villae*, even though these had a period of partial recovery between the 5th and the 6th centuries, if only in a little part of southern Italy. The disappearance of the *villae* in Italy corresponds to an unravelling of the social arrangements and leads to the progressive concentration of property in the hands of the new landowners: at first the Romans, and then the Goths from the end of the 5th century on, followed by the Lombards between the 6th and the 7th centuries, and then increasingly the church and the monasteries. And, on another hand, archaeological research also confirms that progressive decline of the *villae rusticae*, *vici*, and family farms, as a consequence of the economic and demographic crisis, leading to the formation of settlements on the hills, or in well-protected locations, in which were gathering the largest part of the peasant population, who moved to these hut villages (Rotili 2011, 20-24).

4. The early medieval villages

This important aspect of the transformation of the Roman world has been highlighted by the archaeological research

revealing the structures of these villages, or sometimes just the graves of their inhabitants. It is the case, for instance, with Sant'Angelo dei Lombardi (Rotili 2002), on a hilltop not far from the route of the Via Appia, the *regina viarum* of the Romans, in the stretch from Campania to Basilicata, where the particular consistency of the masonry tombs reveals a more complex village structure. As an example, there is also the late Roman settlement of Ibligo-Ibligine in Friuli, corresponding to the current site of Invillino, with the research of the University of Munich published by Volker Bierbrauer: it shows that before becoming the very well-known *castrum Ibligine* remembered by Paul the Deacon in the *Historia Langobardorum*, the settlement was a village inhabited by the local population (Bierbrauer et al. 1997). This means that the Roman population of that countryside moved from the plains below to the hilltop settlement, more secure thanks to its natural position. The surveys in the plains dominated by the new settlement demonstrated that the *villae* began to be abandoned after the 2nd and 3rd centuries.

The preference of the people of different areas of Italy for the highland settlements is almost constant, as the surveys



Fig. 2: Montella – reconstruction of the village on the hilltop of the Mount in the 6th-7th centuries (© Rosario Claudio La Fata).

conducted in the territory demonstrated in many cases. A good example is the site of Montarrenti, excavated by Francovich (*Cantini 2003*); another one is Poggibonsi, not far away from Florence, studied by the same team (*Valenti 2006*). As for my experience, the surveys in the territories of Montella and Montegiove conducted by my team (*Rotili 2007*) show very well how the people quit the plain to move to new settlements that did not exist in the Roman age. In Montella two settlements were found, the first on the slope of the hill in a more sheltered area than on the plain (Fig. 1), and a second one on the top of the hill (Figs. 2-3). At Montegiove near Buonalbergo, along the Via Traiana, 30 km away from Benevento in the direction of Puglia, the new settlement was built on the hilltop in the 6th century (*Rotili – Calabria – Busino 2007*) in a very well-protected spot (Figs. 4-5). In the territory of Montella, a great many rural settlements were abandoned during the 6th century. The survey in the territory of Montegiove identified fewer than 70 places for agricultural production that were left behind (*Busino 2007*, 35-184).

Excavations have also highlighted, particularly in the Italian regions of Friuli, Tuscany, and Campania, that this phenomenon intensified especially from the 6th and the 7th centuries on, when villages of huts and poor houses were established. The living standards were equal to those of elsewhere in Europe, but there is no evidence to claim that the spread of wooden building is a reflection of the presence of German populations in Italy (Lombards, for instance). The new settlement patterns and social groups expressed by those settlements derived primarily from changes in the society and economy of Late Antiquity.

5. A case study: Montella (Avellino)

Excavations carried out from 1980 to 1992 and from 2005 to 2007 in the castle and walled area of the Mount of Montella, in Irpinia, a mountainous province in the interior of Campania (*Rotili 2011*) have contributed to making available a large part of the site that has been subject in part to restoration work and enhancement in the last few years. Visitors can now avail themselves of the knowledge gained through the detection and the study of complex stratigraphy in which the long history of the settlement is contained.

Research has shown that in the 6th-7th centuries a centralized village grew up on the hilltop of the Mount after the movement of groups of peasants from the valley floor, which was progressively abandoned (Fig. 2). Productive organization is better structured between the 7th and 8th centuries, the period for which material evidence and written documentation attest to a manorial company whose propulsive forces contributed to the formation, in the 9th century, of a fortified settlement with connotations of a small town (*Rotili 2011*, 15-24, 37-40).

The judgment concerning the servants of Prata, a village near Montella, that the Lombard Duke Arechi II (758-787) donated in favour of the abbot of St. Sofia of Benevento, Maurizio, in August 762 ‘in curte n(os)tra que vocatur montella’, or ‘in nominate curte nostra montellari’ (*Chronicon S. Sophiae*, XV, II, 15, 461, 463) indicates that a *curtis* had formed, that is, a farm dependent on the Duke himself and probably his own property. Archaeological research has shown the structures of the *curtis*, further



Fig. 3: Montella – reconstruction of the city wall built in the 9th century (© Rosario Claudio La Fata).

clarifying that the structures of the fortified village that developed in the 9th century incorporated the walls of the central part of the same *curtis*, inhabited by the lord.

A strong wall built with the ancient technique called ‘emplecton’ (thickness 150-160 cm) enclosed about 3 hectares (Fig. 3); within these walls were erected buildings, but only traces of their water cisterns have survived.

The earthquake of 25 October 989 (Baratta 1901, 18 n. 86; Molin 1985; Guidoboni 1989, 273, 551; Boschi 1999, 846) wreaked damage on the walls. The village was reduced and some settlement areas were reused as funerary sites (Rasola 4, for example: in the beautiful walled site plan, drawn and painted in the second half of the 18th century, the terraces are defined as ‘Rasole’).

In the cistern found in one of the terraces (Rasola 4, Fig. 6), which was related to a house of the 9th century, were a grave and a few inhumations. A house with a storehouse for grain discovered in Rasola 3 appears to have been destroyed.

The archaeological investigations have shown that the recovery did not take place until the 12th century and, because of the political events of the 11th and 12th centuries, was due to the initiative of the Norman feudality: the construction of the monumental *magna*

turris should probably be attributed to Symon de Tivilla (Cuozzo 1984, 187-190), ‘filius quondam Randulfi ex genere francorum’ (Scandone 1916, 20-21, 27-28), or his brother William, who succeeded him after his death (1158) (Scandone 1916, 28-30; Jamison 1972, 124 n. 700; Cuozzo 1984, 186-187).

6. Conclusions

In the 7th and 8th centuries the political stabilization of the Lombards all over Italy led to the development of new settlements near the former *villae rusticae*, near small churches, or by the rivers, and not only on the hilltops. For example, in Benevento’s Langobard Duchy (Rotili 2017) a new foundation in the 7th century was the baptismal parish of San Lorenzo of Altavilla Silentina in the plain of the ancient town of Paestum (Peduto 1984); another foundation was San Giovanni di Pratola Serra near Avellino (Peduto 1992; Rotili 2009, 346-347).

Several villages of the 7th century have been excavated and have brought back to view in the basin of the River Sele, near Paestum; another village of peasants of the 6th-7th centuries was found in the Pietradurante area (inland Campania, Avellino), about 10 km away from

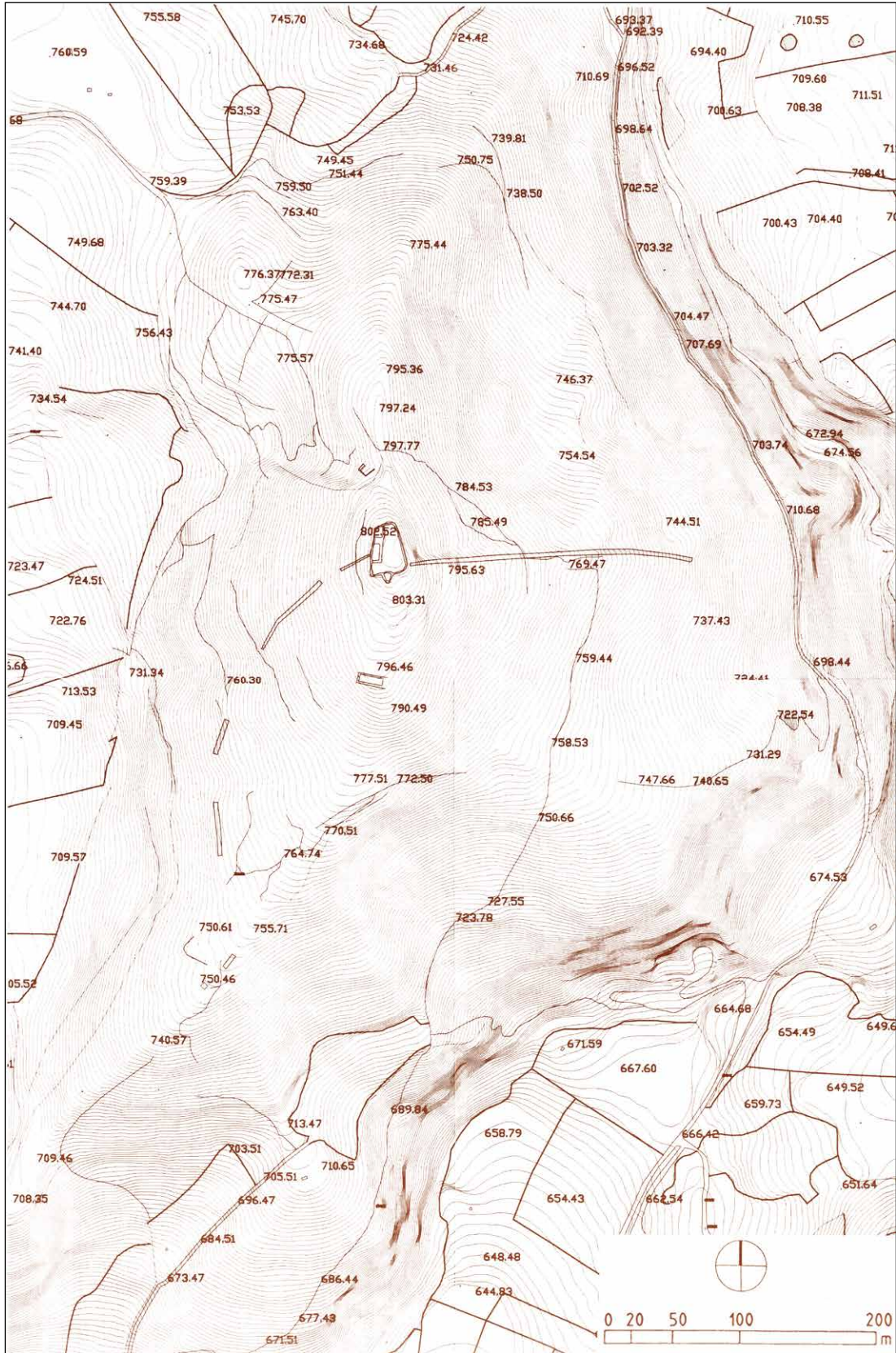


Fig. 4: The hill of Montegiove (© Federico Cordella).



Fig. 5: Aerial view of Montegiòve (© Regione Campania-Nuova Avioriprese s.r.l.).



Fig. 6: The cistern found in Rasola 4 (© Marcello Rotili).

Bisaccia, in a very important but different transit zone (Rotili 2009, 348).

In this context, the new type of farm, organized on the model of the Carolingian and Langobard *curtis*, is a significant example of the reorganization of the production system. This led to the evolution of the village of huts into the *curtis*. The *pars dominica*, heir, but only on a conceptual level, of the *pars urbana* of the Roman villa corresponded, in several cases, to the former village of huts, very different from the *pars rustica*.

In the end, the *curtis* production system was replaced by the 9th century by a new form of organization based on the work of free peasants, grouped around fortified centres founded by the new lay and religious landowners (Cuozzo 2003, 575, 589-590), according to the model proposed by Toubert for Lazio (Toubert 1973).

The castle developing from the *curtis* is to be understood in this case as a fortified centre where a village urban situation (Wickham 1985, 58) integrates the structures of the manor house and the military facility of the site.

References

- Baratta, M. 1901:
I terremoti d'Italia. Saggio di storia, geografia e bibliografia sismica italiana. Torino (anastatic reprint 1987. Sala Bolognese).
- Bierbrauer, V. 1987:
Invillino-Ibligio in Friaul I: Die römische Siedlung und das spätantik-frümmittelalterliche Castrum. München.
- Boschi, E. (ed.) 1999:
Catalogo parametrico dei terremoti. Bologna.
- Busino, N. 2007:
La media valle del Miscano fra Tarda Antichità e Alto Medioevo. Carta archeologica di San Giorgio La Molara, Buonalbergo, Montefalcone di Valfortore, Casalbore dal Pianoro della Guarana al torrente La Ginestra. Ricerche a Montegiove (1999-2000). Napoli.
- Cantini, F. 2003:
Il castello di Montarrenti. Lo scavo archeologico (1982-1987). Per la storia della formazione del villaggio medievale in Toscana (secc. VII-XV). Firenze-Borgo S. Lorenzo.
- Cassiodori Senatoris Variae:
in: Mommsen, Th. (ed.), MGH, Monumenta Germaniae Historica, Auctores antiquissimi, XII, 1894. Berolini.
- Chavarría Arnau, A. 2005:
La fine delle ville, in: Brogiolo, G. P. – Chavarría Arnau, A. – Valenti M. (eds), Dopo la fine delle ville: evoluzione delle campagne dal VI al IX secolo. 11° Seminario sul Tardo Antico e l'Alto Medioevo. Gavi-Mantova, 49-68.
- Chronicon S. Sophiae (cod. Vat. Lat. 4939):
in: Martin, J. M. (ed.), Fonti per la storia dell'Italia medievale. Rerum Italicarum Scriptores 3, 2000. Roma.
- Cracco Ruggini, L. 1995:
Economia e società nell'Italia annonaria: rapporti fra agricoltura e commercio dal IV al VI secolo d.C. Bari.
- Cuozzo, E. 1984:
Catalogus baronum. Commentario. Fonti per la storia dell'Italia medievale. Roma.
- Cuozzo, E. 2003:
Potere e ricchezza del duca-principe di Benevento, in: Fondazione CISAM (ed.), I Longobardi dei ducati di Spoleto e Benevento. XVI Congresso Internazionale di studi sull'alto medioevo, Spoleto-Benevento, 20-27 ottobre 2002. Spoleto, 567-590.
- Figliuolo, B. 1991:
Morfologia dell'insediamento in Italia meridionale in età normanna, Studi storici 32:1, 25-68.
- Francovich, R. – Hodges, R. 2003:
Villa to village. The transformation of the Roman countryside in Italy, c. 400-1000. London.
- Francovich, R. 2004:
Villaggi dell'altomedioevo: invisibilità sociale e labilità archeologica, in: Valenti M., L'insediamento altomedievale nelle campagne toscane. Paesaggi, popolamento e villaggi tra VI e X secolo. Firenze, IX-XXII.
- Guidoboni, E. (ed.) 1989:
I terremoti prima del Mille in Italia e nell'area mediterranea. Storia, archeologia, sismologia. Bologna.
- Jamison, E. (ed.) 1972:
Catalogus baronum. Fonti per la storia dell'Italia medievale. Roma.
- Luiselli, B. 1992:
Storia culturale dei rapporti tra mondo romano e mondo germanico. Roma.
- Molin, D. 1985:
The Campania earthquake of 990, in: Postpischl, D. (ed.), Atlas of isoseismal maps of Italian earthquakes. Bologna, 10-11.
- Peduto, P. 1984:
Lo scavo della *plebs baptesimalis* di S. Lorenzo: dati e proposte di lettura, in: Peduto, P. (ed.), Villaggi fluviali nella pianura pestana del secolo VII. La chiesa e la necropoli di S. Lorenzo di Altavilla Silentina. Salerno, 29-78.
- Peduto, P. (ed.) 1992:
S. Giovanni di Pratola Serra. Archeologia e storia nel ducato longobardo di Benevento. Salerno.

Pliny the Elder:

The natural history, ancient history sourcebook, 1998. New York. <https://sourcebooks.fordham.edu/halsall/ancient/plinyelder-nathist-33-47.asp>

Rotili, M. – Calabria, C. – Busino, N. 2007:

Le ricerche archeologiche a Montegiove (1999-2000), in: Busino, N., La media valle del Miscano fra Tarda Antichità e Alto Medioevo. Carta archeologica di San Giorgio La Molara, Buonalbergo, Montefalcone di Valfortore, Casalbore dal Pianoro della Guarana al torrente La Ginestra. Ricerche a Montegiove (1999-2000). Napoli, 203-292.

Rotili, M. (ed.) 2002:

Sant'Angelo dei Lombardi. Ricerche nel castello (1987-96). I. Settore sud-est e ambiente 12. Napoli.

Rotili, M. 2007:

Presentazione, in: Busino, N., La media valle del Miscano fra Tarda Antichità e Alto Medioevo. Carta archeologica di San Giorgio La Molara, Buonalbergo, Montefalcone di Valfortore, Casalbore dal Pianoro della Guarana al torrente La Ginestra. Ricerche a Montegiove (1999-2000). Napoli, 5-12.

Rotili, M. 2009:

Archeologia e storia dell'insediamento fra tarda antichità e alto medioevo, in: Criscuolo, U. – De Giovanni, L. (eds), Trent'anni di studi sulla Tarda Antichità: bilanci e prospettive, Atti del Convegno internazionale, Napoli, 21-23 novembre 2007. Napoli, 329-353.

Rotili, M. 2011:

Le ricerche nel castello e nell'area murata del Monte (1980-92, 2005-07). Diagnosi e strategia, in: Rotili, M. (ed.), Montella: Ricerche archeologiche nel donjon e nell'area murata (1980-92 e 2005-07). Napoli, 11-67.

Rotili, M. (ed.) 2017:

Tra i Longobardi del Sud: Arechi II e il ducato di Benevento. Padova.

Savino, E. 2005:

Campania tardoantica (284-604 d.C.). Bari.

Scandone, F. 1916:

L'Alta Valle del Calore. II. Il feudo e il municipio di Montella dal dominio dei Normanni a quello della casa d'Aragona. Palermo.

Sfameni, C. 2006:

Ville residenziali nell'Italia tardoantica. Bari.

Toubert, P. 1973:

Les structures du Latium médiéval. Le Latium méridionale et la Sabine du IX^e siècle à la fin du XII^e siècle. Paris.

Valenti, M. (ed.) 2006:

Poggio Imperiale a Poggibonsi. 1993-2003: dallo scavo archeologico alla costruzione del Parco. Firenze-Borgo S. Lorenzo.

Vera, D. 1988:

Terra e lavoro nell'Africa romana, Studi storici 29:4, 967-992.

Volpe, G. 2005:

Villaggi e insediamento sparso in Italia meridionale fra Tardoantico e Altomedioevo: alcune note, in: Brogiolo, G. P. – Chavarría Arnau, A. – Valenti, M. (eds), Dopo la fine delle ville: evoluzione delle campagne dal VI al IX secolo. 11° Seminario sul Tardo Antico e l'Alto Medioevo, Gavi 2004. Mantova, 221-249.

Volpe, G. – Turchiano M. (eds) 2005:

Paesaggi e insediamenti rurali in Italia meridionale fra Tardoantico e Altomedioevo, Atti del Primo Seminario sul Tardoantico e l'Altomedioevo in Italia Meridionale (Foggia, 12-14 febbraio 2004). Firenze.

Volpe G. – Romano A. V. – Turchiano M. 2013:

San Giusto, l'*ecclesia* e il *saltus Carminianensis*: vescovi rurali, insediamenti, produzioni agricole e artigianali, in: Brandt, O. – Cresci, S. – López Quiroga, J. – Pappalardo, C. (eds), *Episcopus, civitas, territorium*. Atti del XV Congresso internazionale di Archeologia cristiana (Toledo, 8-12 settembre 2008). Pontificio Istituto di Archeologia cristiana. Città del Vaticano 2013, 559-580.

Wickham, C. 1985:

Il problema dell'incastellamento nell'Italia centrale. L'esempio di San Vincenzo al Volturno. Firenze.

Beyond the borders

Transformations, acculturation, and adaptation
between Lazio and Campania during the Lombard
Period (6th – 8th centuries)

*Cristina Corsi**

Abstract

With the arrival of the Lombards in the Italian peninsula (AD 568), the region between Lazio and Campania, geographically characterised by the presence of the Garigliano and Volturno River Valleys flowing into the Tyrrhenian Sea, starts to be configured as a 'borderland'. Indeed, more than a real frontier, this wide area, located between the Roman towns of Aquinum and Capua, would play the role of a buffer zone between the Lombard Duchies of Spoleto and Benevento and the Duchy of Rome, namely part of the Byzantine Exarchate of Ravenna, practically ruled by the popes of Rome.

A revision of former studies and a new season of research are bringing to light a composite reality, where conversion of economic activities, transformations of settlement patterns, acculturation phenomena, alteration of the social and ethnical assets, and changes in the communication networks occurred in towns and countryside. This paper presents this new data and discusses the changes, focusing on the period between the infiltration and the settling of the Lombards (during the last 30 years of the 6th century AD) and the arrival of the Carolingians (at the start of the 9th century).

Keywords: *Southern Lazio, Lombards, early medieval rural settlement patterns, acculturation.*

Résumé

Au-delà des frontières: transformations, acculturation et adaptation entre le Latium et la Campanie pendant la période lombarde (VIe – VIIIe s.)

Avec l'arrivée des Lombards dans la péninsule italienne (568 apr. J.-C.), la région située entre le Latium et la Campanie, caractérisée géographiquement par la présence des vallées du Garigliano et du Volturno qui se jettent dans la mer Tyrrhénienne, commence à se transformer en « zone frontalière ». En effet, plus qu'une véritable frontière, cette vaste zone, comprise entre les villes romaines d'Aquinum et de Capoue, jouera le rôle de tampon, entre les duchés lombards de Spolète et Bénévent et le Duché de Rome, à savoir une partie de l'exarchat byzantin de Ravenne, qui était pratiquement gouverné par les papes de Rome.

Une révision des études antérieures et une nouvelle campagne de recherches mettent en lumière une réalité composite, où la conversion des activités économiques,

* Department of Humanities,
University of Cassino
Via Zamosch 43,
03043 Cassino (FR)
Italy
c.corsi@unicas.it

les transformations des modes de peuplement, les phénomènes d'acculturation, l'altération des structures sociaux et ethniques et les changements dans les réseaux de communication se produisent à la fois dans les villes et à la campagne.

Nous présenterons ces nouvelles données et discuterons de ces changements, en nous concentrant sur la période comprise entre l'infiltration et l'établissement des Lombards (trente dernières années du VI^e siècle) et l'arrivée des Carolingiens (début du IX^e siècle).

Mots clés: *Latium méridional, Lombards, modalités des peuplements ruraux au haut moyen âge, acculturation.*

Zusammenfassung

Jenseits der Grenzen: Transformationen, Akkulturation und Adaptierung zwischen Latium und Kampanien während der Lombardei (6. – 8. Jh.)

Die Region zwischen Latium und Kampanien ist geographisch von den Flusstälern Garigliano und Volturno geprägt, die in das Tyrrhenische Meer münden. Mit der Ankunft der Langobarden auf der italischen

Only in more recent years have new scientifically acquired archaeological data started to be collected in Southern Lazio, the region between the Campagna Romana and the northern border of Campania (Corsi – Polito 2008, XIII). This is particularly true for the inner parts of what is today the administrative delimitation of Regione Lazio. From the geographical point of view (Fig. 1), this area can be defined as enclosed by the mountain chains of the Simbruini on the eastern side and by the Lepini-Aurunci to the west, with the River Garigliano marking the border with northern Campania. The River Garigliano originates in the area of Cassino, where the River Liri, which flows along the valley labelled as 'Latina' because of its cultural configuration, joins the Gari, a rivulet whose source is located at the foothill of Monte Cairo, the mountain enclosing the hilltop of Montecassino Abbey. The mountain chains, like the valley in-between, are aligned NW-SE, parallel with the Tyrrhenian coast; at their southern edge they allow communication to the coastal plain on one side, to the inner Apennine regions of Abruzzo and Molise, and further until the Adriatic coast on the other (Corsi 2007a, 247).

Geography is the main reason for the historical marginality of this land, since it has always played the role of 'borderland' (De Acutis – Pietrobono 2012, 336-338). Equally far from Rome and from Naples, this area was peripheral to studies on Lazio as well as

Halbinsel (ab 568 n. Chr.) wurde dieses Gebiet zu einem Grenzland. Das weite Gebiet zwischen den römischen Städten Aquinum und Capua war in der Folgezeit weniger eine lineare Grenze, vielmehr eine Pufferzone zwischen den langobardischen Herzogtümern Spoleto und Benevento und dem Herzogtum Rom. Letzteres war Teil des byzantinischen Exarchats von Ravenna, welches praktisch von den Päpsten Roms regiert wurde.

Eine Neubearbeitung älterer Studien und neue Forschungen zeigen eine komplexe historische Realität, die sich in Veränderungen von wirtschaftlichen Aktivitäten, von Siedlungsmustern, Akkulturationsphänomenen, Veränderungen der sozialen und ethnischen Gruppen und Veränderungen in den Kommunikationsnetzen in Städten und auf dem Land widerspiegelt.

In diesem Beitrag werden die neuen Daten vorgestellt und die Veränderungen diskutiert, wobei der Schwerpunkt auf der Zeit zwischen der Einwanderung der Langobarden (in den letzten dreißig Jahren des 6. Jahrhunderts n. Chr.) und der Ankunft der Karolinger (zu Beginn des 9. Jahrhunderts) liegt.

Schlagwörter: *Südlatium, Langobarden, frühmittelalterliche Siedlungsmuster, Akkulturation.*

on Campania, on the Duchy of Rome as well as on the Duchy of Benevento, and on the Papal state as on the Kingdom of Naples. However, an extraordinary geographical connectivity, which has made this land a crossroads of people, trades, and cultures, contradicts the different historical vicissitudes of the various political entities, which turned over in time and confronted each other in this part of the peninsula.

Research carried out so far (Corsi et al. 2005) has shown that the structure of Late Antique and early medieval routes was not much affected by the instability that characterised the last century of the empire, nor by the Gothic War of the mid-6th century, nor the arrival and settlement of the Lombards and their allies. The network rather seems very conservative, based as it is on the Latina Way, running here almost at the centre of the valley. Eventually, a secondary branch of the main road grew in importance, leaving Ferentinum and leading to Alatri, Veroli, Casamari, Sora, Vicalvi, and Atina, and then rejoining the main road at Casinum. The small changes in the hierarchy of segments of roads are confirmed by a late 7th-century source, the so-called Ravenna Cosmography (Rav. IV.33.7 ed. Partney – Pinder 1860). In this case, indeed, it is likely that the anonymous cleric who composed the anthology of itineraries knowingly updated the route, eliminating the mention of Frusino and inserting Sora (Pietrobono 2002;

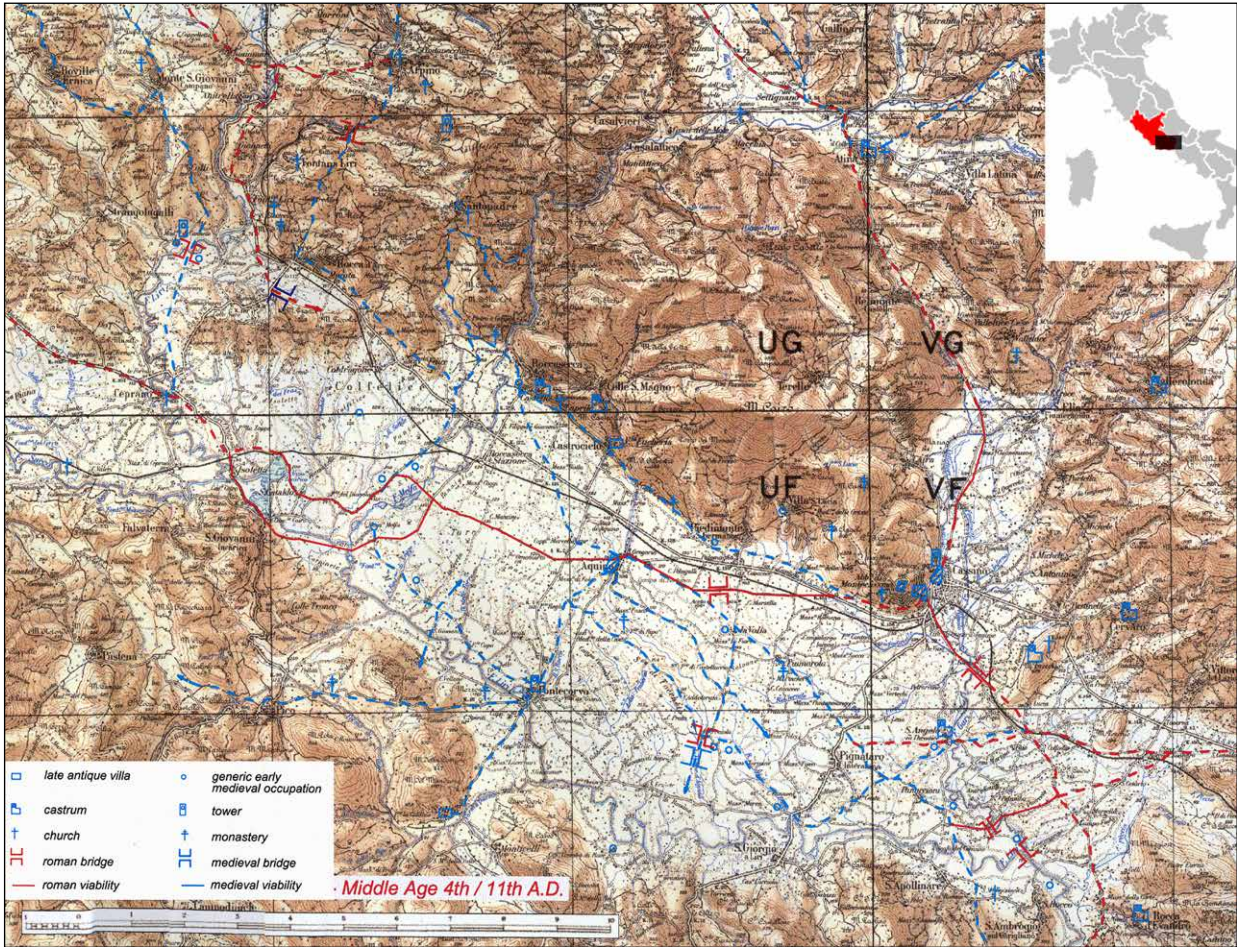


Fig. 1: Archaeological map of Southern Lazio in Late Antiquity and the Middle Ages, on the basis of the Carta Topografica d'Italia F. 160. In red: Roman road network connected to the Latina Way; in blue: road network connected to the foothill roads. In the upper frame, location of the study area in the Italian Peninsula and Regione Lazio (in red) © Cristina Corsi, after Corsi et al. 2005).

2006, 77f.). We will see later how this replacement finds an historical explanation. At the same time, it is very interesting to note, in the same source, that the mention of Fregellanum (the minor settlement that had replaced the Latin colony of Fregellae at the crossing of the River Melfa along the same Latina Way) is replaced by the reference to Arcis, clearly a fortified settlement (Rav., IV.33.10 ed. *Partney – Pinder 1860*). It is evident that around the year AD 700, when the Ravenna Cosmography was compiled, the process of moving up to the hilltops had already started, since a fortified centre like Arce overtook a low-lying site.

In addition to the *Via Latina*, there are two important communication axes that had been in use since proto-historic times. The so-called *vie pedemontane* ran at the foot of the mountain systems delimiting the Liri Valley on the eastern and western sides, always keeping a NW-SE alignment (Figs 1-2; *Pietrobono 2006, 77f.; Corsi 2007b, 484-488*).

However, we must stress that even if in the course of post-Roman phases the network that originally played the role of a secondary connection acquired the role of being the main network between the prominent centres of Lazio and Campania, these strategic control points would have remained unchanged until the Late Middle Ages. Among the sites dominating the communication network, we can surely list Montecassino and its abbey (*Corsi 2007a*).

Recent contributions have provided exhaustive studies of the structuring of lordships in the region towards the end of the Early Middle Ages (*Indelli 2017* with earlier references). Less debated is the analysis of the process of infiltration and settlement of non-native peoples, starting in the last quarter of the 6th century. According to the testimony of Pope Gregory the Great, corroborated by later information released by Paul the Deacon, the Abbey of Montecassino was raided in the course of the 580s (Greg., *Dial.* AD 592-593 as terminus ante quem, most

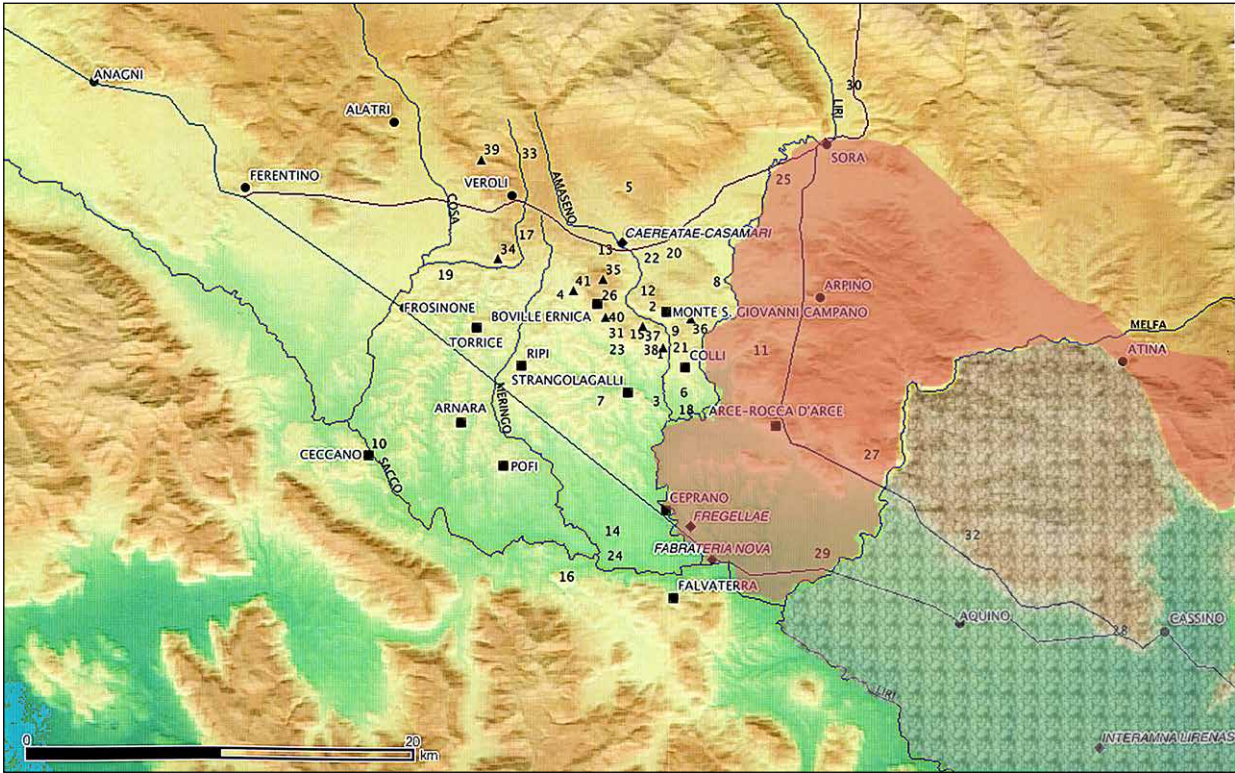


Fig. 2: Sketch map of southern Lazio after the Lombard conquest, with an indication of the main towns and villages and a schematic of the main road network. The patterned fill highlights the area of the first conquest, while the plain colour shows the territory conquered by the Lombards after the storming of Atina and the taking of Sora (© Cristina Corsi, after Del Ferro 2012).

probably during the reign of Autari AD 584-590; for an update on the monastery of Montecassino, and that of S. Vincenzo al Volturno, founded at the beginning of the 8th century, see *Marazzi 2017a* with references) by the Lombards, expanding from the newly established Duchy of Benevento. At the same time we have to place the invasion of the southern edge of this region on the north bank of the River Garigliano, and the conquest of Aquinum and its territory up to the River Melfa (*Nicosia 1990, 85*). Following this event, for more than a century Aquinum was established as the beachhead of the Lombards of the Duchy of Benevento, opposing the traditional power of the Byzantine Empire in what is called the Duchy of Rome (Fig. 2).

The northwards advance of the Lombards was probably stopped by the Byzantine *castrum* perched on the hilltop of Arcis, present-day Rocca d'Arce, which became a stopover place along the Latina Way at the end of the 7th century, at the latest. When this stronghold surrendered, the advance of the Lombards reached its maximum with the subjugation of the ancient town of Atina, which fell more than a century after Aquinum, at the beginning of the 8th century (*supra*). In addition, Arpinum and Sora were taken in AD 702 by the Lombards, led by Gisulf. At the beginning of the 8th century, Lombard control extended

to the River Liri (Paul. Diac., *Hist.Lang.* 6.27). It is possible that in the 8th century, the town of Aquinum was included in a royal demesne, or *gastaldato*, which could have been established along with Sora as the main centre (*Indelli 2017, 98*). From this moment onward, until the Unification of Italy that started in 1860, the River Liri marked the border of two political entities.

How did these events affect settlement patterns? How was change in the social and even ethnic composition of the population manifested? Which data can we collect to reconstruct economic trends, political organisation, and the social composition of the population living in this region between the 6th and the 9th centuries?

Surely, we cannot resubmit the narrative of desolation, desertion of settlements, and perennial warfare that used to be presented in the now-outdated literature and local tradition. On the contrary, new data and a revision of former studies, in conjunction with a newborn interest in post-Classical developments, is regenerating our understanding of this composite reality, where conversion of economic activities, transformations of settlement patterns, acculturation phenomena, alteration of the social and ethnical composition, and changes in the communication networks occurred in towns as well as in the countryside (the most interesting

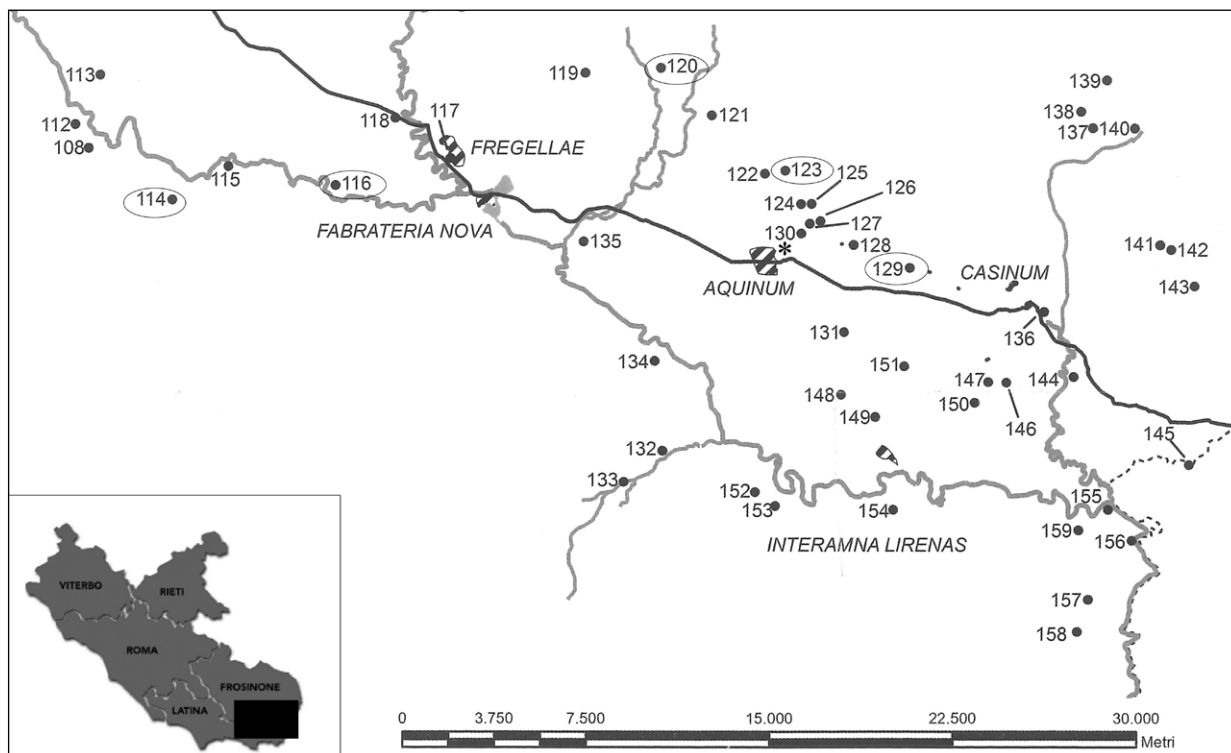


Fig. 3: The study area in Southern Lazio, Italy, with an indication of the main settlements. The little circles mark the Roman villas mentioned in the text; the star marks the location of the settlement of Torre S. Gregorio. In the frame, identification of the study area within the borders of Regione Lazio (© Cristina Corsi, after Venditti 2011).

comparative case study remains the Adriatic region of Abruzzo: Staffa 1997, 113-114).

We will consider only the rural environment in this paper, and present some interesting case studies that challenge the traditional vision of emptiness and desolation. Indeed, there have been several attempts to shed light on the nature of the agrarian landscapes of southern Lazio (see the review by Stasolla 2011, 591).

The rural population appears undoubtedly to be smaller than at the beginning of the imperial era, although it was not much less dense than it was in late imperial times. In a few cases, archaeological research has been able to prove a much longer and more complex process of adaptation to different lifestyles and new economic trends and needs. This challenges the idea of Roman settlement patterns being swept away by hordes of barbarians intent on annihilating local society and assisted in this by famines and plagues.

To a certain degree, after a tough selection process of rural settlement, which probably began in the course of the 3rd-4th centuries, the Late Roman settlement pattern does not seem to be radically changed in its geographical distribution. Nevertheless, it seems deeply altered in its social composition and economic organisation. Unfortunately, with a few exceptions

that we will review briefly, we cannot provide much information that is supported by archaeological data. In some cases, like in Villa Parito, a Roman rural settlement located in the neighbourhood of Piedimonte San Germano, we can hypothesise an occupation without substantial changes in the productive organisation from Late Republican times until the 4th century AD (Hayes – Martini 1994, 50f.; Nicosia 2006, 118; Venditti 2011, 149. Fig. 3, no. 129). We can argue more cogently that several Roman villas evolved over the course of the Early Middle Ages into other types of settlement, mainly monastic cells and small monasteries. Such is the case of Villa Eucheria. Villa Eucheria (Fig. 3, no. 123), another Late Republican foundation – scenically placed on top of a monumental substructure, including a well-preserved L-shaped cryptoporticus built in polygonal masonry – functioned as a rural estate until Late Antiquity. It was occupied during the course of the Early Middle Ages as a nunnery named S. Maria di Palazzolo (the ‘palace’ to which the place name refers obviously being the Roman villa). The nunnery settled in the vast cistern was delimited by three vaulted galleries (Cagiano de Azevedo 1949, 61-63; Venditti 2011, 147-148, no. 123). San Pietro a Campea, located in the ancient territory of Aquinum, in the present-day municipality of

Roccasecca, and traditionally known as Villa Iuvenalis, is a Benedictine monastery with a church that made use of the abandoned structures of a Late Republican villa. It is well-positioned along the *via pedemontana* after the crossing of the River Melfa (Pietrobono 2010, 435f.; Venditti 2011, 146. Fig. 3, no. 120). Another church with an annexed monastery is nestled on the banks of the River Melfa in the territory of Roccasecca: S. Vito is attested in the 11th century. The monument has not been excavated, but the numerous *spolia* of Roman and Late Antique phases used in its construction and scattered around the building seem to prove the existence of a Roman villa close by (Cagiano de Azevedo 1949, 60).

At S. Amasio in the territory of Arpinum, notwithstanding the fact that the dedication should date back to the Early Christian phase, the foundation of the little church cannot be dated before the 12th century. However, part of its structure features a lot of reused building materials (Rizzello 1991, 94f.).

Recently some new data have been collected about the complex with the large cistern, on which the monastery of S. Angelo in Cannucce near Ceprano was founded (Venditti 2011, 143f. Fig. 3, no. 116.). Archaeological excavations have been carried out in the sector east of the water tank and have revealed part of a thermal complex, which was probably added to a Late Republican villa over the course of the 2nd century AD (Bellini 1995, 69f., no. 260; Coarelli – Monti 1998, 91, no. 27, tab. XIV.4, XV.5-6, XVI.7; Pietrobono 2004, 77f., 94f. no. 12). The church devoted to the archangel is attested in the 11th century; it might have been built into the rectangular hall recently excavated, around which some burials have been found (Betori 2009, 339f.). At this stage of research, however, we cannot argue for any sort of continuity between the late Roman and medieval settlements. The connection might be limited to the large reuse of materials taken from the Roman monuments.

The same uncertainty affects the reconstruction of the phases of the monastic cell of S. Gregorio, at Torre S. Gregorio of Aquino (Corsi 2007b, 475f.; Norcia 2010, 503-505. Fig. 3). Here we are sure that the foundation was established in AD 837, after a legacy made to the Abbey of Montecassino, and that a large part of the building material came from the Roman town and its *suburbium*. Next to the monastic settlement, before the Second World War, a funerary monument was still visible. Alas, once again we cannot argue for a direct relationship between a Roman and monastic settlement. In addition, the abbey of S. Domenico of Sora was built over the ruins of a villa at the confluence of the small River Fibreno flowing into the Liri in the 11th century, which is attributed to Cicero (Norcia 2007, 140; 2010, 506-10; Venditti 2011, 160f., no. 163).

It is therefore evident that almost all new monastic cells were developed on top of or in proximity to pre-existing settlements, and that almost all cases studied so far make use of Roman structures. They are placed in privileged locations in the valley plain, in the vicinity of the main roads, favouring the road along the foothill (e.g. the monasteries of Roccasecca, Castrocielo, Piedimonte S. Germano, etc.: Corsi et al. 2005, 1071), without neglecting the old Latina Way, as is the case of the monastery of S. Gregorio at Aquinum, which in the 17th-century maps is positioned next to the *via silicata quae dicitur campanina* (Norcia 2010, 503-505).

As anticipated, however, it is not possible to understand the process of transformation of these Roman rural settlements into new monastic centres. In all the cases presented here, there is no possibility of arguing for continuity of occupation or for resettlement after a more or less long phase of desertion. This second eventuality seems at the moment the most probable, especially in cases where the first mention of the monastic settlement is not earlier than the 11th or even 12th century (e.g. S. Pietro a Campea: Pietrobono 2010, 435f.).

Nevertheless, we can discuss the matter of continuity and changes of rural settlement, building on the evidence from the site of Casale di Madonna del Piano, in the territory of Castro dei Volsci, excavated in the early 1990s but only recently having been brought into a larger scientific debate. The excavations involved some sectors of a typical early imperial *villa rustica* which, at its prime, included several buildings scattered on a plateau dominating the valley. During the 4th century AD, the *pars urbana* underwent a transformation into a productive centre, as is often documented for villas in Italy (Bellini – Pietrobono 2009; Fig. 3, no. 114; Fig. 4). In the courtyard, at the beginning of the 5th century at the earliest, a Christian three-aisled basilica was created, making use of the pillars of the portico of the peristyle. With the apse customarily facing east, the church was probably also served by a baptistery, with the traditional immersion font. Inside and outside there were some burials, the chronology of which ranges between the 6th and the 7th centuries. The insertion of a church among the ruins (?) of aristocratic country residences in the course of the 5th century is a phenomenon that is largely documented in Italy and in the late Roman world, but nevertheless it is important to stress that in most cases there was no direct relationship with the old class of landowners; the construction of small buildings of worship was rather related with groups of 'squatters' (Chavarría Arnau 2010, 658-661). The place of worship would have been in use at least until the Early Middle Ages, since a ciborium dated to the 8th-9th centuries has been found in the surroundings. Not far from this church, in another of the buildings displayed on the large platform occupied by the

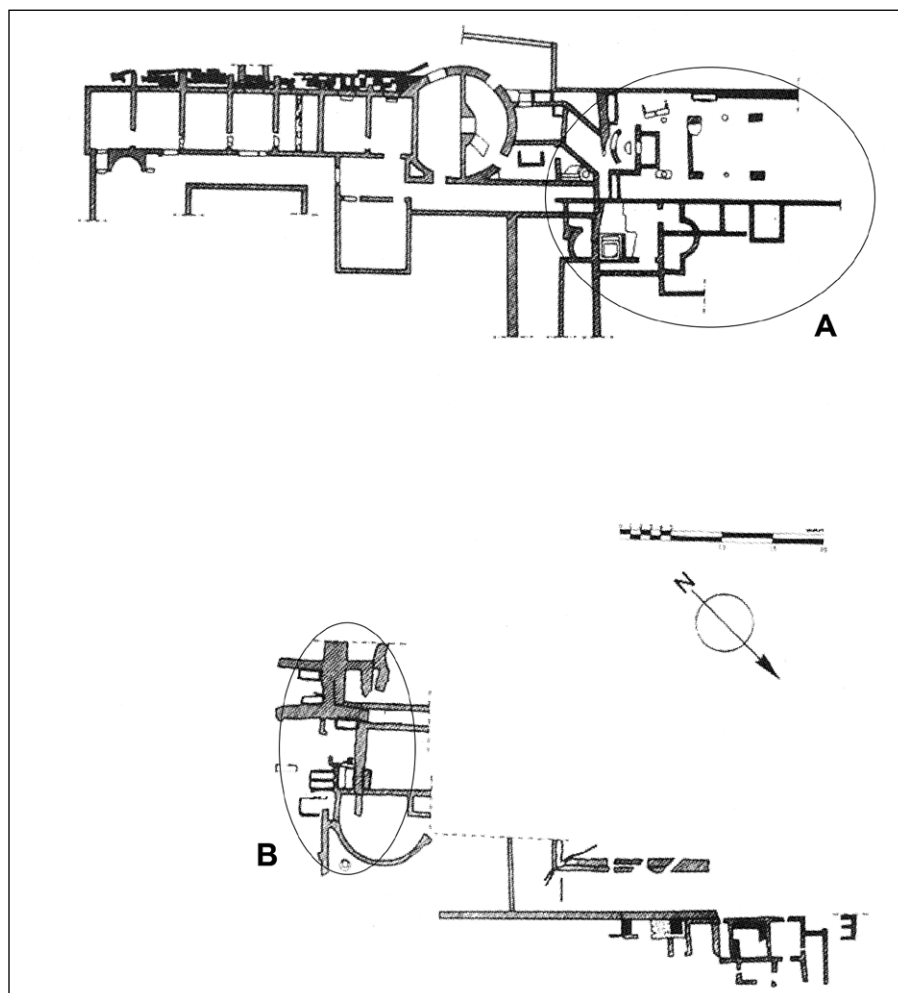


Fig. 4: Casale di Madonna del Piano (Castro dei Volsci). Plan of the several parts of the Roman villa, with an indication of the Early Christian basilica nested in the peristyle (A), and the area of the burials (B) © Cristina Corsi, after Venditti 2011).

villa, 13 burials have been recorded that make use of parts of the walls of the edifice or some recuperated materials. Each burial contained numerous corpses – in total at least 165 individuals – using the space in the most efficient way. From the condition in which they were found, it is clear that the tombs had been reopened a few times after short intervals (Rubini 2009).

The study of the poor grave goods and of the accessories indicates the presence of a large exchange system, with goods coming from diverse cultural contexts (Fig. 5). The material is largely local and indigenous, but some pieces suggest more exotic elaboration. There are, for example, two pairs of earrings, one in gold and one in silver, with fine granulated decoration (Fiore 2009).

Pottery and glass can be framed in the late Roman tradition, while metal objects like belt buckles are better connected to the Lombard influence, comparing to some mid-7th century materials from Verona (Corsi 2007a, 252). For comparative finds, see the pieces from Mantinsicuro and Penne in Abruzzo: Staffa 1997, 123-131). However, unlike in typical Lombard contexts, there are no weapons

among these grave goods. A good comparative case study can be therefore found in the rural settlement of Pratola Serra, some 8 km north-east of Abellinum, in Campania, where a cemetery, dated to the end of 6th century and the beginning of the 7th has been excavated in the vicinity of a small church with the same chronology (Peduto 1992). A koine of German and late Roman elements among the grave goods is indicated for the Adriatic region of Abruzzo as well (Staffa 2000, 120).

This ambiguity is shown also in the bioanthropological analysis of skeletons. Even if we are still waiting for the definitive report and analysis has been carried out on only a limited sample of individuals, it is evident that this group was able to afford a frugal yet well-balanced food supply, seemingly showing good health conditions in every age group, including infants. The low incidence of dietary stresses and middle-to-low impact of pathological, especially infectious, factors are argued for. The absence of traumas and weapon wounds leads to the exclusion of the bellicose nature of this group, who are instead described as 'laboriously active in the fields'. Female individuals present

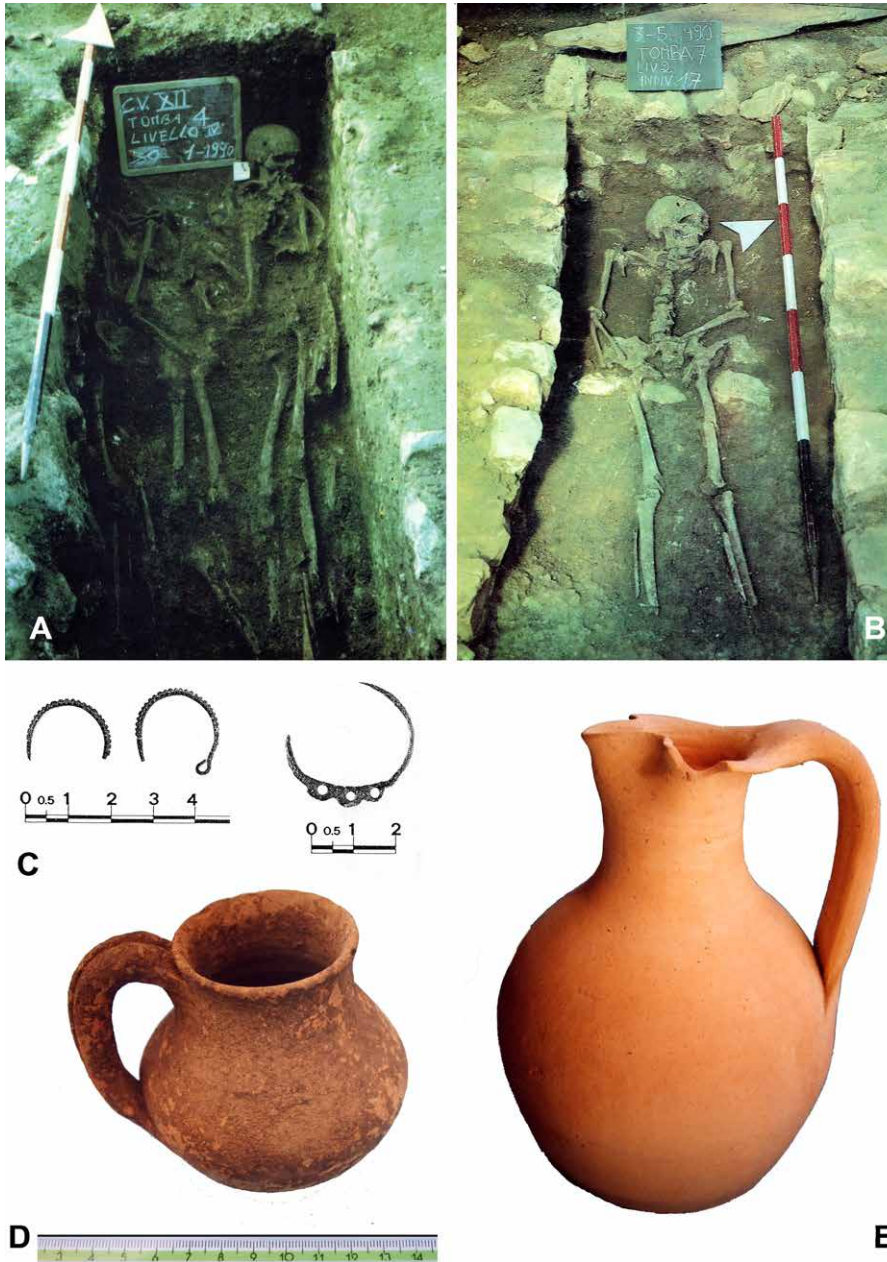


Fig. 5: Casale di Madonna del Piano (Castro dei Volsci). A: view of the tomb no. 4. B: view of the tomb no. 7 (after Rubini 1993). C: silver earrings from one of the tombs (after Fiore 2009). D-E: pottery from the tombs (© Cristina Corsi).

homogeneous characteristics, with all subjects studied being 'of medium stature and a body mass of medium strength', whereas males are biologically more diversified with at least two morphotypes (Rubini 1993, 76f.; 2009).

One of these morphotypes is relatively common and can be defined as 'autochthonous of the moment'. It is characterised by a robust body, a medium-to-low stature, and prevalent meso-dolichocephaly. Another type, still poorly represented, particularly in central Italy, presents a slender body and high stature, with moderately elongated limbs, especially the lower ones, and a prominent brachial aspect of the skull. These data can be compared with the bioanthropological analysis

of the 132 individuals buried in the Late Republican cemetery of Aquinum (Varghiu et al. 2009).

From an anthropological point of view, these elements could be explained as belonging to a group of natives who were infiltrated by newcomers, at this stage of research defined only as male, with different biological characteristics. This infiltration could be framed historically within the development of the southern Lombard Duchies of Benevento and Spoleto. After their arrival in northern Italy in AD 568, some groups of Germanic people, mostly but not exclusively Lombards, reached the central and southern regions of the peninsula, encountering weak opposition from the Byzantine army.

The processes of infiltration, ‘conquest’, and integration have been analysed in different geographical contexts, sometimes raising a debate about their modalities and their timeline. As anticipated, only a few contributions specifically address these questions focussing on this geographical area (e.g. *Nicosia 1990* and *1995*, 44-55), some of them in an amateur way (e.g. *Cedrone 2012*; *Celestino 2014*). However, a general framework of the impact of the invasion of the territories of southern Italy can be found in recent and less-recent publications, starting from the proceedings of the XVI International Congress of CISAM, particularly the papers by Volker Bierbrauer (*Bierbrauer 2003*, yet not focussed on Southern Italy) and Claudio Azzara (*Azzara 2003*), on the historical events and the political relationships with the Langobardia Maior); the volumes edited by Giuseppe Roma in 2010 (especially *Rotili 2010*, 11-77) and Marcello Rotili in 2017 (e.g. *von Valkenhausen 2017*); and the recent catalogue of the exhibition of Pavia and Naples (edited by Gian Pietro Brogiolo and Federico Marazzi, *Brogiolo – Marazzi 2017*), with the contributions by Vito Loré (*Loré 2017*), and Marazzi (*Marazzi 2017b*). Funerary traditions and rituals in Campania and Molise have been studied by Carlo Ebanista (e.g. *Ebanista 2014*), reporting evidence of non-indigenous groups buried in urban and rural contexts, whereas the highest density of rich rural villas and a higher rate of continuity of occupation in the rural settlement patterns in the southern part of the peninsula have been highlighted by Giulio Volpe and others (e.g. *Peduto 2003*; *Rotili 2004*; *Brogiolo 2005*; *Volpe – Turchiano 2005*; *Volpe 2017* with references).

The differences in the modalities of the ‘invasion’ and infiltration of the Germanic newcomers between the northern and southern parts of the peninsula have been emphasised (the different theories and reconstructions of the modalities with which the Germanic groups arrived in Italy are reviewed and commented upon by *Gasparri 2011* and summarised in *Gasparri 2012*, 3-22), and it has been underlined that, even if simplistic interpretations of the aspects of ‘ethnicity’ and ‘identity’ based only on some materials from funerary contexts have to be rejected, certain elements about the forms of settling and quartering between the indigenous and non-indigenous aristocracies can be detected. This analysis shows that the possible dynamics of interaction were not limited to conflict and destruction.

It is commonly acknowledged that in Lombardia Minor political control over the ‘Roman’ population would have been achieved mainly by small military groups, the largest part of whom would have been settled in Italy as auxiliary or *foederatae* troops. In the Duchy of Benevento, the uprising of military contingents (who might be labelled with the term of *comitati*, as already pointed out by Franco Cardini at the beginning of the

1980s: *Cardini 1981*, 71-110), quartered in these areas since at least the last years of the Gothic Wars, against the former allies of Byzantium might even be dated to the period following the killing of Clefi (AD 574). The settling after the ‘invasion’ in the southern territories would have then have followed different developments: smaller groups composed mostly of men-at-arms would have taken control of small chiefdoms, which would have enjoyed a certain independence from central authority, only progressively acknowledged as the Duke of Benevento.

In this specific case, by piecing together the archaeological evidence, in the light of the critical approach briefly discussed above and underlining the absence of weapons in the burials of the 6th-7th centuries found so far in Southern Lazio, we can draft the general lines of the impact of the Lombard conquest in this liminal region in a slightly different way.

Indeed, following the model elaborated by Paolo Delogu (*Delogu 1990*, 158f., 163), we should think about small groups of carriers of genotypes as alien to the indigenous genetic substrate, but socially not characterised as warriors. After peacefully settling among the native people, both in urban and rural contexts, they would have mingled with the latter, both from the biological and sociocultural points of view. They would have changed their lifestyle to a sedentary one, switching from an exclusively pastoral livelihood to a mixed agricultural-pastoral one. Their contribution to the survival of the group would have been linked to their greater biological resistance to stents and diseases.

The lack of military connotation of the nuclei of newcomers in the settlements investigated so far in southern Lazio (similar evidence comes from the newest excavations of the burials from the 6th-7th centuries in the complex of the Central Baths of Aquinum: *Corsi, Ceraudo, Murro 2018*) remains inexplicable in the framework of the conquest and of the friction with the Duchy of Rome, even if it is widely documented in the rest of the Duchy of Benevento (*Ebanista 2014*: 446-448), but is an essential element for the reconstruction of the settlement dynamics after AD 568.

This brief review of the new acquisitions about settlement patterns brings us back to the discussion of the aspects related to the circulation of goods and communications networks. Until recently, indeed, the dramatic decrease in imports from Africa (especially of fine pottery of Tunisian production) noted in southern Lazio by the beginning of the 5th century, *i.e.* earlier than in other central Italian regions, has been considered as an indication of a precocious shrinking of the markets and a sign of an advanced demographic crisis. We can now argue that the gap left in the market by the Tunisian fine ware was filled by local productions and imitations (*Corsi*

2007a, 249f.). It is not possible here to go into detail, but we can summarise that the data collected so far in survey (mainly at the urban site of Interamna Lirenas, *Bellini et al. 2015*) and excavations (published to date for Privernum, *Leotta – Rinnaudo 2015*, 565f.) show a small difference in the ceramic record between the areas that always remained under the control of the Romano-Byzantines and those that fell into the hands of the Lombards. If these dissimilarities are confirmed by further research, we should think about a slightly different ‘geography of consumption’. For instance, a different ‘geography of consumption’ has been argued by Helen Patterson for the two opposite banks of the Tiber, one under the control of the Byzantines, the other incorporated into the Lombard Duchy of Spoleto (*Patterson 2015*).

However, this dissimilarity is much less palpable between the two banks of the River Liri. Indeed, although the period of establishment of the political control of the Lombards in the region between Lazio and Campania was long and troubled, it is evident that the River Liri-Garigliano never played the role of being a boundless frontier. The archaeological record seems rather to prove a fast process of integration and acculturation of natives and non-natives. Cultural exchange and trade went on after the invasion, with the newcomers progressively and relatively peacefully filling the gaps in the demographic decline.

Trade, at least until the rise of Carolingian power, focused further on the hub of Casinum, even if the Roman town was now replaced by a small village on the slope of Mount Cairo, from the top of which the abbey still diffused its economic and cultural power.

Here, on the slopes of Montecassino, many routes connected Campania, Samnium, Puglia, the Tyrrhenian, and the Adriatic coasts with Rome. Heavily influenced by its geography, this network remained too crucial for the economy of the peninsula to be swept away by political instability and the rise of new powers. Indeed, a close relationship between settlements and road networks in these late Roman and early medieval phases has been argued for other regions of central Italy, such as Abruzzo (*Staffa 1997*, 118) and Campania and Molise (*Ebanista 2011*, 355-359).

Until the turn of the millennium, politics, the settlement of newcomers of different ethnic origin, and warfare undoubtedly impacted the habitat, but transformations might have been limited to the micro- and eventually meso-level, with a shrinking of urban settlements, the erection of new fortifications, the conversion of production from mainly agricultural to a mix of agro-pastoral and manufacturing activities, and the outburst of monastic property holding. However, until the beginning of the phenomenon of *incastellamento*, we cannot talk about a militarisation of the landscape at the

macro-scale, nor can we argue for a radical change in the communication network and in the trade circuits.

Substantially, the vocation of crossroads of this region will be stronger than the one of frontiers.

References

- Azzara, C. 2003:*
Spoleto e Benevento e il regno longobardo, in: Atti del XXI Congresso Internazionale di Studio sull’Alto Medioevo: «I Longobardi dei Ducati di Spoleto e Benevento» (Spoleto, 20-23 ottobre 2002 – Benevento, 24-27 ottobre 2002). Spoleto, 105-123.
- Bellini, G.R. (ed.) 1995:*
Archeologia e alta velocità. Storia di un connubio necessario. Il monitoraggio archeologico. Soprintendenza archeologica per il Lazio. Roma.
- Bellini, G.R. – Pietrobono, S. 2009:*
L’edificio di culto, in Fenelli, M. – Pascucci, P. (eds), Il Museo Civico Archeologico di Castro dei Volsci. Roma/Napoli, 63-66.
- Bellini, G.R. – Launaro, A. – Leone, N. – Millett, M. – Trigona, S. L. 2015:*
Ceramiche comuni da *Interamna Lirenas* e dal suo territorio. Primi risultati dello studio cronotipologico (campagne 2010-11), in: Cirelli, E. – Diosono, F. – Patterson, H. (eds), Le forme della crisi. Produzioni ceramiche e commerci nell’Italia centrale tra Romani e Longobardi (III-VIII sec. d.C.). Atti del Convegno (Spoleto-Campello sul Clitunno, 5-7 Ottobre 2012). Bologna, 581-590.
- Betori, A. 2009:*
Villa con impianto termale in località Sant’Angelo al Cannuccio, Ceprano (FR), in Padovano, R. (ed.), Sorgenti e terme della Valle del Sacco. Padova, 339-344.
- Bierbrauer, V. 2003:*
Frühe langobardische Siedlung in Italien: Das Problem der Gräber- und Siedlungsarchäologie, in: Atti del XXI Congresso Internazionale di Studio sull’Alto Medioevo: «I Longobardi dei Ducati di Spoleto e Benevento» (Spoleto, 20-23 ottobre 2002 – Benevento, 24-27 ottobre 2002). Spoleto, 29-77.
- Brogiolo, G.P. 2005:*
Risultati e prospettive della ricerca archeologica sulle campagne altomedievali italiane, in: Brogiolo, G. P. – Chavarria Arnau, A. – Valenti, M. (eds), Dopo la fine delle ville: le campagne dal VI al IX secolo. 11° Seminario sul tardo antico e l’alto Medioevo (Gavi 8-10 maggio 2004). Mantova, 7-16.
- Brogiolo, G.P. – Marazzi, F. (eds) 2017:*
Longobardi. Un popolo che cambia la storia. Milano.

- Cagiano de Azevedo, M. 1949:*
Aquinum (Aquino), Istituto di studi romani. Roma (*Regio I: Latium et Campania*; Italia romana: municipi e colonie. S. I, vol. 9).
- Cardini, F. 1981:*
 Alle radici della cavalleria medievale. Firenze.
- Cedrone, D. 2012:*
 I Longobardi in Valcomino e nel Lazio meridionale. Roma.
- Celestino, D. 2014:*
 I Longobardi: tra Tevere, Garigliano e Volturno (VI-X sec.). San Donato Valle di Comino.
- Chavarría Arnau, A. 2010:*
 Churches and villas in the 5th century: reflections on Italian archaeological data, in: Delogu, P. – Gasparri, S. (eds), *Le trasformazioni del V secolo: l'Italia, i barbari e l'Occidente romano*. Atti del seminario di Poggibonsi, 18 – 20 ottobre 2007. Turnhout, 639-662.
- Coarelli, F. – Monti P.G. (eds) 1998:*
Fregellae 1: Le fonti, la storia, il territorio. Roma.
- Corsi, C. 2007a:*
 Trade and Trade Routes in Southern Latium in Late Antiquity, *BABesch* 82, 247-256.
- Corsi, C. 2007b:*
Insediamiento e paesaggio nel territorio di Cassino tra S. Benedetto e Gregorio Magno, in: Pani Ermini, L. (ed.), *L'Orbis Christianus Antiquus di Gregorio Magno*. Atti Convegno di Studi (Roma 2004). Roma, 456-491.
- Corsi, C. – Ceraudo, G. – Murro, G. 2018:*
 Gli scavi delle Terme Centrali di Aquinum: nuovi dati per la definizione dell'abitato tra tardoantico ed età longobarda, in: Sogliani, F. – Gargiulo, B. – Annunziata, E. – Vitale V. (eds), *VIII Congresso Nazionale di Archeologia Medievale. Pré-tirages* (Matera, 12-15 settembre 2018). Firenze, 185-189.
- Corsi, C. – Polito, E. 2008:*
 Introduzione, in: Corsi, C. – Polito, E. (eds), *Dalle sorgenti alle foce. Il bacino del Liri Garigliano nell'antichità: culture, contatti, scambi*. Atti del Convegno Internazionale (Frosinone – Formia 10-12 novembre 2005). Roma, XIII-XIV.
- Corsi, C. – Polito, E. – Persichini, S. 2005:*
 From *oppida* to *castella*: Settlements and Landuse in the Liri-Bassin (Southern Latium – Roman to Medieval Period), in: Attema, P. – Nijboer, A. – Zifferero, A. (eds), *Papers in Italian Archaeology. The Groningen Conference. Communities and Settlement from the Neolithic to the Medieval Period*, VI, 3.1. Oxford, 1067-1072.
- De Acutis, R. – Pietrobono, S. 2012:*
 Dati e nuove ricerche su un confine medievale nell'Italia centrale: il Lazio meridionale come “terra di frontiera”, in Redi, F. – Forgiione, A. (eds), *Atti del VI Congresso Nazionale di Archeologia Medievale* (L'Aquila, 12-15 settembre 2012). Firenze, 336-341.
- Del Ferro, S. 2012:*
Castrum Montis Sancti Iohannis. Archeologia e storia di un insediamento medievale. Roma.
- Delogu, P. 1990:*
 Longobardi e Romani: altre congetture, in Gasparri, S. – Cammarosano, P. (eds), *Langobardia*. Udine, 111-168.
- Ebanista, C. 2011:*
 Gli usi funerari nel ducato di Benevento. Alcune Considerazioni sulle necropoli campane e molisane di VI-VIII secolo, in: Ebanista, C. – Rotili, M. (eds), *Archeologia e storia delle migrazioni: Europa, Italia, Mediterraneo fra tarda età romana e alto medioevo*. Atti del convegno internazionale di studi (Cimitile-Santa Maria Capua Vetere, 17-18 giugno 2010). Cimitile, 337-364.
- Ebanista, C. 2014:*
 Tradizioni funerarie nel Ducato di Benevento: l'apporto delle popolazioni alloctone, in: Possenti, E. (ed.), *Necropoli longobarde in Italia: indirizzi della ricerca e nuovi dati*. Atti del Convegno Internazionale, 26-28 settembre 2011, Castello del Buonconsiglio. Provincia autonoma di Trento, 445-471.
- Fiore, M.G. 2009:*
 La necropoli altomedievale. Le tombe ed i corredi funebri, in: Fenelli, M. – Pascucci, P. (eds), *Il Museo Civico Archeologico di Castro dei Volsci*. Roma/ Napoli, 67-79.
- Gasparri, S. 2011:*
 Migrazione, etnogenesi, integrazione nel mondo romano: il caso dei longobardi, in Ebanista, C. – Rotili, M. (eds), *Archeologia e storia delle migrazioni. Europa, Italia, Mediterraneo fra tarda età romana e alto medioevo*. Atti del convegno internazionale di studi (Cimitile-Santa Maria Capua Vetere 17-18 giugno 2010). Cimitile, 31-42.
- Gasparri, S. 2012:*
 Italia longobarda: il regno, i Franchi, il papato. Roma/Bari.
- Hayes, J.W. – Martini, I.P. (eds) 1994:*
Archaeological Survey in the Lower Liri Valley. Tempus Reparatum. Oxford (BAR international series 595).
- Indelli, T. 2017:*
 I gastaldati longobardi nel Lazio meridionale, in Marazzi, F. (ed.), *Felix terra*. Capua e la Terra di Lavoro in età longobarda. Atti del Convegno internazionale (4-7 giugno 2015 Capua – Caserta). Cerro al Volturno, 97-108.

Leotta, M.C. – Rinnaudo, P. 2015:

Il Lazio Pontino tra Tardoantico e alto Medioevo: il territorio privernate, in: Cirelli, E. – Diosono, F. – Patterson, H. (eds.), *Le forme della crisi. Produzioni ceramiche e commerci nell'Italia centrale tra Romani e Longobardi (III-VIII sec. d.C.)*. Atti del Convegno (Spoleto-Campello sul Clitunno, 5-7 Ottobre 2012). Bologna, 561-571.

Loré, V. 2017:

Il quadro istituzionale, in: Brogiolo, G. P. – Marazzi, F. (eds), *Longobardi. Un popolo che cambia la storia*. Milano, 397-399.

Marazzi, F. 2017a:

I grandi monasteri: Montecassino e San Vincenzo al Volturno, in: Brogiolo, G.P. – Marazzi, F. (eds), *Longobardi. Un popolo che cambia la storia*. Milano, 401-405.

Marazzi, F. 2017b:

Le capitali del mezzogiorno longobardo: Benevento, Salerno e Capua, in: Brogiolo, G.P. – Marazzi, F. (eds), *Longobardi. Un popolo che cambia la storia*. Milano, 407-411.

Nicosia, A. 1990:

I Longobardi nel Lazio meridionale (sec. VI), in: *Scritti in memoria di Giuseppe Marchetti Longhi*. I. Anagni, 75-99.

Nicosia, A. 1995:

Il Lazio Meridionale tra antichità e medioevo. Marina di Minturno.

Nicosia, A. 2006:

Aquino. Museo della città e del territorio. Roma.

Norcia, M. 2007:

I monasteri di Sora e Val di Comino (Frosinone), in: Patitucci, S. (ed.), *Archeologia del paesaggio medievale: studi in memoria di Riccardo Francovich*. Firenze, 137-149.

Norcia, M. 2010:

San Gregorio di Aquino e S. Domenico di Sora: due casi di reimpiego, in: Somma, M.C. (ed.), *Atti del 2° Convegno internazionale De Re Monastica. Cantieri e maestranze nell'Italia medievale (Chieti-San Salvo, 16-18 maggio 2008)*. Spoleto, 503-518.

Parthey, G. – Pinder, M. (eds) 1860:

Ravennatis Anonymi Cosmographia et Guidonis Geographica. Berlin.

Patterson, H. 2015:

Ceramic production and consumption in South Etruria and the Sabina: 4th to 8th centuries, some considerations, in: Cirelli, E. – Diosono, F. – Patterson, H. (eds), *Le forme della crisi. Produzioni ceramiche e commerci nell'Italia centrale tra Romani e Longobardi (III-VIII sec. d.C.)*. Atti del Convegno (Spoleto-Campello sul Clitunno, 5-7 Ottobre 2012). Bologna, 465-474.

Peduto, P. (ed.) 1992:

S. Giovanni di Pratola Serra. Archeologia e storia nel ducato longobardo di Benevento. Salerno.

Peduto, P. 2003:

Il quadro della ricerca archeologica altomedievale nella regione dei principati di Salerno e di Capua, in: Musi, A. – Peduto, P. – Rossi, L. (eds), *Mercato San Severino e la sua storia dall'antica Rota alle trasformazioni moderne*. Salerno, 11-29.

Pietrobono, S. 2002:

La via Latina nel Medioevo: l'apporto delle fonti medievali allo studio della viabilità nel territorio di *Aquinum*, in: Patitucci, S. (ed.), *Viabilità medievale in Italia: contributo alla carta archeologica medievale*. Firenze, 197-228.

Pietrobono, S. 2004:

In Fabrateria Magni: topografia del territorio tra tardo antico ed alto medioevo, in: Carcione, F. (ed.), *Magno di Trani. Memoria e culto di un martire paleocristiano nelle valli del Liri e del Sacco*. Ricerche di agiografia-topografia-iconografia. Venafro, 43-109.

Pietrobono, S. 2006:

Carta archeologica medievale. Frosinone: *Forma Italiae Medii Aevi* F°. 159-I. Firenze.

Pietrobono, S. 2010:

L'insediamento ecclesiastico e monastico nel Lazio Meridionale. Il territorio tra il Fiume Liri e le Gole del Melfa nel Medioevo, in: *Lazio e Sabina 6. VI incontro di Studi sul Lazio e la Sabina*. Roma, 431-439.

Rizzello, M. 1991:

Il territorio di Isola del Liri nell'antichità: insediamenti, sepolture e luoghi di culto, *Latium* 8, 33-139.

Rotili, M. 2004 :

Hirpinia christiana tardoantica e altomedievale. Recenti contributi della ricerca archeologica, in: Nazzaro, A.V. (ed.), *Giuliano d'Eclano e l'Hirpinia Christiana*, Atti del convegno (Eclano 2003). Napoli, 265-285.

Rotili, M. 2010:

I Longobardi: migrazioni, etnogenesi, insediamento, in: Roma, G. (ed.), *I Longobardi del Sud*. Roma, 1-77.

Rubini, M. 1993:

La necropoli di Castro dei Volsci. Problematiche ed aspetti di Antropologia Fisica. Frosinone.

Rubini, M. 2009:

Vita e morte a Castro dei Volsci, in: Fenelli, M. – Pascucci, P. (eds), *Il Museo Civico Archeologico di Castro dei Volsci*. Roma/Napoli, 79-83.

Staffa, A.R. 1997:

I Longobardi in Abruzzo (secc. VI-VII), in: Paroli, L. (ed.), *L'Italia centro-settentrionale in età*

longobarda. Atti del Convegno (Ascoli Piceno, 6-7 ottobre 1995). Firenze, 113-165.

Staffà, A.R. 2000:

Alcune considerazioni sulla presenza longobarda nell'Italia centrale adriatica (secc. VI-VII), in: Brogiolo, G.P. (ed.), II Congresso Nazionale di Archeologia Medievale. Pré-tirages (Brescia, 28 settembre-1 ottobre 2000). Firenze, 117-126.

Stasolla, F.R. 2011:

Per una ricerca sul medioevo rurale nel Lazio meridionale, in: Ghini, G. (ed.), Lazio e Sabina 7, Atti del Convegno Settimo Incontro di Studi sul Lazio e la Sabina (Roma 9-11 marzo 2010). Roma, 591-596.

von Valkenhausen, V. 2017:

I Longobardi dell'Italia meridionale: conquista e integrazione, in: Rotili, M. (ed.), Tra i Longobardi del Sud. Arechi II e il Ducato di Benevento. Padova, 19-30.

Varghiu, R. et al. 2009:

Condizioni di vita e stato di salute della comunità di Aquinum (Castrocielo, Frosinone), in: Ghini, G. (ed.), Lazio e Sabina 5. Atti del convegno (Roma 3-5 dicembre 2007), Roma, 475-481.

Venditti, C.P. 2011:

Le *villae* del *Latium adiectum*: aspetti residenziali delle proprietà rurali. Bologna.

Volpe, G. 2017:

Campagne in trasformazione. Le regioni del sud, in: Brogiolo, G.P. – Marazzi, F. (eds), Longobardi. Un popolo che cambia la storia. Milano, 145-149.

Volpe G. – Turchiano, M. (eds) 2005:

Paesaggi e insediamenti rurali in Italia meridionale fra tardoantico e altomedioevo. Atti del primo seminario sul tardoantico e l'altomedioevo in Italia meridionale, Foggia 12-14 febbraio 2004. Bari.

Deciphering transformations of rural settlement and land-use patterns in central Adriatic Italy between the 6th and the 12th centuries AD

*Francesca Carboni and Frank Vermeulen**

Abstract

Starting with a regional case study, we aim to provide an overview of the transformation dynamics following the disruption of the Roman landscape in the Italian Marche region. We then focus on the local processes of settlement shifts and the new nucleation that occurred in a specific coastal zone bounded by two extremely fluctuating rivers. The application of advanced geoarchaeological techniques and historical analyses conducted through a long, diachronic approach have highlighted how, in the Middle Ages, the human interaction with the landscape and the population development of this area were particularly connected to the crucial relevance of establishing a fluvial landing post for maritime trade.

Keywords: *Adriatic Italy, Potenza Valley, port of Recanati, wetlands, changing riverbed.*

Résumé

Déchiffrer les transformations du peuplement rural et de l'exploitation des terres en Italie medio Adriatique entre les VIe et XIIe siècles

À partir d'un exemple régional, nous visons à présenter un aperçu général sur les transformations du paysage rurale de l'Italie médio-adriatique après la fin de l'organisation territoriale d'époque romaine. Ensuite, nous ferons un zoom sur les dynamiques du peuplement qui intéressèrent une zone côtière, délimitée par deux fleuves extrêmement fluctuantes. L'application de techniques géoarchéologiques avancées et une analyse historique conduite sur un horizon temporel de longue durée ont mis en évidence comment, au Moyen Âge, les formes d'exploitation de l'environnement et l'évolution du peuplement de cette zone furent conditionnées par la priorité d'y créer un port fluvial de débarquement.

Mots clés: *Italie adriatique, Vallée de la Potenza, port de Recanati, zone humides, divagations fluviales.*

* Francesca Carboni
Frank Vermeulen
Department of Archaeology,
Ghent University
Campus UFO
Sint-Pietersnieuwstraat 35
9000 – GENT
Belgium
francesca.carboni@ugent.be
frank.vermeulen@ugent.be

Zusammenfassung

Wandlungen ländlicher Siedlungen und Modelle landwirtschaftlicher Landnutzungen an der mittleren Adria in Italien zwischen dem 6 und 12 Jahrhundert n. Chr.

Ausgehend von einer regionalen Fallstudie – der Region Marche – wollen wir einen Überblick über die Transformationsdynamik nach dem Niedergang der römischen Territorialorganisation geben. Wir konzentrieren uns auf lokale Prozesse der Siedlungsverschiebungen und – dynamiken in einer bestimmten Küstenzone, die von zwei stark

The wider geographic scope

The focus of the present paper is the central part of Italy corresponding to the modern Marche district. The region is situated between the Apennine Mountains and the Adriatic coast and is characterised by a comb-shaped geomorphologic structure in the form of a series of parallel river valleys oriented east – west. The chosen geographic area is devoid of real plains and is characterized by an undisputed prevalence of hilly and mountainous landscapes, with an approximately 180 km long mostly flat coastline. Historical events and hydrogeological factors influenced the various sectors of this territory, which, despite its substantial homogeneity from a physical point of view, had no political and administrative regional unity before the 12th century AD. The name itself, Le Marche, is derived from the German word Mark, ‘border land’ (Fig. 1).

In the Augustan age, the River Esino, which now cuts the modern district into two parts, separated the regiones Umbria and Picenum, respectively, corresponding to the ethnolinguistically distinct areas of protohistoric Gallic and Picenian communities. With the administrative reform of Diocletian, the two regions were unified in the provincia Flaminia et Picenum, while in the 5th century AD, the same River Esino became the edge between Flaminia et Picenum annonarium and Picenum suburbicarium, fixing a limit modelled also on the deep economic and social divide between the part of Italy gravitating towards Milan and Ravenna and the part intended for Rome’s supply.

After the Lombard occupation in the late 6th century AD, the River Musone, immediately south of this limit, represented the fluctuating borderline between the Byzantine Pentapolis and the Duchy of Spoleto, in the context of the demarcation of the Italian peninsula into the two main areas of ‘Romània’ and ‘Longobardia’ (Baldetti 1999; Bernacchia 2004). Throughout the medieval period other much more vigorous borders were established, like those of the dioceses and of the Lombard duchies.

schwankenden Flüssen begrenzt wird. Die Anwendung moderner geoarchäologischer Methoden und schrift-historischer Analysen, die für einen langen, diachronen Ansatz durchgeführt wurden, haben gezeigt, wie im Mittelalter die Formen der Umweltnutzung und die Entwicklung der Besiedlung in diesem Gebiet durch die Priorität der Schaffung eines Anlegesystems an den Flüssen bedingt war.

Schlagwörter: *Italien, Potenza Tal, Hafen von Recanati, Sumpfsgebiete, Flussbewegungen.*

Furthermore, an important internal division corresponded, and still corresponds, to the territorial corridors represented by the river valleys where the microregional diversity of the landscape favoured the creation of real settlement chambers, each offering diverse opportunities for human societies in the exploitation of the natural resources.

The Potenza Valley Survey project

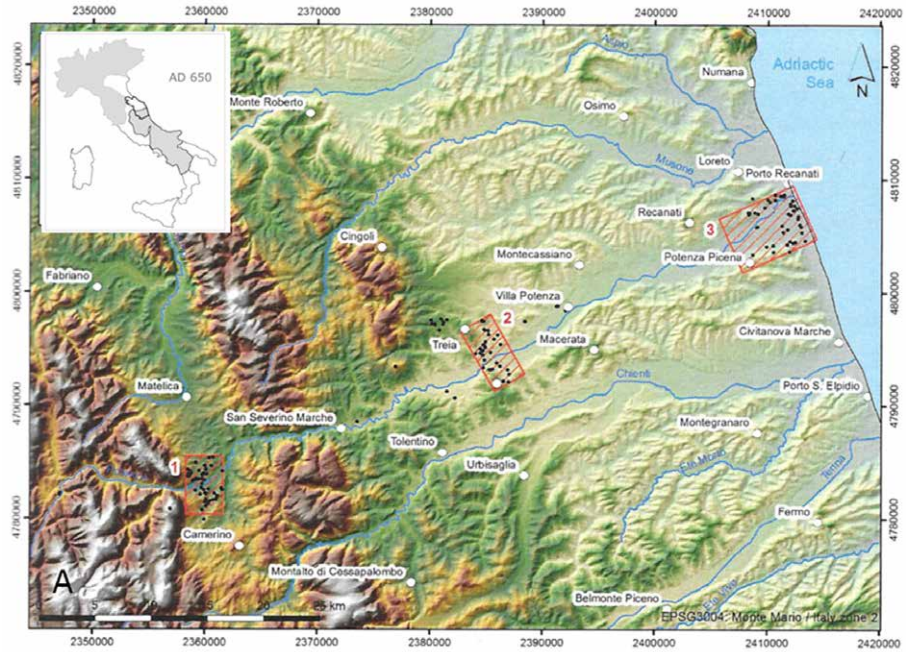
Despite a conspicuous historical bibliography, probably stimulated by the abundance of written sources, up until now no regional synthesis exists that combines evidence of pottery production, the analysis of building techniques, and reconstructions of medieval central-Adriatic landscapes based upon archaeological data.

Any attempt to compare and classify, from a typological point of view, the evidence dated to the timeframe proposed here is therefore still difficult. However, during the last two decades certain sectors of this region have been the object of a holistic analysis of the settlement distribution and evolution from a longue durée perspective, thanks to a series of projects undertaken by teams from Italian and foreign universities, two of which, carried out by the Universities of Macerata and Urbino, respectively, particularly targeted the restitution of the early medieval and medieval landscape (Moscatelli 2014; Sacco 2018).

Our own examination is mainly based on the results of a geo-archaeological project conducted since 2000 by a team from Ghent University in southern Marche in the valley of the River Potenza. This was in Roman times a very strategic and dynamic corridor, connecting the Adriatic with the upper Tiber region, and became, due to the political and military events of post-classical periods, the buffer zone between different dominions and territorial divisions (Fig. 1)

In the Roman period, the valley was traversed by the diverticulum to Ancona of the major highway Via Flaminia, along which the inland urban centres of

Fig. 1: A: location of the Potenza Valley Survey project sample areas in the central Marche. In the box: the Marche region in the Italian Peninsula (in grey the areas under Lombard domination around AD 650). B: Physical map of central Adriatic Italy with the fully developed urban network and road system of the Imperial age. The urban centers, roads, and rivers mentioned in the text are highlighted (© Francesca Carboni, Frank Vermeulen).



Septempeda and Trea had developed. From the latter town, another road headed through the lower valley to the city of Ricina and the coastal colony of Potentia. All these Roman cities were gradually abandoned in high medieval times and most of their remains are now still buried under hectares of farmland or have been partially destroyed by modern building activity.

A GIS-based multidisciplinary approach, using non-destructive methods like remote sensing applications (in particular aerial prospections and intra-site geophysical surveys), integrated with intensive artefact surveys and a systematic geomorphologic study of the area, focusing on three large sample zones, has allowed the reconstruction of the settlement dynamics in this territory from the Iron Age to the 6th century AD (Van Limbergen et al. 2017b; Vermeulen et al. 2017). Some 89 well-defined Roman settlement sites were identified and classified within a site typology, ranging from the smallest house units to farms, villae, vici, and towns.

The best evidence comes from the lower coastal valley, where the ager Potentinus incorporated low hills and a wetland of lagoons and swamps that was separated from the sea by a sandy beach ridge, traversed by the meandering River Potenza (Fig. 2, A). This wide alluvial plain was a fertile area, where prime agricultural land could be created through attentive management and drainage, efficiently organised within the Roman *centuriatio*. Through a combination of gridded artefact surveys, aerial photography, and geomorphologic augerings we could understand the different technical solutions adopted by Romans in order to develop *longue durée* farms, even in areas



naturally prone to flooding. Finally, we could also identify several amphora workshops in the area at the junction with the sea, where the beach ridge with its important coastal north – south road was a perfect location for activities such as clay extraction and pottery production, thus revealing the presence of an active rural community supplying local and overseas markets during the first two centuries of our common era (Van Limbergen et al. 2017a).

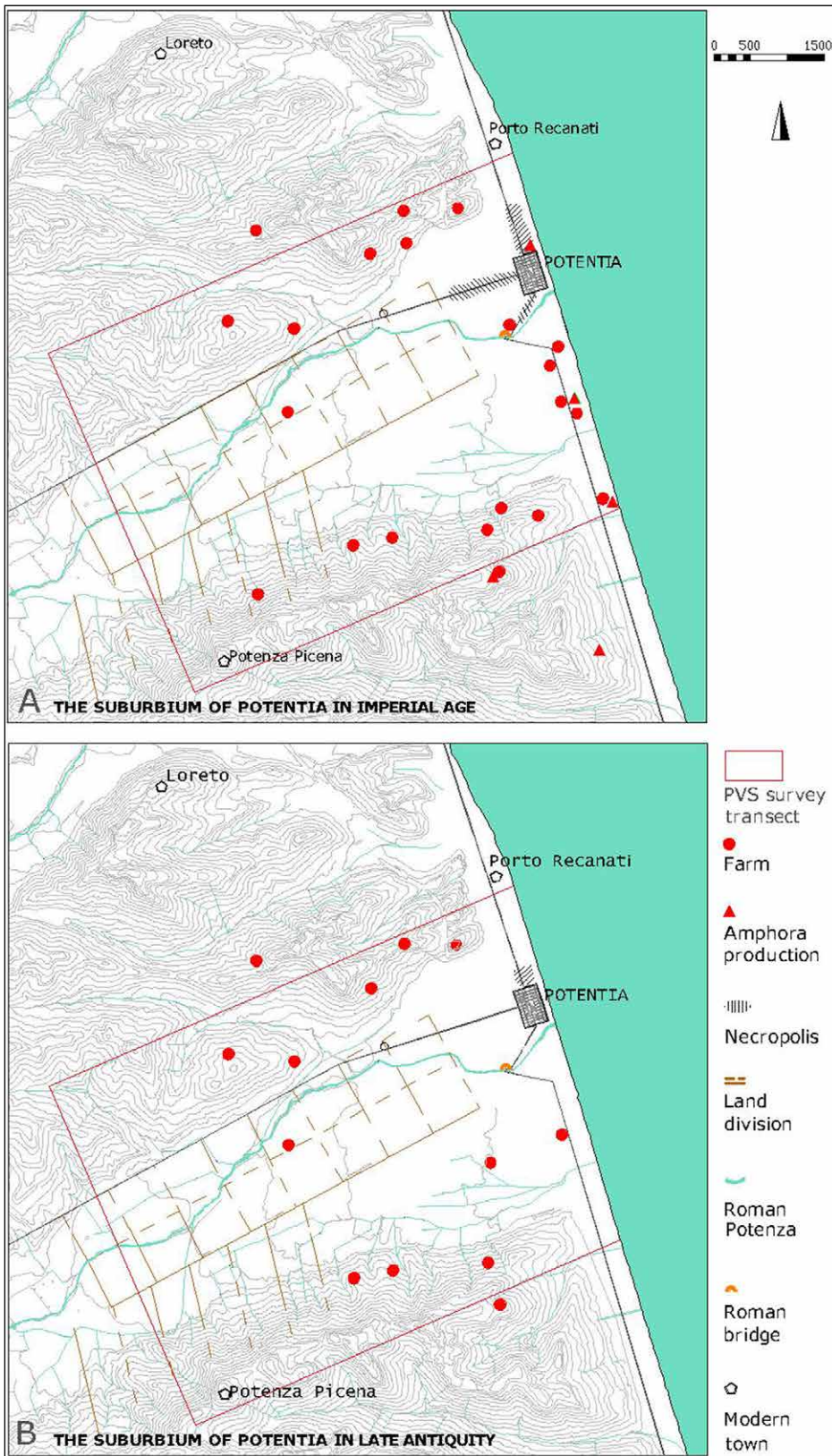


Fig. 2: Evidence from artefact surveys and topographical research on the development of the rural settlements in the immediate hinterland of Potentia from the first Imperial age (A) through Late Antiquity (B) (© Francesca Carboni, Frank Vermeulen).

From the end of the Roman towns and villas to the formation of medieval villages (6th – 9th centuries AD)

The contribution of our systematic research shows that population dynamics, concerning both the urban centres and the rural sites, had a parallel evolution. In the Potenza Valley, the dispersed settlement patterns associated with the Romans started to decline noticeably from the 2nd century onwards, followed by an all-time low during the 3rd century. The downward trend in site numbers continued into the Late Antique phase, when it is important to note that mainly the larger sites, such as the large farms and villas, were still occupied in the 4th and 5th centuries, while the simple house units and smaller farms were apparently definitively abandoned (Fig. 2, B).

The devastation of the Byzantine – Gothic wars (AD 535-553) damaged the countryside severely and further induced the decline of urban centres. The combination of the survey evidence with the excavation data available for this and other sectors of the region proves that even the most resistant rural sites did not reach the 7th century and failed to maintain a role in the territorial organisation, despite their possible longer squatter occupation.

If in the Marche, as elsewhere in Italy, the disarticulation of the Roman settlement system seems thus to have preceded the arrival of the Lombards (ca. AD 580), there is no doubt that their invasion represented a breaking point for the regional settlement patterns. Nonetheless, substantial signs of continuity in the towns and the more-resilient rural settlements, located in particularly favourable positions, are attested in the upper Potenza Valley, near the Umbria-Marche Apennines, a strategic entranceway for the expansion of the Lombard Duchy of Spoleto in the Adriatic region (Carboni 2015).

Advancing towards the middle valley, it becomes more apparent that the gradual abandonment of the Roman central places coincided with the breakup of the rural settlement system and, from the end of the 6th through the beginning of the 7th century AD, this signalled the start of the Early Middle Ages, indicated by the concentration of the dispersed population in centralising villages.

When examining the evolution of the cities in the Marche region, we see that the most striking difference between the Byzantine and the Lombard sectors concerns the development of the urban centres further south along the coast. Indeed, all the previous Roman towns situated above the River Musone survived, while those located below that line vanished.

The pre-eminence assumed by the port centre of Ancona in the second half of the 6th century demonstrates that the new Byzantine defensive system was strictly linked to military requirements and the need to preserve the indispensable sea connections. Conversely, the Lombard conquest of the southern sector of the region

led to the extreme consequences of the definitive failure of the Roman political organisation and the trade network within the orbit of the ancient Adriatic harbours.

Besides this, when the previous classical cities were abandoned, we can reconstruct similar transformations of the occupation patterns. It was above all the geographical factor that guided the local communities towards the choice of moving to fortified settlements on high ground, in the two differently dominated territories¹.

Our study has well highlighted that the manner in which the four towns in the Potenza Valley disappeared, or rather how their population resettled in one or more nearby upland sites, varied depending on their location in relation to crucial positions for the control of access to the valley, the road network, and the course of the river.

In the upper valley, the towns of Septempeda and Trea were still sparsely and randomly occupied until the Lombard age and were then characterised by the establishment of a '*pieve*' (rural church) within the previous city walls, whilst their residual population had already moved to nearby hilltops, setting the villages from which the medieval towns of San Severino Marche and Montecchio developed (Carboni 2017).

Indeed these new and higher-located centres ended up controlling a territory more or less corresponding to the catchment area of the former Roman towns, whereas the sites originally occupied by *villae rusticae* did not seem to evolve into *longue durée* settlements with an administrative control function.

Also at Ricina, in the middle Potenza Valley, written sources testify to the presence of a high medieval *pieve*, placed just outside the eastern edge of the urban walls. Nevertheless, the location of the town, along the valley's secondary bottom road leading to *Potentia*, determined that its slow abandonment was followed by a scattered and polycentric occupation of the surrounding hilltops (Carboni – Vermeulen 2014).

More miserable, finally, was the fate of *Potentia*. Despite the fact that literary sources attest the presence of a bishop at the beginning of the 5th century AD and both excavations and surveys have recorded the discovery of some imported pottery products until the second half of the 6th century, archaeological evidence testifies to

1 These safely and strategically located sites of high medieval origin are better recognizable in the central part of the Marche, where they have maintained distinctive features with respect to the surrounding areas, while in the South this settlement phase was been further obliterated by the massive presence of *castella* dating from the 10th century AD. An exemplary kind of population shift has been archaeologically documented, in the Byzantine sector of the region, for the municipium of Forum Sempronii, whose inhabitants moved to the hilltop village, which was then transformed into the bishop's seat city of Fossombrone (Ermeti et al. 2015).

severe urban decay as well as an inconsistent role of the local *élite* probably already from the 3rd century onwards (Vermeulen 2012).

Over the centuries, it is this coastal zone that has suffered the more intense transformation, both from the action of natural forces and from human interference, partly to counter such natural phenomena.

The result of the interdisciplinary work by the Ghent team of geomorphologists provides strong evidence of the critical hydrogeological conditions of the area at the mouth of the river, the bed of which moved significantly from Roman times into the Middle Ages (Corsi *et al.* 2009).

No religious building is attested in or in the proximity of the urban area until the 12th century AD.

From *curtes* to *castella* (9th – 11th centuries AD)

While the Lombard occupation of a large part of the district improved the exploitation of the silvo-pastoral resources of territories that had suffered strong demographic declines, as well as economic collapse, causing the disappearance or serious disruption of many urban centres, the agrarian revival of the region from the 8th century onwards was characterised by the recultivation of more and more wastelands.

On the basis of written sources, starting from the 9th century, the layout of the rural structures named *curtes*, through which the agricultural lands belonging to a village were managed, is well-documented.

In the Potenza Valley these estates, the core of which have been identified through artefact surveys, are often the property of ecclesiastical entities, such as the Farfa Abbey (Virgili 2014, 47-53). Some estates belonged to other monastic and episcopal churches, as a result of the administrative consolidation and the favourable policy towards the great imperial monasteries implemented after the Frankish conquest (AD 774).

The term *curtis* means an organizing centre for the collection and coordination of agricultural enterprises, divided between the *pars dominica* and the *massaricium*, bound by the corvée constraint (Fumagalli 1983, 44-49). From documents we know that in our territory *curtes* were small enterprises, mostly characterised by an incoherent articulation of the farm units. As typical forms of the rural landscape, documents mention *terra*, *vinea*, and *silva* with, from the end of the 9th century onwards, sporadic reference to olive plants in orchards, near vineyards and cultivated fields (Bernacchia 2012, 109).

In the overall process of centralisation, religious buildings constituted a link between the old organisation and the new aggregations. As we have seen, there is a recurring pattern in the building of *pievi* in abandoned

Roman urban areas (as in Septempeda, Trea, and Ricina), where the choice of the location seems to have been motivated by the ease of finding building material and the need to stay close to the main road.

It is also attested that around the 10th century AD several of the more-eminent ancient village-estates were fortified, giving rise to the first forms of *incastellamento*.

An almost total lack of excavations aimed at understanding this kind of structures in our region impedes the insight into them. And as a result of the perishable nature of the construction materials used during this period, usually obliterated by later masonry structures, there is hardly any material evidence at all. Nevertheless, data from archive sources, comparisons with other regional frameworks, and the interpretation of traces detected through remote-sensing investigations allow us to reconstruct these settlements, which consisted mostly of a round- or ovoid-shaped enclosure located on the summit of a hill. The precinct was surrounded by a protective ditch and an earthen bank (*ripa*) made from the dug-out soil of the ditch, which documents call *carbonaria*, probably because of their similarity to the wood-and-earth stacks used for the production of coal (*carbo* in Latin). On top of the *ripa*, or just behind it, a palisade (*clausimen*) was built, with only one entrance. There was possibly a single tower inside the enclosure or on the highest or best-oriented point of the settlement, although the references to such features are extremely scarce for this period. In only 3 documents before the 11th century AD do we find the mention of *muris*, referring to masonry structures; therefore, together with the few excavation data available and the comparison with other regional cases, let us imagine these *castra* as made mostly of wood (Bernacchia 2002 – 2003; Bernacchia 2012, fig. 2; Moscatelli 2006).

In the framework of the Marche region the relationship between *curtis* and *castrum* is extremely close, as witnessed by documentary sources, where we find the chronologically subsequent mention of '*curtes cum castro* (or *castello*)' and '*castrum* (or *castellum*) *cum curtis*'. Indeed, the original feature of the regional *incastellamento* seems to have consisted of the fortification of an already existing settlement, whose premises had been established by the *curtensis* system (Bernacchia 2002, 134-142).

Transformation in the Potenza coastal area (6th – 12th centuries AD)

After having described in a nutshell the general lines of the settlement dynamics in central Adriatic Italy following the disruption of the Roman estate system, we can more closely analyse these phenomena in the zone of the Potenza corridor overlooking the sea, whose jurisdiction in the 12th century is well-attested by written documents.

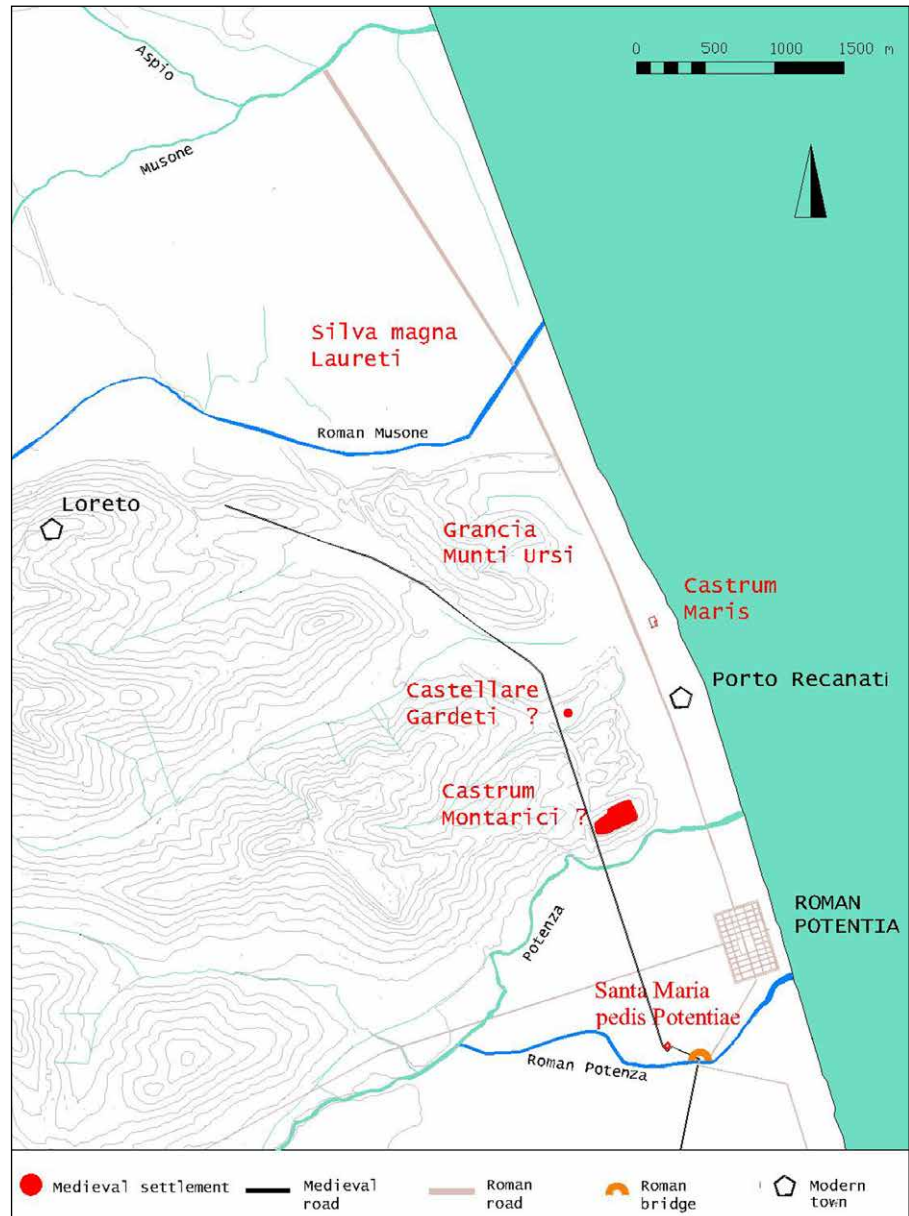


Fig. 3: Archaeological map of the coastal area bounded by the Rivers Musone and Potenza in the 12th century AD with interpretation of the detected settlements based on documentary sources (© Francesca Carboni, Frank Vermeulen).

This coastal area is today bounded by the mouths of the Rivers Musone and Potenza, whose current courses are the result of forced deviations achieved after the beginning of the 15th century AD. During the studied period the two watercourses always had the tendency to migrate away from the left bank of their riverbeds. The coastal plain transformation and the creation of wetland areas in this boundary zone is documented by archive sources and has been confirmed, for the part traversed by the River Potenza, by the targeted geo-archaeological research carried out by the Ghent team, revealing the presence of two major palaeochannels (Corsi et al. 2009).

One of these is the fossil bed that the river maintained in the period between the 3rd century BC and its

complete burial, dating to the end of the Middle Ages. In the area at the mouth of this palaeochannel one can probably locate the port of ancient Potenza, whose existence is corroborated by the many archaeological clues that witness the commercial vitality of the colony since its foundation and its inclusion in wide maritime trade networks (Carboni – Vermeulen in press; Percossi 2014). It has also been ascertained that in the post-classical period, following the end of centralised land management, the debouchment of the River Potenza changed to a deltaic system that eroded and destroyed the southern part of the Roman town site.

The historical research revealed that the present hydrological situation is the result of a complex

sequence of events of natural and man-made origin. Starting in 1229, a few projects were undertaken to bring about the confluence of the Rivers Potenza, Musone, and Aspio and facilitate the construction of a harbour. Despite repeated interventions to channel the Potenza and the achievement of the confluence of the River Musone into the Aspio stream at the beginning of the 15th century, the original design was eventually abandoned in 1574 (Moroni 1983, 73-77; Alfieri et al. 1965-1966, 9-17, table 2).

In the 12th century, when no attempts had been made yet to deviate the river northwards, the mouth of the delta was probably a marshland area not very suitable for permanent dense settlement and consolidated agricultural operations.

Before the so-called Peace of Polverigi in 1202, when the city of Recanati, organised as a free commune, established its power here, this area was under the control of a family known as Lords of the Marina (or Lords of the Poggio). An important document gives us a description of the landscape around that time: a sales contract dated to 1179, in which a member of this family,

Gislerius, sold to the prior of Farfa Abbey the land to the south of the ancient mouth of the River Musone (Vogel 1859, 7-9). The sold estates included ‘*de tota terra et de tota silva, de paludibus et de pascuis*’, and indeed another source records little after the establishment by the Farfa monks of the grancia Munti Ursi, with the function of draining and cleaning this land (Saracco Previdi 1981, 17). Gislerius also distinguishes between possession and property, declaring to keep for himself the exploitation of ‘*venationem, forestam, stratam et portum*’, thus proving the presence at the time of some kind of landing stage along this stretch of the coastline.

More or less in the same period, near the ancient course of the River Potenza, the agrarian reconquest started thanks to the abbey Santa Maria pedis Potentialiae, which was ruled by the hospital order of Crucifers (Sella 1950, 431), whose church building is still preserved.

In the concerned time and space frames, two fortified settlements belonging to the Lords of the Marina are documented: the Castrum Podii or Montarice (Bernacchia 2002, 477-478), a toponym still attested in our territory, and the Castellare Gardeti (Grimaldi

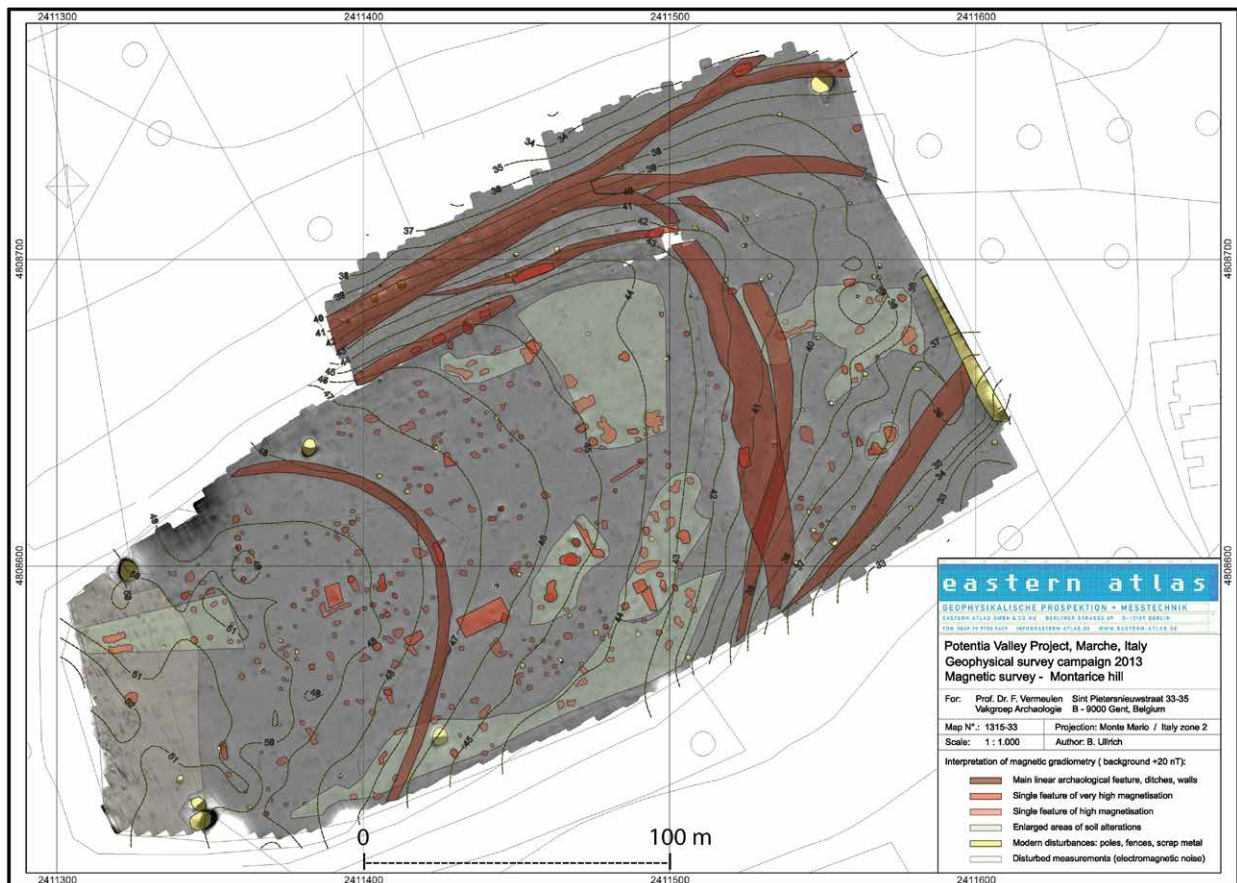


Fig. 4: Result and interpretation of the magnetometry survey (Eastern Atlas) conducted at Montarice in 2013 (© Francesca Carboni, Frank Vermeulen).

1983, 25-26), whose name, of Germanic origin (*warda*), suggests a site located in a controlling position, possibly of the street or of the port mentioned above (*Baldetti 1999*, 11). Apparently, no material trace of these fortified settlements has survived, even if local literary sources testify of some ruins still visible until the 18th century (*Galiè 1987*, 556-560). Nevertheless, some earlier hypotheses for the location of these settlement sites (*Alferi et al. 1965-1966*, table 5) can now be checked and refined thanks to our new research data (Fig. 3).

On the plateau of Montarice, located only 900 metres north-west of the wall circuit of *Potentia*, where the full range of remote-sensing investigations applied by the team from Ghent University led to the identification of an impressive Bronze and Iron Age settlement with an excellent controlling position, the same non-invasive surveys have revealed important information regarding the date of later settlement phases.

Even in the absence of stratigraphic data, it is significant how the artefact surveys indicate a reoccupation of the site from the 6th century AD onwards, contemporary with the gradual abandonment of the Roman city at the mouth of the river. The presence of certain soapstone and ceramic finds from the 7th through 9th centuries seems to individualise a settlement dated between the Lombard and Carolingian periods, while most of the pottery consists of the common wares typical for the 10th through 12th centuries. Only an excavation will be able to ascertain how many of the positive crop marks and the subsoil anomalies picked up by geophysics (Fig. 4) pertain to evidence related to a protohistoric or to an early medieval settlement, possibly relating to the *Castrum Montarice*.

For the localisation of a structure that might be associated with the *Castellare Gardeti*, instead, we refer

to the unexpected recognition of a circular crop mark in a, by chance, not-yet-urbanised area of the modern agglomeration of Porto Recanati, when analysing the satellite imagery on the web platform Google Earth. Further aerial photographs better delineated the trace (Fig. 5). A subsequent field survey in the area of the detected crop mark, with a diameter of some 60 m, revealed the presence of building material on a hillock inside the space bordered by the outline (of a ditch?), while local archaeologists recently found here a coin of the Emperor Otto the I (962-972). The location of this feature is significant for its relation with the *Castrum Maris*, of which the so-called *Castello Svevo* is still preserved. It was built in defence of the new and largest port, never completed, granted to the inhabitants of Recanati by Frederick II in the 13th century (*Foschi 1995*).

Conclusion

We can conclude by stating that it is a major task to make this period of reorganisation and restructuring of the human landscape more visible than it is today. A real understanding of the main processes and detailed shifts will be possible only after acquiring excavation data. Nevertheless, we believe we have demonstrated that the results of the geo-archaeological survey support the medieval historical documents in better defining how the particular hydrographical conditions of this area contributed to the modelling of a varied landscape in which cultivated fields were alternated with forests, pastures, and marshes. The management system of this area had to be based mainly on multiple forms of exploitation of the environmental resources typical of wetlands. Also significant is the detection of what seems



Fig. 5: Enhanced oblique aerial photograph of a circular vegetation mark in a green area on the outskirts of the modern agglomeration of Porto Recanati (© Francesca Carboni, Frank Vermeulen).

to be evidence of a medieval *motte* surrounded by a ditch, whose presence is exceptional for the Marche, but which exhibits similarities to fortified settlements in Central and Northern Italy, mainly in marshlands (Settia *et al.* 2014).

We could have indeed further discussed the above-mentioned sales contract concerning the administrative organisation of this area, also based on the exploitation of common lands, but we wished to emphasise we had found the first reference of a *portus* along this stretch of coast, after the avulsion of the River Potenza had transformed the fertile Roman plain, silently obscuring the ancient port settlements and part of the coastal colony. From the age of Frederick II until the end of the Middle Ages, the river's shifting has been reported as due to the human will to deviate its mouth north of the *Castrum Maris*.

It is so that in this particular area, the logic of the settlement dynamics in the transition period between Late Antiquity and early medieval times cannot be explained from a perspective of continuity/discontinuity or through the logic of concentrated land tenure, but instead must take into account the peculiar transformation process of this landscape, where the struggle to realise an opening to the sea seems to have been more essential than any effort for land reclamation.

References

- Alferi, N. – Forlani, E. – Grimaldi, F. 1965 – 1966:
Ricerche paleogeografiche e topografico-storiche sul territorio di Loreto, *Studia Picena* 33-34, 11-35.
- Baldetti, E. 1999:
La Pentapoli bizantina d'Italia fra Romania e Longobardia, *Atti e Memorie della Deputazione di Storia Patria per le Marche* 104, 9-99.
- Bernacchia, R. 2002:
Incastellamento e distretti rurali nella Marca anconitana: secoli X – XII. Spoleto.
- Bernacchia, R. 2002 – 2003:
Sulla struttura materiale del *Castrum marchigiano* nei secoli X – XIV, *Castella Marchiae* 6-7, 150-165.
- Bernacchia, R. 2004:
Territori longobardo-spoletini e territori pentapolitani nelle Marche (secoli VI – VII), in: Menestò, E. (ed.), *Ascoli e le marche tra tardoantico e altomedioevo*. Spoleto, 275-311.
- Bernacchia, R. 2012:
Popolamento e ambiente rurale nelle Marche centromeridionali, *Studi Maceratesi* 46, 107-131.
- Carboni, F. 2015:
Inspecting the transformation of roman settlements in the Upper Potenza Valley (Marche region) across Late Antiquity and into the Early Medieval era, *Il Capitale Culturale, Studies on the value of Cultural Heritage* 12, 45-66.
- Carboni, F. 2017:
Transformations and decline of the Roman cities of the Potenza valley in Late Antiquity, in: Vermeulen, F. – Carboni, F. – Dralans, S. – Van den Bergh, D. (eds), *Revealing a Roman Landscape: Potentia and the Potenza valley between the Appennines and the Adriatic Sea*. Bologna, 113-116.
- Carboni, F. – Vermeulen, F. 2014:
La Valle del Potenza fra Tarda Antichità e Alto Medioevo: nuove ricerche da Helvia Ricina, in: Baldelli, G. – Lo Schiavo, F. (eds), *Amore per l'Antico dal Tirreno all'Adriatico, dalla Preistoria al Medioevo ed oltre. Studi di Antichità in ricordo di Giuliano de Marinis* 2. Roma, 929-940.
- Carboni, F. – Vermeulen, F. *in press*:
Il ruolo della colonia costiera di Potentia nell'ambito delle rotte adriatiche tra IV e VII secolo d.C., in: Cirelli, E. – Giorgi, E. – Lepore, G. (eds), *Economia e territorio nell'Adriatico centrale tra tarda Antichità e alto Medioevo (IV – VIII secolo)*. Bologna.
- Corsi, C. – De Dapper, M. – Vermeulen, F. 2009:
River bed changing in the lower Potenza Valley (mid-Adriatic Italy). A geoarcheological approach to historical documents, *Zeitschrift für Geomorphologie* N.F. 53, Suppl. 1, 83-98.
- Ermeti, A.L. – Sacco, D. – Vona, S., 2015
Dal *municipium* di *Forum Sempronii* alla *civitas* vescovile di Sant' Aldebrando: Lo scavo: primi dati, in: Arthur, P. – Imperiale, M.L., *Atti del VII Congresso di Archeologia Medievale*. Firenze, 185-190.
- Foschi, F. 1995:
Federico II di Svevia e il porto di Recanati. Recanati.
- Fumagalli, V. 1983:
Le Marche fra Longobardia e Romania, *Atti e memorie della Deputazione di Storia Patria per le Marche* 86, 35-54.
- Galiè, V. 1987:
Presenze romane e altomedievali lungo la strada impropriamente detta litoranea, *Atti e memorie della Deputazione di Storia patria per le Marche* 89-91, 515556.
- Grimaldi, F. 1983:
Il territorio lauretano nei secoli XII – XV, in: Baldetti, E. – Grimaldi, F. – Moroni, M. – Compagnucci, M. – Natali, A. (eds), *Le basse valli del Musone e del Potenza nel medioevo*. Recanati, 19-82.
- Moroni, M. 1983:
Le campagne lauretane dal XII al XV secolo, in: Baldetti, E. – Grimaldi, F. – Moroni, M. – Compagnucci, M. – Natali, A. (eds), *Le basse valli del Musone e del Potenza nel medioevo*. Recanati, 59-82.

- Moscatelli, U. 2006:*
Primo contributo della fotografia aerea all'individuazione delle strutture materiali del castello di Monte Franco di Pollenza, *Archeologia aerea* 2, 187-196.
- Moscatelli, U. 2014:*
Transizioni: Aspetti delle champagne dell'entroterra maceratese tra tardoantico e altomedioevo, in: Dall'Aglio, P.L. – Franceschelli, C. – Maganzani, L. (eds), *Atti del IV Convegno Internazionale di Studi Veleiati*. Bologna, 379-395.
- Percossi, E. 2014:*
Su alcune statue marmoree da Potentia, in: Baldelli, G. – Lo Schiavo, F. (eds), *Amore per l'Antico dal Tirreno all'Adriatico, dalla Preistoria al Medioevo ed oltre. Studi di Antichità in ricordo di Giuliano de Marinis*, 2. Roma, 753-757.
- Sacco, D. 2018:*
Il paesaggio degli arcivescovi: Processi di trasformazione del territorio tra alto e basso Medioevo nelle Marche settentrionali. Firenze, 337-362.
- Saracco Previdi, E. 1981:*
Grange cistercensi nel territorio maceratese: insediamenti rurali monastici dei secoli XII – XIII, *Proposte e ricerche* 7:1, 15-28.
- Sella, P. 1950:*
Rationes decimarum Italiae nei secoli XIII e XIV: Marchia. Città del Vaticano, 431-436.
- Settia, A. – Marasco – L. -Saggio, F. 2014:*
Fortificazioni di terra in Italia: Motte, tumuli, tombe e recinti. *Archeologia Medievale* 40. Firenze.
- Van Limbergen, D. – Monsieur, P. – Vermeulen, F. 2017a:*
The role of overseas export and local consumption demand in the development of viticulture in central Adriatic Italy (200 BC – AD 150): The case of *ager potentinus* and the wider Potenza Valley, in: De Haas, T.C.A. – Tor, G. (eds), *The economic integration of Roman Italy. Rural communities in a globalizing world*. Leiden/Boston, 336-360.
- Van Limbergen, D. – Vermeulen, F. – Taelman, D. – Carboni, F. 2017b:*
Rural settlement dynamics in the Potenza corridor between 900 BC and AD 600, in: Vermeulen, F. – Van Limbergen, D. – Monsieur, P. – Taelman, D. (eds), *The potenza valley survey (Marche, Italy): settlement dynamics and changing material culture in an Adriatic valley between Iron Age and Late Antiquity*. Roma, 110-155.
- Vermeulen, F. 2012:*
Potentia: a lost new town, in: Christie, N. – Augenti, A. (eds), *Urbes extinctae: archaeologies of abandoned classical towns*. Ashgate, 77-95.
- Vermeulen, F. – Taelman, D. – Carboni, F. – De Neef, W. 2017:*
Intra-site surveys on protohistoric and Roman central places in the Potenza valley, in: Vermeulen, F. – Van Limbergen, D. – Monsieur, P. – Taelman, D. (eds), *The potenza valley survey (Marche, Italy): settlement dynamics and changing material culture in an Adriatic valley between Iron Age and Late Antiquity*. Roma, 65-109.
- Virgili, S. 2014:*
Insediamenti civili e religiosi nella media e alta valle del Potenza (MC). Firenze.
- Vogel, J.A. 1859:*
De ecclesiis recanatensi et lauretana earumque episcopis 2. Recanati.

Rural settlement and economy in Campania (South Italy) between Late Antiquity and the Middle Ages

*Nicola Busino**

Abstract

Archaeological researches of the last 40 years in Campania have shown the transformation dynamics of the rural settlements between Late Antiquity and the Middle Ages. The crisis of Roman villas, the reconfiguration of rural spaces, and the birth of castles represent some of the critical stages through which we can observe the transformation of the rural areas after the end of the ancient age. In addition to issues related to the organization of space, the archaeological approach to these problems has also provided some contribution to the economic history of these centuries through the analysis of the diffusion and circulation of ceramic products, significant indicators of the production network and of the spread of the markets. In this regard, the study of ceramics (both for the table and for everyday use) has demonstrated how pottery production and diffusion networks tended to contract and collapse in Campania from the end of the 6th century, after the Greek – Gothic war. The only areas that did not seem to be affected by this phenomenon seem to be the coastal zones (Naples, Miseno), characterized by productive activities and interchange that even in the early Middle Ages did not appear to collapse altogether. The framework is not so different from what happened in the rest of southern Italy. A new economic and commercial recovery is perceptible from the end of the 11th to the early 12th century, when the new Norman kingdom, which will include much of southern Italy, favoured these conditions, giving political stability to the whole sector.

Keywords: *Campania (Italian region), territory, settlements, castles, villas, ceramics, artefacts.*

* Dipartimento di Lettere e
Beni Culturali – Università della
Campania *Luigi Vanvitelli*
Via R. Perla
81055 Santa Maria Capua Vetere
(Caserta)
Italy
nicola.busino@unicampania.it

Résumé

Sites d'habitat rural et économie en Campanie (Italie du Sud) entre l'Antiquité tardive et le Moyen Âge

Les recherches archéologiques des quarante dernières années en Campanie ont permis de vérifier les dynamiques de transformation de l'occupation des campagnes entre l'Antiquité Tardive et le Moyen Âge: la crise des villas romaines, la reconfiguration des espaces ruraux, la naissance des châteaux ne représentent que quelques-unes de ces

étapes fondamentales, à travers lesquelles eurent lieu les dynamiques de transformation de l'espace extra-urbain après la fin de l'Antiquité.

En plus des questions concernant l'organisation des espaces, l'approche archéologique de ces problèmes a contribué en quelque sorte également à l'histoire économique de ces siècles à travers l'analyse de la diffusion et de la circulation des produits manufacturés céramiques, qui s'avèrent être des indicateurs significatifs du réseau annexé de production et de diffusion sur les marchés. À cet égard, dans les siècles entre l'Antiquité Tardive et le Moyen Âge, il a été montré comment – à travers la circulation des pièces céramiques (poterie en terre cuite de table et d'usage courant) – le réseau de production (ateliers) et de diffusion (marchés) tende à se contracter à partir de la fin du VI^e siècle, après la guerre des Goths; les seules zones qui ne semblent pas être concernées par ce phénomène sont les zones côtières (Naples, Miseno) caractérisées par des activités de production et d'échange, qui même au haut Moyen Âge ne semblent pas se réduire complètement. Une reprise économique et commerciale en Campanie est de nouveau perceptible à partir de la fin du XI^e-début du XII^e siècle, lorsque le nouveau royaume normand, qui inclura une grande partie du sud de l'Italie, en facilita les conditions, en donnant une stabilité politique à tout le secteur.

Mots-clés: *Campanie (région italienne), territoire, sites d'habitat, châteaux, villas, céramique, produits manufacturés.*

Zusammenfassung

Ländliche Siedlungen und Ökonomie in Kampanien (Süditalien) zwischen Spätantike und Mittelalter

In der archäologischen Forschung der letzten vierzig Jahre in Kampanien wurden die Transformationsvorgänge für die ländlichen Siedlungen zwischen Spätantike und Mittelalter untersucht. Der Niedergang der römischen Villen, die Neuordnung des ländlichen Raums und die Entstehung von Burgen stellen einige der wesentlichen Etappen dar, über die sich die Transformationsvorgänge des außerstädtischen Raums nach dem Ende der Antike entwickelten.

Über die Fragen zur Organisation des Raums hinausgehend hat der archäologische Ansatz zu dieser Thematik mit der Untersuchung der Verbreitung und des Umlaufs von Keramikwaren – signifikante Indikatoren für das zugehörige Netz von Produktion und Verbreitung dieser Waren auf den Märkten – auch einen Beitrag zum besseren Verständnis der Geschichte der Ökonomie dieser Jahrhunderte geleistet. Diesbezüglich wurde – anhand des Umlaufs der Keramikfunde (Tafel- und Gebrauchsgeschirr) – gezeigt, wie sich in den Jahrhunderten zwischen Spätantike und Mittelalter

ab Ende des 6. Jahrhunderts, bzw. am Vorabend des Gotenkrieges, das Produktions- (Werkstätten) und Verbreitungsnetz (Märkte) allmählich zusammenschloss; einzig die Küstenbereiche (Neapel, Miseno) scheinen von diesem Phänomen nicht betroffen gewesen zu sein. Sie waren von Produktion und Tauschhandel geprägt, die hier offensichtlich auch im Frühmittelalter nicht zu einer Regression führten. Ein Aufschwung in Handel und Wirtschaft war in Kampanien erneut ab dem Ende des 11. Jahrhunderts bzw. Beginn des 12. Jahrhunderts zu spüren, als das Normannenreich, das große Teile Süditaliens umfasste, die Bedingungen dafür schuf, und der gesamte Bereich politische Stabilität erlangte.

Schlagwörter: *Kampanien (italienische Region), Territorium, Siedlungen, Burgen, Villen, Häuser, Keramik, Artefakte.*

Riassunto

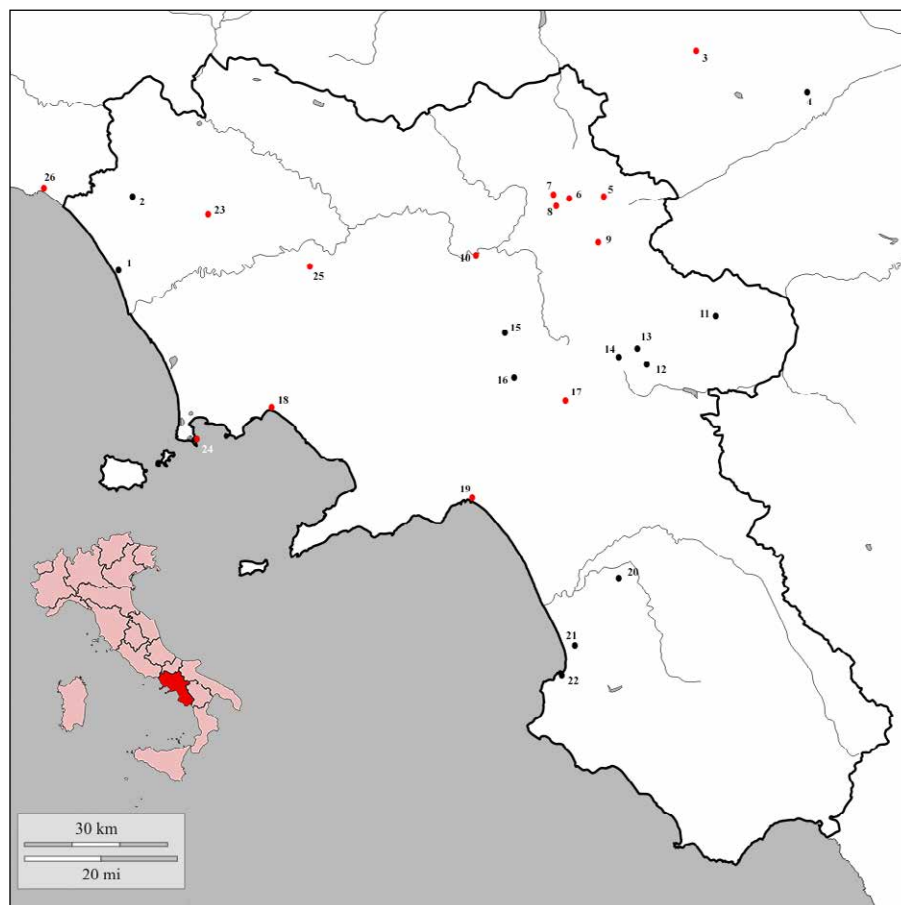
Insedimento rurale ed economia in Campania (Italia meridionale) fra tarda antichità e Medioevo

Le ricerche archeologiche dell'ultimo quarantennio in Campania hanno appurato le dinamiche di trasformazione dell'insediamento delle campagne fra la tarda antichità ed il medioevo: la crisi delle ville romane, la riconfigurazione degli spazi rurali, la nascita dei castelli rappresentano alcune delle tappe fondamentali attraverso cui si svolsero le dinamiche di trasformazione dello spazio extraurbano dopo la fine dell'età antica.

Oltre alle questioni inerenti all'organizzazione degli spazi, l'approccio archeologico a questi problemi ha anche fornito qualche contributo alla storia economica di questi secoli attraverso l'analisi della diffusione e della circolazione dei manufatti ceramici, indicatori significativi dell'annessa rete di produzione e diffusione sui mercati. Al riguardo, nei secoli fra la tarda antichità ed il medioevo, è stato dimostrato come – attraverso la circolazione dei reperti ceramici (fittili da mensa e di uso comune) – la maglia di produzione (botteghe) e di diffusione (mercati) tenda a contrarsi a partire dalla fine del VI secolo, all'indomani della guerra greco-gotica; le sole aree che paiono non essere interessate da questo fenomeno sembrano essere quelle costiere (Napoli, Miseno), caratterizzate da attività produttive e di interscambio che anche nell'alto medioevo paiono non ridursi del tutto. Una ripresa economica e commerciale in Campania è di nuovo percepibile a partire dalla fine dell'XI-inizi del XII secolo, allorché il nuovo regno normanno, che comprenderà gran parte del Mezzogiorno d'Italia, ne favorì le condizioni dando stabilità politica all'intero settore.

Parole chiave: *Campania (regione italiana), territorio, insediamenti, castelli, ville, ceramica, manufatti.*

Fig. 1: Post-classical archaeological research in Campania (black and red points). Quoted sites (red points) in the paper: 3 (Lucera); 5-8 (Miscano valley project); 9 (Ariano Irpino), 10 (Beneventum); 17 (Montella), 18 (Neapolis); 19 (Salernum); 23 (Sparanise), 24 (Misenum), 25 (Caserta), 26 (Minturnum) (© Nicola Busino).



1. Introduction

In the last 40 years archaeological research has reached important results regarding rural contexts dynamics in Italy's Southern region of Campania (Fig. 1), the different coastal and inland sectors (mountainous) of which deeply influenced the choices of past settlements. Studies on the countryside (Rotili 2005; Rotili 2009) have been conducted according to the methodological debates that took place in the rest of the Italian peninsula since the mid-seventies of the last century. Here, excavation experiences in some medieval castles of Central Italy have created the so-called 'Tuscan model' (Francovich – Hodges 2003; Francovich 2004; Valenti 2014).

Furthermore, according to pottery evidence, a better understanding has been achieved of how economy started again in the Late Middle Ages, after the decline of the Late Antiquity period. Recent research in other contexts has shown, in fact, how to match pottery analysis with economic questions (Molinari 2003). It is the case of early medieval green glazed ceramics (*Forum ware*) coming from 9th – 10th layers in Rome and its suburbs: under these circumstances, it has been supposed that *Forum ware* had to be produced by local artisans in countryside or, in other words, it is proof of new relationships between cities

and rural areas during the Early Middle Ages (Molinari 2003, 523). Afterwards, beginning in the 12th century, ceramics exchanges were again based on developing trades and markets in Campania that operated on a larger scale (regional and extra-regional). In addition, some contacts with Arab culture may be seen in the new technologies in pottery production. Indeed, there were Arab communities in the nearby city of Lucera (site n. 3), located in Southern Italy's region of Puglia, until the beginning of the 14th century, when that city was destroyed, and the artisans were deported to Naples by Charles II of Anjou (Patitucci 1997).

By comparing Campania with some other Italian contexts, thorough archaeological records and written historical sources, the aim of this paper is to show from a new point of view how archaeological data has contributed to the understanding of the changes that occurred in this region between Late Antiquity and the Early Middle Ages (AD 500-1000). Material evidence about human communities at the end of the Roman Age (5th – 6th centuries) and at the end of the Early Middle Ages (10th – 11th centuries) has allowed to upgrade the traditional written data models (in reference to the early medieval landscape in Campania, see Figliuolo 1991).

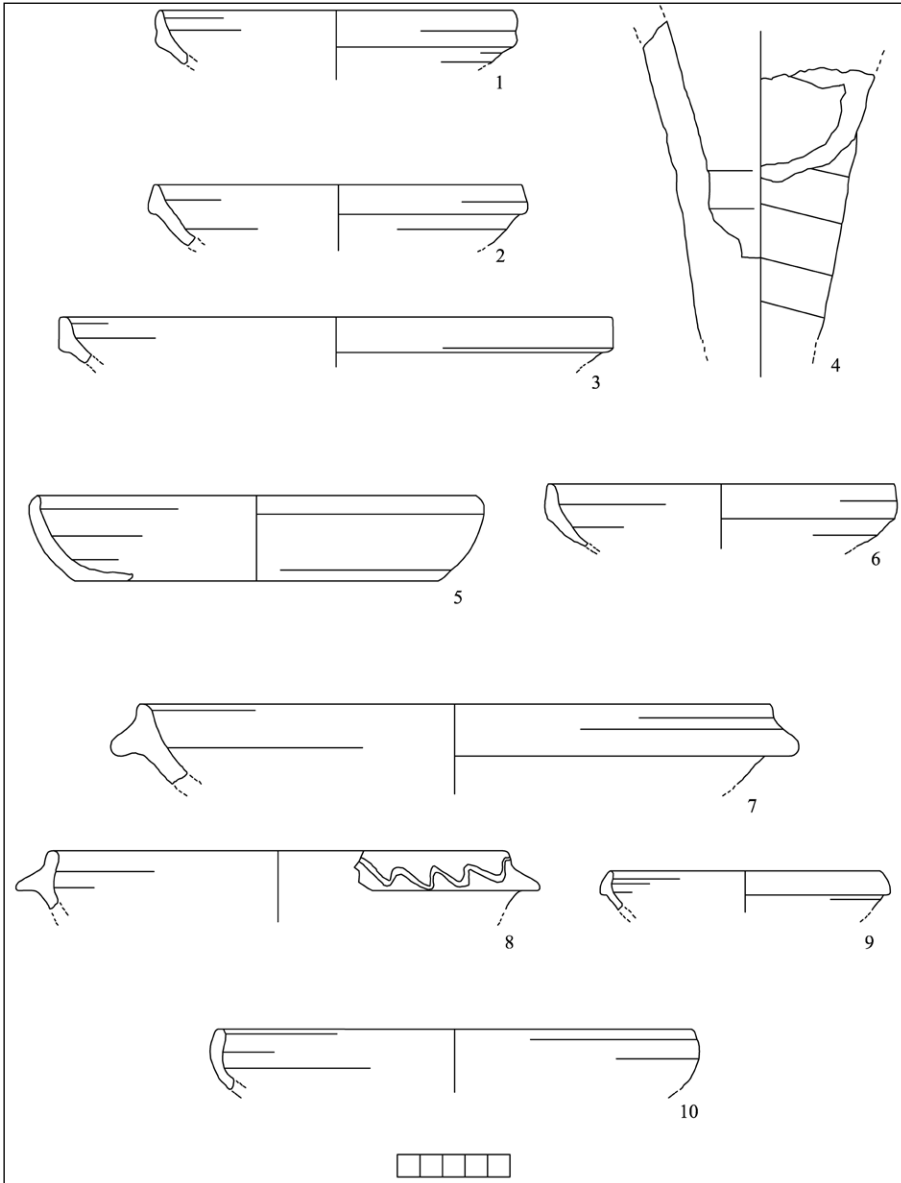


Fig. 2: Local pottery from ager Beneventanus: nn. 1-3, 5-10 from a Roman villa at La Starza (Buonalbergo, Benevento); n. 4 from Aequum Tuticum (Miscano valley project, sites nn. 5-8) (© Busino 2007; Busino 2015).

These models were mainly focused on institutional and political circumstances; above all, they regarded territorial dynamics such as the phenomenon of castle development (*'incastellamento'*).

2. Late Antiquity: The end of Roman *villae*

At the end of the Roman Empire, rural settlement was progressively transformed. In point of fact, archaeological reports have shown how ceramic consumption begins to be different in rural and urban contexts of the Campania region in Late Antiquity. This is a known fact about Beneventum (Benevento, site n. 10) and its neighbourhood (Busino 2015, 214-216): urban ceramic use went on until the end of 7th century according to

the ancient supply, while the countryside did not seem to exceed the 6th century as surveys have shown in the Miscano valley project (Fig. 2). This is more significant if we consider that ceramics artisans were often localized in the countryside and their craftsmanship moved from rural to urban spaces: in the ager Calenus (North Campania), for example, there is a great Roman villa (Fig. 3) at Briccelle, near Sparanise (site n. 23, Caserta, Italy), with clear areas for pottery production. The residential area was founded during the 2nd century BC, then it was abandoned at the end of the 2nd century AD: the structures surrounded a central open space with a thermal building on the north side, warehouses and service rooms on the north and east; outside, in a northern open space, excavations also discovered a sort of productive block within pottery

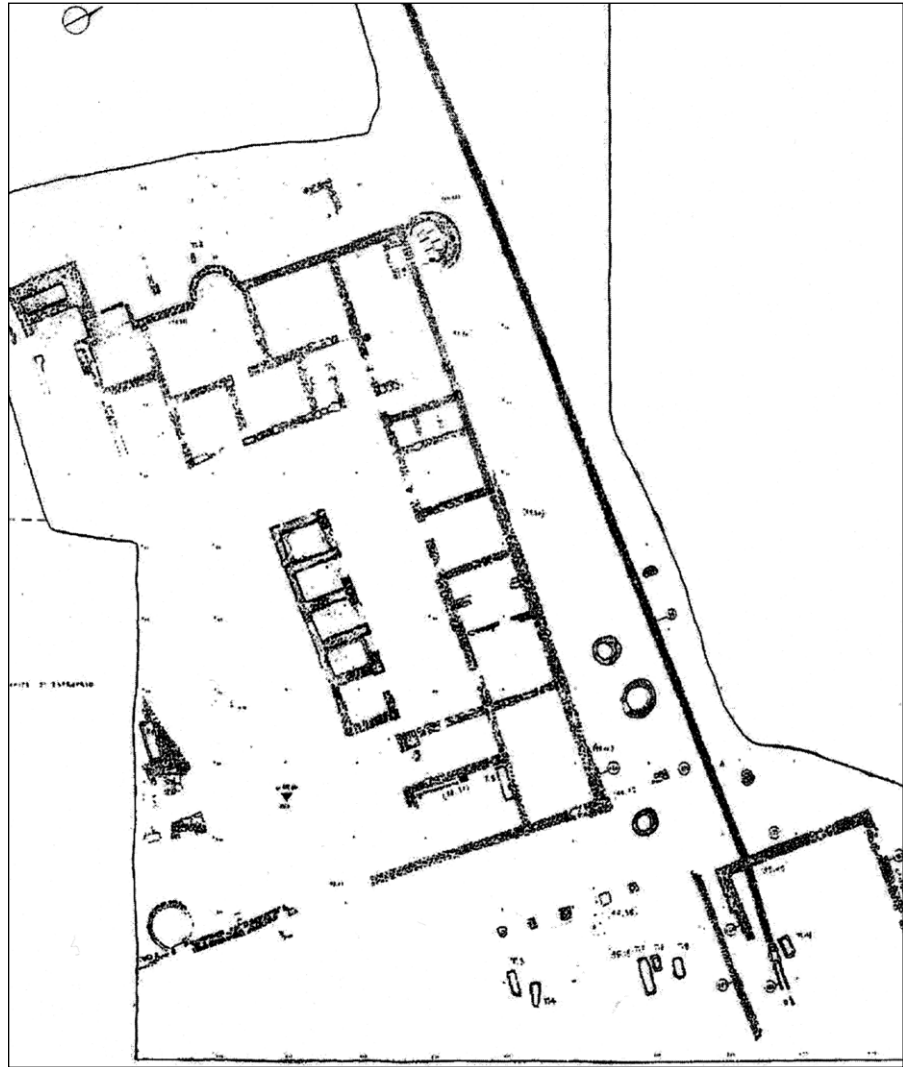


Fig. 3: The Roman villa at Sparanise (© Caserta, De Caro 2012).

furnaces and a grain millstone (De Caro 2012, 126-127). Some similar structures have been recognized in the ager Falernus (North Campania, Fig. 1, site n. 2, Suessa), in which, since the Augustan times, inland kilns producing amphorae and other ceramics were a significant part of the suburban spaces (Arthur 1991, 84-87; Arthur – Soricelli 2015, 142-152).

The only exception to the Late Antiquity framework is represented by the coastal cities, *i.e.* Neapolis (site n. 18), Minturnum (site n. 26), and Misenum (site n. 24). Here, the discoveries of transport ceramics suggest a substantial continuity of ancient markets towards the early medieval centuries (7th – 8th) and *amphorae* (above all) indicate both a surplus in agricultural production and exportation of a liquid commodity, probably wine (Arthur – Patterson 1994, 412–423). The inland cities – for those we have archaeological data, like Beneventum – seem to have ceased the imports from North Africa beginning in the 6th – 7th centuries (Busino 2015, 214-217), as revealed

by the excavations at Arco del Sacramento (urban context) and at Cellarulo in the North-West suburbs (Rotili 2006; Rotili – Cataldo – Rapuano 2010).

The developing differences in pottery circulation between the city, the suburbs, and the countryside are a clear trace of the change of the ancient economic system, the network of which began to be transformed after the 6th century: thus, cities and rural contexts started their own and independent economic pathways (Busino 2015). Pottery records are strictly connected to the collapse of the Roman villae, the main theme regarding medieval archaeology in Italy during the last forty years, and since the publication of the book by R. Hodges and R. Francovich (Francovich – Hodges 2003). In different ways and with variable chronological differences, the Roman rural system collapsed (villae, rural villages, postal *stationes*, etc.) and a new territorial order was put into place. According to excavations in Campania, the end of the Roman countryside was a composite event that took

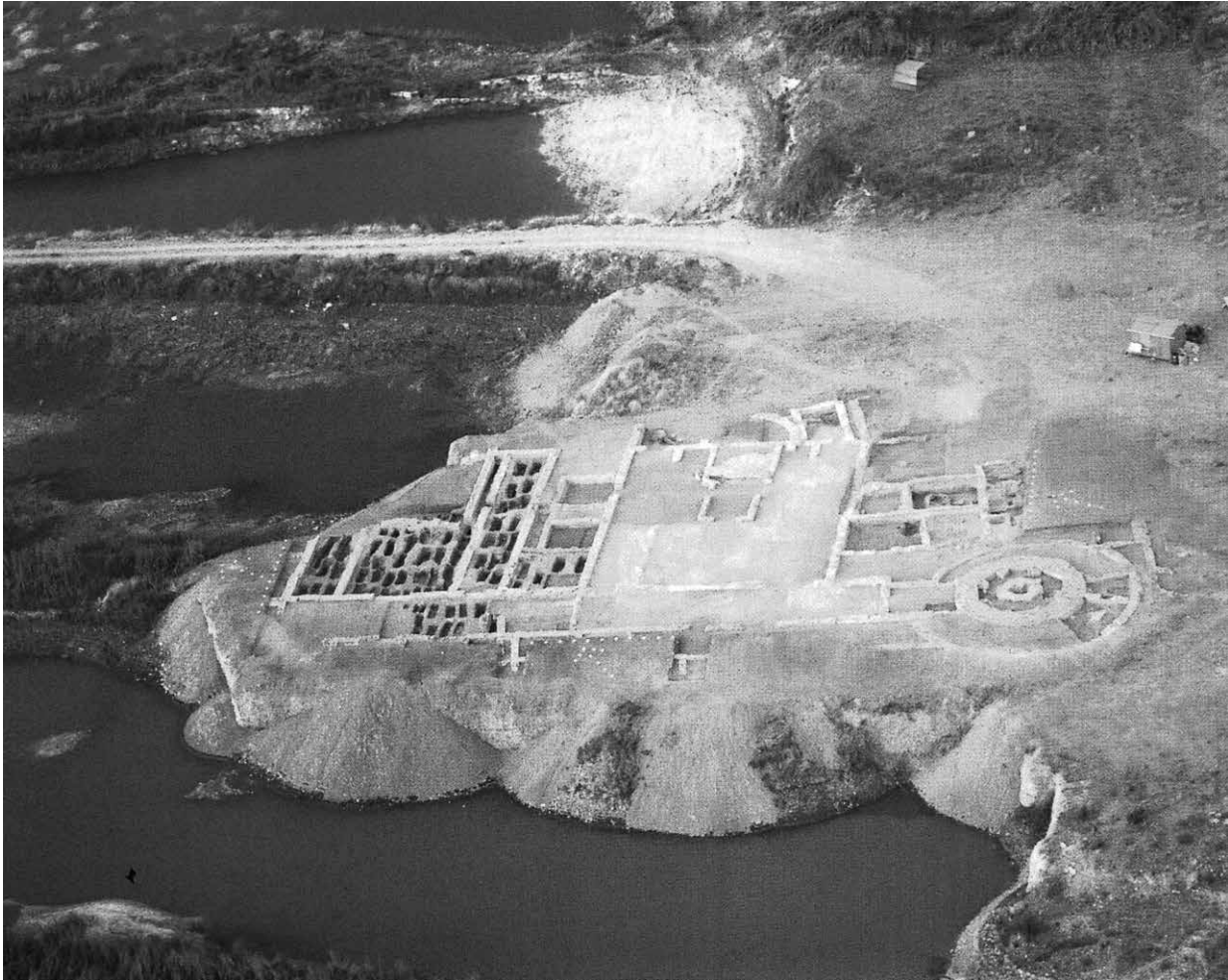


Fig. 4: Christian building at Saint Giusto: on the left, we can see the three naves of the funerary basilica remains (end of the 5th – beginning of the 6th century) with the graves beneath the pavement (© Lucera, Volpe, G. – Romano, A.V. – Turchiano, M. 2013).

place over at least three centuries (from the 3rd to the 6th century, between the Roman Empire economic crisis and the Greek – Goths war).

In the nearest areas, *i.e.* Apulia (Puglia), the network of the villae seems to crumble at the end of the 6th century: we have some important examples from excavations in Saint Giusto (Lucera, site n. 3) and Faragola Roman villae (Volpe *et al.* 2013; Volpe 2014), two great imperial-age residences that were enlarged in Late Antiquity (4th – 5th centuries), before being entirely transformed at the end of the 6th century. In the first case, indeed, the villa was entirely disabled since the installation of a Christian 5th century complex in the neighbourhood (Fig. 4); at Faragola (Foggia), an early medieval farm substituted the Roman residential house at the beginning of the 7th century (according to archaeological excavations).

In Campania, we do not have the same well-preserved residential contexts as Apulia for Late Antiquity, but survey explorations and archaeological excavations

illustrate the same chronological framework. An example of this is a survey project in the inland of the Campanian Apennine (Miscano valley project, sites nn. 5-8, 10), in which the main villa complexes connected to the Roman road network, according to the pottery evidence, seem to have been abandoned by the first half of the 6th century, although ceramics come from non-stratigraphic contexts (Busino 2007).

3. Early Middle Ages: A new rural network

The Campanian rural landscape became slowly reorganized as the Lombard migration was stabilized by the building of the duchy of Beneventum, whose circumscription would have almost expanded across all of South Italy between the end of the 6th century and the first half of the 8th century. The leader of the new deal was undoubtedly Duke Arechi II of Beneventum, whose policy promoted the growth of the entire region

and especially the two duchy capitals, Beneventum and Salernum (*von Falkenhansen 1983; Gasparri 1988*). The 'new wave' was the result of a two-century-long consolidation process that led to the birth of further aristocracies after the collapse of the ancient era: the new ruling class (see – for example – *Castagnetti 2009* and his bibliography for a look at all of Langobardia; *Wickham 2009*, 181-286) controlled the organization of rural areas through the construction of fortresses and monasteries (for Central and Southern Italy, see also *Marazzi 2007*). Power dynamics during the Early Middle Age have been analysed in-depth in the debate of the last thirty years among scholars (archaeologists, historians, etc.); this complex phenomenon can be witnessed throughout the Italian peninsula, in the South as well as in the North. In *Ruralia IX*, Paolo de Vingo already revealed some issues concerning the northern regions (cities, rural contexts, necropolis, etc. – *de Vingo 2013*, 58-69).

As we know, since the Lombard Migration in the second half of the 6th century, Campania was divided into two different areas: Lombard power held sway in the inland territories, and Byzantine power in the coastal sectors. The latter were dominated by the ancient cities, *i.e.* Naples, Gaeta (but with the exception of Lombard Salernum, site n. 19): in the Byzantine territories, the cities were still important and rural contexts were controlled by urban ones. Some archaeological excavations in Naples have documented the presence of African *amphorae* up to the 7th century, although in decreasing numbers (*Carsana et al. 2007; Carsana et al. 2009*).

The Campania urban network began its decline after the Greek – Goths War, and the Lombards did not begin new development until the first half of the 8th century. It is beyond the scope of this paper to discuss the pathways of Campania cities, except to say that at the end of the 6th century we know that about 50% of Southern Italian cities had disappeared. The survivors were placed around the bishop seats, which started to be erected quickly in the 6th century (*Rotili 2009*).

In Lombard areas, rural contexts developed towards the end of the 7th century. After the collapse of Roman infrastructure, the countryside began to be repopulated. However, early medieval *extramoenia* space developed in different ways. First, the scattered settlement (*i.e.* villae, villages, factories) completely disappeared and new forms of population began to spread. This marks the beginning of a kind of centralized settlement, in which there are some independent population cores that did not belong to something else. In other words, the new settlement prototype is an autarchic one that does not interact with anything else outside: it is the so-called early medieval village, whose basic economy

was sustained without any surplus directed towards external (urban?) markets. Furthermore, in his famous Edict of 643, King Rothari (636-652) suggested for the Early Middle Ages a subsistence economy: it refers to an agricultural society, with an important role played by animal (partly wild) breeding, hunting, and natural-products harvesting (*Delogu 2001*, 349-350).

According to some scholars, the development of the structure of early medieval settlements seems to have been spontaneous, without any external authority that guided the process. It is what Francovich called 'biological mass' in Tuscany landscapes (*Francovich 2004*, XIV), which means that a sufficient amount of people came to live and survive together in the countryside. Archaeological excavations led by Marcello Rotili at Montella (inland Campania, Avellino; site n. 17) have brought to light an 'early medieval village' that pre-dated the 12th-century castle (*Rotili 2011*). This was a type of hut village with masonry foundation walls and perishable-material (wood, straw, mud, etc.) structures. The small 6th – 7th-century community was based on a subsistence economy that became more well-structured as it turned into a *curtis* in at least, the mid-8th century. The new condition linked directly Montella to the Lombard aristocracy of the Duchy of Beneventum, because it was one of the properties of Duke Arechi II (*in curte n(os) tra que vocatur montellari*), as stated in the *Chronicon Sanctae Sophiae* (*Martin 2000*, doc. XV, II, 15, 460-463; *Rotili 2011*, 16-20). The written source also testifies to how the Montella *curtis* was the heart of the local population order: as matter of fact, a lot of families (so-called *condome*, a sort of employment unit) moved for working purposes inside the *curtis*. That case showed how the 7th – 8th century Campania countryside was partially managed by aristocratic powers who ran the local economy, but also had an effect on the population's conditions.

The half of the 8th century was the period in which Lombard power was stabilized in Campania and government locations also started to be widespread in rural areas: newly built fortresses were the places from which an official (so-called *gastalds*) administered justice for the Duchy. Sometimes, the builders of the strongholds were not only from 'civilian' aristocracies but were also members of monasteries or ecclesiastical foundations, as we know for example from the well-known cases of Saint Vincent at Volturno (*Del Treppo 1955; Marazzi 2012*). During the 8th century, fortresses, castles, forts, and strongholds were considered the only way for controlling the territories and building a new economic network. Therefore, castles across Campania in the Lombard period began to appear one or two centuries before the famous era of the 10th – 11th-century fortresses (the so-called *incastellamento*).



Fig. 5: The 13th-century tower at Casertavecchia (Caserta): the traditional dating depends on the parallelism between the tower travertine basis and the similar architectural feature for those of the gates of Capua, which were built by Frederick II (© Nicola Busino).

4. Late Middle Ages: The age of the castles

The Norman arrival at the end of the 11th century transformed a lot of Campanian rural power centres into feudal ones by the building or rebuilding of already existing fortresses. These castles undoubtedly served military purposes, but they also represented the Crown's strategic use of the land for economic purposes.

Archaeological excavations have shown how the typology of Norman castles evoke some prototypes among North-European architectural experiences. The residential tower of Casertavecchia (Caserta, Italia; site n. 25)—for example — is a late reconstruction of an older building, the prototype of which can be found beyond the Alps in the 11th century (Fig. 5). Indeed, the whole Campania region featured many similar tower models — largely rebuilt or transformed later — that can be considered landmarks of the Norman domination in Southern Italy. Some ceramic evidence, from archaeological excavations in various border areas of the region, shows how the end of the 11th and the 12th century marks the start of a new

distribution network for pottery manufactures. Therefore, close settlements — *i.e.* castles of Irpinia (Apennine Campania)—use quite similar earthenware such as table and domestic vessels.

Norman fortresses also attracted the rural population and sometimes entirely determined the distribution of people in the countryside. From written sources it is possible to understand that rural castles became so strong as to demand taxes from the closest cities: this was the case, for example, with the *feudum* of Ariano Irpino (Avellino, inland Campania; site n. 9), the officials of which collected taxes from the city of Beneventum during the Norman Age (Rotili — Busino 2017).

With the passing of the centuries, and across the Swabian, Angevin, and Aragonian phases, the rural castles became more and more similar to private residences. They were used as personal goods that could be bought or exchanged or confiscated. Some ancient fortresses were transformed into private houses, structures that talk about family lineage or traditions. It is the noble turning point — in most cases — that happened to 'public' castles. At the end of the Middle Ages, many fortresses were inadequate for the changing periods (15th — 16th centuries): the abandonment of hilltops and the recovery of the lowlands economy (with a larger ground availability, *i.e.* for extensive agriculture) made these aristocratic centres useless structures.

5. Conclusions

In drawing some conclusions, archaeological evidence showed how the transformation of Late Antique landscapes had clear consequences on ceramic production: the decline of Roman infrastructures in the countryside opens a deep crisis on pottery provision from the rural areas to the cities and vice versa. If we consider the Campania case, production of pottery is well attested up to the 6th century both in the inland areas and in coastal ones: the age of the Greek — Goths war could be seen as a kind of chronological peg for the deterioration of the market system, which had been steadily collapsing since the later 4th century (Arthur 1998, 505-508).

Afterwards, the economic trajectory of coastal contexts — *i.e.* Neapolis, Pozzuoli, Cumae, etc.—seems to be quite different from the Apennines areas (both the rural and urban): some studies on pottery from Misenum's harbour (De Rossi 2004) have shown how cities of the coast still participated in the Mediterranean trade in the 7th — 8th century while, in the more internal areas, ceramic production seems to have ceased beginning in the 6th century. This could depend on the fragmentation of the region Campania in two different political spheres, *i.e.* Byzantine power in the coastal contexts and Lombard

influences in the inland sectors. If this hypothesis is correct, we can deduce that the Byzantine areas placed themselves in continuity with Roman ancient trade and markets, while the Lombard territories needed more time to adapt themselves to a new early medieval economy.

Connections between the internal and coastal parts of the region seem to re-open at the end of the 11th century or with the arrival of the Normans in the South of the peninsula. The organic construction of a State, after the uncertainties of the Lombard duchy, laid the foundations for a new economic balance that allowed the homogeneous diffusion of ceramic products. The archaeological records of this ‘new season’ will however be visible only in the Middle Ages.

References

- Arthur, P. 1991:*
Romans in Northern Campania. London.
- Arthur, P. 1998:*
Local pottery in Naples and northern Campania in the sixth and seventh centuries, in: Saguì, L. (ed.), *Ceramica in Italia: VI – VII secolo*, Atti del Convegno in onore di John W. Hayes (Roma, 11-13 maggio 1995). Firenze, 491-510.
- Arthur, P. – Patterson. H. 1994:*
Ceramics and early Medieval central and Southern Italy: “a potter History”, in: Francovich, R. – Noyé, G. (eds), *La storia dell’alto medioevo italiano (VI – X secolo) alla luce dell’archeologia*, Convegno internazionale (Siena, 2-6 dicembre 1992). Firenze, 409-441.
- Arthur, P. – Soricelli, G. 2015:*
Produzione e circolazione della ceramica tra Campania settentrionale e area vesuviana in età tardoantica (IV – VI secolo), in: Busino, N. – Rotili, M. (eds), *Insedimenti e cultura materiale fra tarda antichità e medioevo*. Napoli, 141-157.
- Busino, N. 2007:*
La media valle del Miscano fra tarda antichità e medioevo. Napoli.
- Busino, N. 2015:*
Aspetti della circolazione della ceramica nell’Appennino campano fra tarda antichità e medioevo, in: Busino, N. – Rotili, M. (eds), *Insedimenti e cultura materiale fra tarda antichità e medioevo*. Napoli, 211-234.
- Carsana, V. et al. 2007:*
Nuovi dati ceramologici per la storia economica di Napoli tra tarda antichità ed alto medioevo, in: Bonifay, M. – Tréglià J.-C. (eds), *Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean. Archaeology and archaeometry (LRCW 2)*. Oxford, 423-429.
- Carsana V. et al. 2009:*
Il porto di *Neapolis* in età tardo antica: il contest di IV secolo d.C., in: Menchelli S. – Santoro S. – Pasquinucci M. – Guiducci G. (eds), *Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean. Archaeology and archaeometry, Comparison between western and eastern Mediterranean (LRCW 3)*. Oxford, 459-470.
- Castagnetti, A. 2009:*
Le aristocrazie della *Langobardia* nelle città e nelle campagne, in: *Città e campagna nei secoli altomedievali*, Atti delle LVI Settimane di studio della Fondazione CISAM (Spoleto, 27 marzo – 1 aprile 2008). Spoleto, 539-619.
- De Caro, S. 2012:*
La terra nera degli antichi campani. Guida archeologica della provincia di Caserta. Napoli.
- De Rossi, G. 2004:*
La fornace di *Misenum* (Napoli) ed i suoi prodotti ceramici: caratteri e diffusione, in: Patitucci Uggeri, S. (ed.), *La ceramica altomedievale*. Firenze, 253-264.
- de Vingo, P. 2013:*
The hierarchy of power in rural northern Italy after the end of Roman *villa* settlement system, in: Klápště, J. (ed.), *Hierarchies in rural settlements, Ruralia IX (Götzis, 26th September – 2nd October 2011)*. Turnhout, 49-76.
- Del Treppo, M. 1955:*
La vita economica e sociale in una grande abbazia del Mezzogiorno: San Vincenzo al Volturno nell’alto Medioevo, *Archivio Storico per le Province Napoletane* 35, 1-82.
- Delogu, P. 2001:*
L’Editto di Rotari e la società del VII secolo, in: Arce, J. – Delogu, P. (eds), *Visigoti e longobardi*, Atti del Seminario (Roma, 28-29 aprile 1997). Firenze, 329-355.
- Figliuolo, B. 1991:*
Morfologia dell’insediamento in Italia meridionale in età normanna, *Studi storici* 32:1, 25-68.
- Francovich, R. 2004:*
Villaggi dell’altomedioevo: invisibilità sociale e labilità archeologica, in: Valenti, M., *L’insediamento altomedievale nelle campagne toscane. Paesaggi, popolamento e villaggi tra VI e X secolo*. Firenze, IX-XXII.
- Francovich, R. – Hodges, R. 2003:*
The transformation of the Roman countryside in Italy (c. 400-1000). London.
- Gasparri, S. 1988:*
Il ducato e il principato di Benevento, in: Galasso, G. – Romeo, R. (eds), *Storia del Mezzogiorno*, vol. II, t. I (Il medioevo). Napoli, 85-146.

Marazzi, F. 2007:

Organizzazione insediativa e fonti scritte fra VIII e XI secolo. Riflessioni a partire dalla documentazione monastica in Italia centromeridionale, in: Brogiolo, G. P. – Chavarria Arnau, A. (eds), *Archeologia e società tra tardo antico e alto medioevo*, Atti del 12° Seminario sul tardo antico e l'alto medioevo (Padova, 29 settembre – 1 ottobre 2005). Mantova, 241-252.

Marazzi, F. 2012:

San Vincenzo al Volturno. L'abbazia e il suo *territorium* fra VIII e IX secolo. Note per la storia insediativa dell'alta valle del Volturno. Montecassino.

Martin, J.M. (ed.) 2000:

Chronicon Sanctae Sophiae (cod. Vat. Lat. 4939). Istituto storico italiano per il medioevo (*Rerum Italicarum Scriptores*, 3). Roma.

Molinari, A. 2003:

La ceramica medievale in Italia ed il suo possibile utilizzo per lo studio della storia economica, *Archeologia medievale* 30, 519-528.

Patitucci, S. 1997:

La protomaiolica: un nuovo bilancio, in: Patitucci Uggeri, S. (ed.), *La protomaiolica: Bilancio e aggiornamenti*. Firenze, 9-61.

Rotili, M. 2005:

Città e territorio in Campania, in: Vitolo, G. (ed.), *Le città campane fra tarda antichità e alto medioevo*. Salerno, 29-60.

Rotili, M. 2006:

Cellarulo e Benevento: La formazione della città tardoantica, in: Rotili, M. (ed.), *Benevento nella tarda antichità: Dalla diagnostica archeologica in contrada Cellarulo alla ricostruzione dell'assetto urbano*. Napoli.

Rotili, M. 2009:

Archeologia e storia dell'insediamento fra tarda antichità e alto medioevo, in: Criscuolo, U. – De Giovanni, L. (eds), *Trent'anni di studi sulla Tarda Antichità: bilanci e prospettive*. Atti del Convegno internazionale (Napoli, 21-23 novembre 2007). Napoli, 329-353.

Rotili, M. (ed.) 2011:

Montella: ricerche archeologiche nel *donjon* e nell'area murata (1980-92 e 2007-07). *Archeologia postclassica* 5. Napoli.

Rotili, M. – Cataldo M.R. – Rapuano S. 2010:

Nuovi dati su Benevento nella tarda antichità, in: Volpe, G. – Giuliani R. (eds), *Paesaggi e insediamenti urbani in Italia meridionale fra tardo antico e alto medioevo*. Atti del Secondo Seminario sul Tardoantico e l'Alto medioevo in Italia meridionale (Foggia-Monte Sant'Angelo, 27-28 maggio 2006). Bari, 309-328.

Rotili, M. – Busino, N. 2017:

Ricerche archeologiche nel castello di Ariano Irpino (1988-94 e 2008). *Archeologia postclassica* 3. Bari .

Valenti, M. 2014:

Archeologia delle campagne medievali: diacronia e forme dell'insediamento, *Archeologia medievale*, Special Number (2014), 123-142.

Volpe, G. – Romano, A.V. – Turchiano, M. 2013:

San Giusto, l'*ecclesia* e il *saltus Carminianensis*: vescovi rurali, insediamenti, produzioni agricole e artigianali, in: Brandt, O. – Cresci, S. – López Quiroga, J. – Pappalardo C. (eds), *Episcopus, civitas, territorium*. Atti del XV Congresso internazionale di Archeologia cristiana (Toledo, 8-12 settembre 2008). Città del Vaticano, 559-580.

Volpe, G. 2014:

Città e campagna, strutture insediative e strutture ecclesiastiche dell'Italia meridionale: il caso dell'*Apulia*, in: Chiese locali e chiese regionali nell'alto medioevo. Atti delle LXI Settimane di studio della Fondazione CISAM (Spoleto, 4-9 aprile 2013). Spoleto, 1041-1068.

von Falkenhausen, V. 1983:

I Longobardi meridionali, in: Galasso G. (ed.), *Storia d'Italia*, vol. III (Il Mezzogiorno dai Bizantini a Federico II). Torino, 251-364.

Wickham, C. 2009:

Le società dell'alto medioevo. Europa e Mediterraneo (secoli V – VIII). Viella. Bologna (original ed. C. Wickham, *Framing the Early Middle Ages, Europe and the Mediterranean*, 400-800. Oxford 2005).

Post-Roman land-use transformations

Analysing the early medieval countryside in Castelo de Vide (Portugal)

Sara Prata*

Abstract

Lately we have seen a growing academic interest in the early medieval countryside across the Iberian Peninsula. The data concerning the centuries between the dismantlement of the Western Roman Empire and the Muslim occupation is still scarce; however, several patterns start to emerge, forming a patchwork of shifting landscapes. This paper focuses on the results of recent field surveys and excavations, carried out within a research project on the territory of Castelo de Vide (Alentejo, Portugal). Present findings show evidence of a complex process of adaptation throughout the post-Roman centuries (AD 500-800). The transition from medium-sized Roman villas to small-scale valley settlements results in noticeable changes in the management of local resources and economic activities. The new countryside is shaped through a network of small farmsteads in which production scale and focus shifts. Comparisons will be drawn between the Roman land-use model and the new settlement pattern. Based on the available archaeological evidence, it will be argued that in the period after the collapse of Roman imperial structures a new form of peasant community emerges.

Keywords: *Early medieval settlements, peasant communities, post-Roman land use, Castelo de Vide (Portugal).*

Résumé

Transformations post-romaines de l'utilisation des terres: étude du milieu rural dans la région de Castelo de Vide (Portugal) pendant le haut moyen âge

Nous avons pu constater récemment un intérêt croissant pour les questions relatives au milieu rural médiéval dans toute la péninsule ibérique. Jusqu'à présent, les informations étaient encore rares concernant les siècles entre le démantèlement de l'Empire Romain d'Occident et l'occupation musulmane. Cependant, plusieurs modèles commencent à émerger dans une mosaïque de paysages changeants.

Cet article se concentre sur les résultats de récentes études sur le terrain et de fouilles réalisées dans le cadre d'un projet de recherche sur le territoire de Castelo de Vide

* Instituto de Estudos Medievais
(IEM – FCSH/NOVA)
Avenida de Berna, 26 C
1069-061 LISBOA, Portugal
sara.m.prata@gmail.com

(Alentejo, Portugal). Les résultats actuels fournissent des preuves d'un processus complexe d'adaptation tout au long des siècles post-romains (siècles V-VIII après Jésus-Christ). La transition entre les villas romaines moyennes et les petites fermes entraîne de profondes transformations dans la gestion des ressources locales et des activités économiques. Cette nouvelle campagne est façonnée à partir d'un réseau de petites fermes dans lesquelles produit et quantité de production changent. Des comparaisons seront faites entre le modèle romain d'utilisation des terres et un nouveau modèle d'établissement qui émerge. Sur la base des preuves archéologiques disponibles, il sera soutenu que dans la période après l'effondrement des structures impériales romaines une nouvelle forme de communauté paysanne émerge.

Mots-clés: *Communautés paysannes, Haut Moyen-Age, affectation post-romaine des terres, Castelo de Vide (Portugal).*

Zusammenfassung

Nachrömische Veränderung der Landnutzung: Erforschung des ländlichen Raums im frühen Mittelalter in Castelo de Vide (Portugal)

Seit einiger Zeit steht der frühmittelalterlich-ländliche Raum auf der gesamten Iberischen Halbinsel im Fokus der Forschung. Derzeit sind die archäologischen Daten

1. Introduction

Castelo de Vide is a municipality located in the central Portuguese region of Alto Alentejo. Its landscape is composed mostly of gentle plains crossed by seasonal streams and marked by granite outcrops. The fact that in recent years this rural territory has been used mainly as pasture with little mechanized agriculture has helped to preserve its many archaeological sites. Between 2014 and 2017 the PramCV research project, led by the author, has analysed archaeological evidence of the early medieval rural occupation in this area. Drawing on information available from previous local works and undertaking its own archaeological activities – surface field surveys, excavations, and material culture analysis – the PramCV project was able to gather a large volume of data concerning the early medieval countryside. Most of the collected information is still being processed; however, it is clear that new settlement patterns exist, based on local resource management, which contrasts deeply with the previous Roman-period land use, which was based on a centralized model (*Carneiro 2014*).

zwischen dem Niedergang des Weströmischen Reiches und der muslimischen Besatzung noch begrenzt, doch können schon mehrere Muster der Landnutzung festgestellt werden.

In diesem Artikel werden Ergebnisse von archäologischen Untersuchungen und Ausgrabungen diskutiert, die im Rahmen eines Forschungsprojekts auf dem Gebiet von Castelo de Vide (Alentejo, Portugal) durchgeführt wurden. Die vorliegenden Befunde deuten auf einen komplexen Adaptionsprozess während der gesamten nachrömischen Jahrhunderte (ca. 500-800) hin. Der Übergang von mittelgroßen römischen Villen zu kleinen Talsiedlungen führt zu starken Veränderungen der Nutzung lokaler Ressourcen und wirtschaftlicher Aktivitäten. Der Raum wird nun durch ein Netzwerk von kleinen Gehöften geprägt, bei denen sich Produktionsumfang und wirtschaftliche Ausrichtung verschieben. Vergleiche zwischen dem römischen Landnutzungsmodell und einem neuen Siedlungsmuster werden gezogen. Auf der Grundlage der verfügbaren archäologischen Beweise wird argumentiert, dass in der Zeit nach dem Zusammenbruch der römischen imperialen Strukturen eine neue Form von bäuerlichen Gemeinschaften entsteht.

Schlagwörter: *Frühmittelalterliche Siedlungen, bäuerliche Gemeinschaften, post-römische Landnutzung, Castelo de Vide (Portugal).*

2. Archaeological evidence

The territory of Castelo de Vide is located 7 km north of the town of Ammaia (Marvão municipality) and was certainly incorporated into its countryside during the Roman period. Ammaia was a medium-sized town, probably founded during the Augustan age. It was elevated to *civitas* in the time of Emperor Claudius and likely became a *municipium* during the 2nd century AD (*Corsi et al. 2011*). Evidence available so far suggests that although the area of the city remained at least partly occupied during the early medieval period, Ammaia struggled to maintain its status right after the fall of the Western Empire. Information regarding the Roman rural occupation of the town's surrounding areas is scarce and fragmented. In Castelo de Vide the available archaeological data – 1 confirmed villa, at least 2 possible *vici*, and potentially 9 other Roman sites – suggests a small number of settlements most likely organized in close connection with the city needs.

For the Early Middle Ages, the archaeological remains that can be linked with the peasant occupation can be roughly divided into three groups: graves, farmsteads, and olive presses.

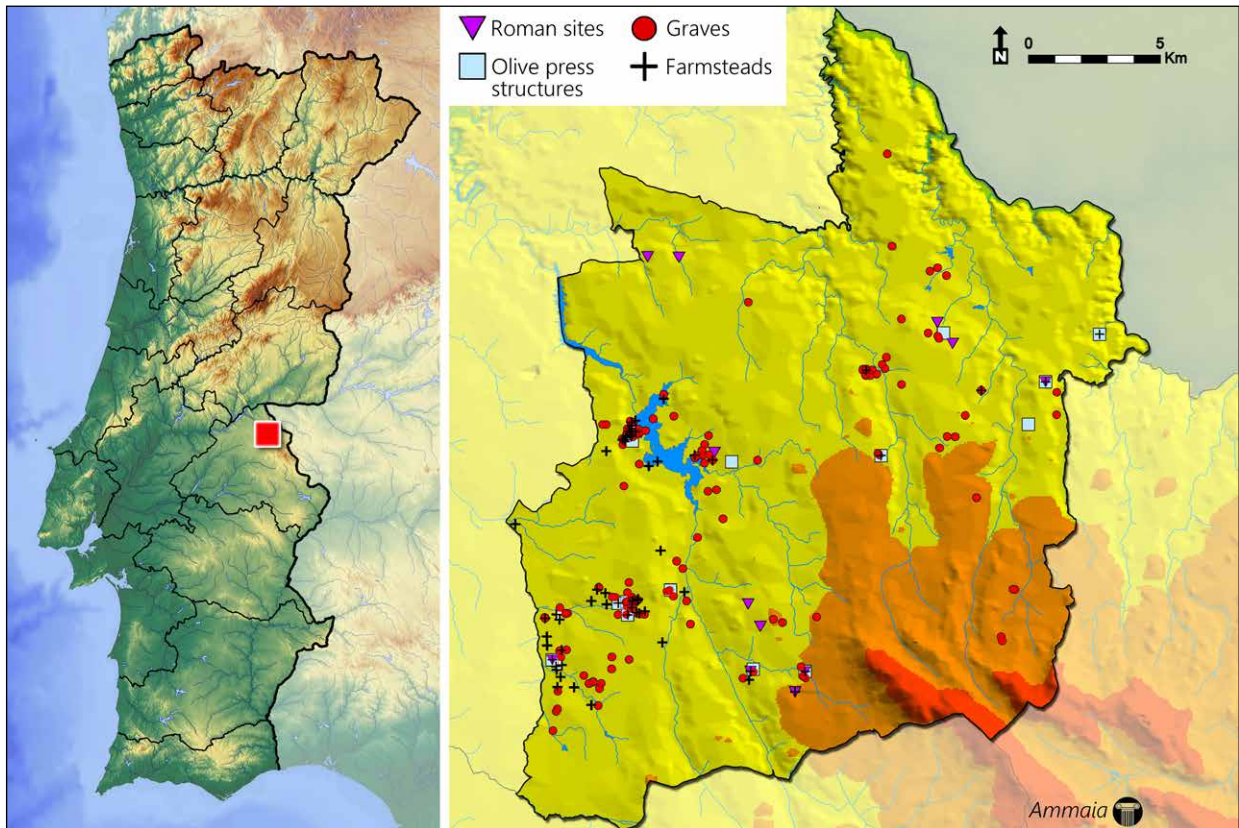


Fig. 1: Distribution map showing relevant Roman and early medieval sites identified in the territory of Castelo de Vide (© Fabián Cuesta-Gómez).

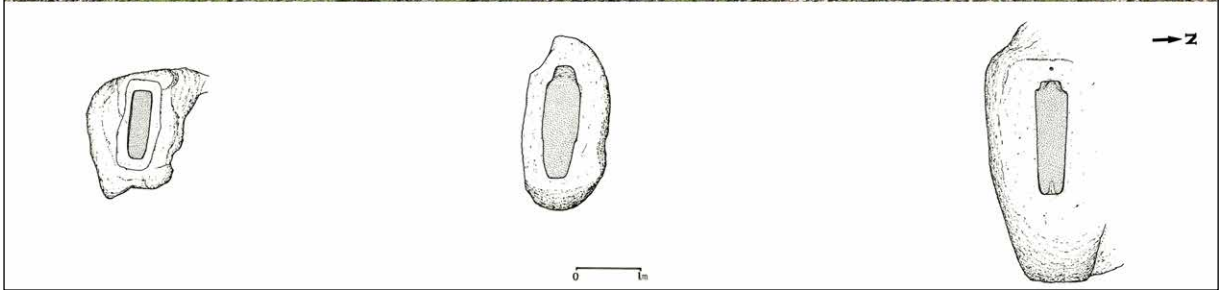
In surface field surveys, the most frequent finds are rock-cut graves, a type of early medieval funerary structure in use throughout the Iberian Peninsula. The analysis of rock-cut graves presents a number of problems, but nevertheless, recent research in this field has allowed for some consensus to be achieved (Rubio-Díez 2015; Martín-Viso 2017; Tente 2017; Brookes et al. 2017). It is currently accepted that this funerary trend was in use over a long period of time, between the 6th and the 11th centuries, and that it is the most visible aspect of peasant-led funerary practices. As local expressions, their meanings and period of use vary greatly from place to place. Nevertheless, the lack of connection to religious buildings, and their proximity to domestic and productive areas, indicates the peasants' agency in managing their dead.

Rock-cut graves usually appear scattered in the landscape, individualised or in small groups of 2-3 graves; they are built in close connection to households and productive structures, within a radius of about 40 m. This behaviour of keeping the dead so close to the living has been linked with a need to claim land-use rights, in which the graves might stand for the memory of the ancestors (Martín-Viso 2012). As a result, rock-cut graves should be

seen as part of an anthropised landscape, and efforts made to understand them in connexion to other evidence of human action (Laliena – Ortega 2005; Martín-Viso et al. 2017; Tente 2017).

Rock-cut graves were not the only type of funerary structures used by peasant communities. In fact, in the territory of Castelo de Vide there are examples of sites where rock-cut graves seem to coexist with other forms of burial structures, such as cist graves and sarcophagi (Prata 2014). The motives behind the different types of graves are still unclear. The currently available surface data indicates 178 archaeological sites with early medieval funerary structures, giving a total of 263 graves known within the study area.

Within the framework of the PramCV project, excavations were carried out in a total of 6 areas where structures were preserved in association to rock-cut graves. It became clear that the basic living unit of these peasant communities was the single household farmstead. Surface findings point to around 60 of these farmhouses. The excavated structures share their main building characteristics: rectangular compartments made of stone walls, developing in a sequence of joined sections that share an entrance. On the outside there is evidence of



farmyards or cattle pens, in the form of semicircular larger structures, of which sector I of Tapada das Guaritas is a good example (Prata 2017).

The rooftops were covered with heavily decorated ceramic tiles and, less frequently, plant materials (Cuesta-Gómez *et al. forthcoming*). The floors were made of hard-

packed dirt, and the granite base rock could also be used, when exposed. Each house had at least one hearth, built at floor level, square shaped and marked by elongated stones, with a surface made of mortar, pebbles, or roof tiles. The material culture inside of the houses suggests different activities: ceramics vessels for food preparation, consumption, and also storage; manual mills for cereal and grain grinding; spindle whorls for weaving; and few metallic objects (Prata 2017).

The olive-press structures are architecturally similar to the farmhouses, although generally more robust, with several entrances and nearby interconnected structures. There is evidence of at least 14 press structures. Formally, most of the documented stone weights belong to screw presses (Peña-Cervantes 2011-2012). Botanical record analysis has confirmed the presence of olive tree (*Olea europaea*), and we see archaeological evidence for the different processes of olive oil production: crushing,

Fig. 2 (opposite page, above): Group of three rock-cut graves from Tapada das Guaritas sector II (© Fabián Cuesta-Gómez and João Magusto).

Fig. 3 (opposite page, below): Tapada das Guaritas sector I, an excavated farmstead structure with an associated rock-cut grave. Examples of domestic material culture are a stone mill and a cooking pot (© Fabián Cuesta-Gómez).

Fig. 4 (below): Tapada das Guaritas sector II. Remains of an olive oil press and associated storage building (1). Detail of a storage vessel (2) and the stone press weight (3) (© Fabián Cuesta-Gómez and João Magusto).



pressing, and decantation. The presence of large amounts of storage vessels' sherds, similar to Roman *dolia*, reveals that some areas were also used for storing. The existence of multiple olive presses in use simultaneously seems to reflect the interests of small individualized productions (Lewit 2009).

In both the domestic and the productive structures, most of the material culture is represented by pottery. The formal repertoire is fairly limited, composed mostly of cookware pots in the households, and storage vessels in the olive oil presses. Although less frequent, other forms such as plates, bowls, pitchers, and basins are also represented. The pottery production uses local clays and exhibits a great formal variety, a possible sign of domestic manufactures as opposed to a centralized production. The exception would be the roof tiles, consistent in all the documented settlements, suggesting a single manufacture with regional distribution (Cuesta-Gómez et al. forthcoming).

Due to the acidity of the granitic soils, organic materials are almost never preserved. During the excavation of sector II of Tapada das Guaritas, a large storage building associated with an olive oil press, it was possible to collect an unusual amount of charcoal samples. At least part of the samples were bush trees, identified within the first deposition level of fallen roof tiles, a likely indicator that shortly after the structure was abandoned it was overgrown with weeds. These botanical remains were preserved in the form of charcoal during a fire that affected the area. Two of these samples, a fragment of pine cone (*Pinus sp.*) and a strawberry tree branch (*Arbutus unedo*), were dated by ¹⁴C analysis, setting the date of use of the structure before the first half of the 8th century.

3. Conclusions

At the current state of the research we have been able to confirm the growth of small- and medium-scale rural settlements during the early medieval period in the territory of Castelo de Vide. In all the excavated sites the structures seem to be abandoned voluntarily and there is no evidence of traumatic destructive processes. There is also no indication that these structures were used for extended periods of time, since these are very horizontal records where dense stratigraphic sequences are completely absent.

Additionally, several aspects seem to indicate a lack of community feeling amongst these houses: the absence of gathering areas; individualized burial grounds, and polarized productive structures. Yet, these settlements are still built in relative proximity and there were certainly social and economic associations amongst them. Amidst the known sites there is also no sign of hierarchy: settlement layout, building quality, and material culture is equivalent across all of them. This consistency seems

also to indicate that all these farmsteads and olive presses were built in close succession and were in use at the same time. It is also likely that their abandonment occurred at a similar moment, somewhere in the beginning of the 8th century.

All these features should be taken into consideration, when realizing how much this rural settlement pattern differs from the previous Roman model. With the collapse of the imperial administrative structures we see a progressive disintegration of large-scale agricultural productions (Chavarría-Arnau 2007). In the territory of Castelo de Vide a new early medieval countryside is shaped through a network of intricate small- and medium-sized farmsteads, a polarized reality with a family-based approach to productive strategies. This certainly indicates a clear shift in production scale and emphasis and, while some of the day-to-day productions were managed locally, and even domestically, other processes appear to be functioning on a microregional scale, as suggested by the amount of olive oil presses. Moreover, storage of olive oil might also indicate a production that exceeds domestic consumption. What remains to be seen is at what scale this territory was operating; which commercial routes might still be in use; and at what level peasant communities ensured their agency in such processes. Further research in the territory of Castelo de Vide will be able to show what powers emerge and at what scale the peasant communities were able to organize themselves, when a former urban structure failed to manage its countryside. In the future, careful comparisons should also be drawn between the territories around cities that thrived and cities that failed in the early medieval period.

References

- Brookes, S. – Tente, C. – Prata, S. 2017:
Interpreting rock-cut grave cemeteries: the Early Medieval necropolis and enclosure of São Gens, Portugal, *Medieval Archaeology* 61/2, 36-40.
- Carneiro, A. 2014:
Lugares, tempos e pessoas. Povoamento rural romano no Alto Alentejo. Coimbra.
- Chavarría-Arnau, A. 2007:
El final de las 'villae' en 'Hispania' (siglos IV-VII d.C.). Turnhout.
- Corsi, C. – Klein, M. – Weinlinger, G. 2011:
The Roman town of Ammaia (Portugal): from total survey to 3D reconstruction, in: Börner, W. – Uhlirz, S. – Dollhofer, L. (eds), *Proceedings of the 16th International Conference on "Cultural Heritage and New Technologies"* (Vienna 2011). Vienna, 59-73.
- Cuesta-Gómez, F. – Prata, S. – Ramos, T. (Forthcoming):
Empezar la casa por el tejado: las cerámicas de

- cobertura en los contextos altomedievales del territorio de Castelo de Vide (Portugal). Actas del I Congreso Internacional de Cerámica altomedieval (Zamora).
- Laliena, C. – Ortega, J. 2005:*
Arqueología y poblamiento. La cuenca del río Martín en los siglos V – VIII. Zaragoza.
- Lewit, T. 2009:*
Pigs, presses and pastoralism: farming in the fifth to sixth centuries AD, *Early Medieval Europe*, 17/1, 77-91.
- Martín-Viso, I. 2012:*
Enterramientos, memoria social y paisaje en la Alta Edad Media: propuestas para un análisis de las tumbas excavadas en roca en el centro-oeste de la Península Ibérica, *Zephyrus* 69, 165-187.
- Martín-Viso, I. 2017:*
A place for the ancestors. Early medieval burial sites in the central area of the Iberian Peninsula, in: Bis-Worch, C. – Theune, C. (eds), *Religion, cults & rituals in the medieval rural environment. Ruralia XI*. Leiden, 227-240.
- Martín-Viso, I. – Rubio-Díez, R. – López-Sáez, J. A. – Ruiz-Alonso, M. – Pérez-Díaz, S. 2017:*
La formación de un nuevo paisaje en el centro de la península ibérica en el periodo posromano: el yacimiento de La Genestosa (Casillas de Flores, Salamanca), *Archivo Español de Arqueología* 90, 7-28.
- Peña-Cervantes, Y. 2011-2012:*
Variantes tecnológicas hispanas en los procesos de elaboración de vino y aceite en época romana, *AnMurcia* 27-28, 37-57.
- Prata, S. 2014:*
Espaços funerários alto-medievais no Norte da Serra de São Mamede (Portalegre, Portugal): uma proposta de organização espacial, *Arkeogazte* 4, 261-279.
- Prata, S. 2017:*
Objectos arqueológicos alto-medievais em contexto doméstico: o caso da Tapada das Guaritas (Castelo de Vide, Portugal), in: Billota, M. A. – Tente, C. – Prata, S. (eds), *O estudo dos manuscritos iluminados e dos artefactos na Arqueologia da Idade Média: metodologias em comparação*, *Mediaeval Sophia* 19, 407-424.
- Rubio-Díez, R. 2015:*
Arqueología, paisaje y territorio post-romano. Las tumbas excavadas en roca en el occidente del Campo de Ciudad Rodrigo (Salamanca). *Ciudad Rodrigo*.
- Tente, C. 2017:*
Rock-cut graves and cemeteries in the medieval rural landscape of the Viseu region (Central Portugal), in: Bis-Worch C. – Theune, C. (eds), *Religion, cults & rituals in the medieval rural environment. Ruralia XI*. Leiden, 215-226.

Change and continuity in rural early medieval Hispania

A comparative multidisciplinary approach to the countryside of Egítania (Idanha-A-Velha, Portugal) and Emerita (Mérida, Spain)

Tomás Cordero Ruiz*

Abstract

The purpose of this paper is to present the research project *Change and continuity in rural early medieval Hispania. Comparative multidisciplinary approach to the countryside of Egítania (Idanha-a-Velha, Portugal) and Emerita (Mérida, Spain)*.¹ The working hypothesis that we propose as the basis of our research is the product of work carried out in the Emerita territory, and argues that the early medieval countryside was organised in a complex system of settlements that varied from one region to another in the Iberian Peninsula. In this way, the project aims to compare the change and continuity of the Emerita countryside between the 4th and 8th centuries with the Egítania territory in the same period. The lands lie within the heart of the old Roman Lusitania. One of our main research lines focuses on the analysis of the social and economic complexity of rural communities in these cities. In addition, we also want to create reference models for future research.

Keywords: *Rural communities, settlements patterns, historic territories, society, economy.*

Résumé

Changement et continuité dans l'Hispanie rurale pendant le Haut Moyen Âge. Approche multidisciplinaire comparative de la campagne d'Egítania (Idanha-A-Velha, Portugal) et d'Emerita (Mérida, Espagne)

Le but de cet article est de présenter le projet de recherche *Change and continuity in rural early medieval Hispania. Comparative multidisciplinary approach to the countryside of Egítania (Idanha-a-Velha, Portugal) and Emerita (Mérida, Spain)*. L'hypothèse de travail que nous proposons comme base de notre recherche, résultat du travail effectué dans le territoire *Emerita*, établit que la campagne médiévale a été organisée comme un système complexe d'habitats qui se révèlent variés dans la Péninsule Ibérique. De cette façon, ce

* Instituto de Estudos Medievais
Faculdade de Ciências Sociais e
Humanas
Universidade Nova de Lisboa
Av. de Berna, 26 C,
1069-061 Lisboa
Portugal
tomascordero@fcs.unl.pt

1 This post-doctoral project is supported by the Fundação para a Ciência e a Tecnologia of Portugal (reference: SFRH/BDP/100124/2014).

projet essaie de comparer le changement et la continuité de la campagne de *Emerita* entre le 4^e et 8^e siècles, cœur de l'ancienne Lusitania romaine à cette époque, avec le territoire de *Egitania* au même période. Une de nos principales lignes de recherche est l'analyse de la complexité sociale et économique des communautés rurales dans ces villes. D'autre part, nous voulons également créer des modèles de référence pour la recherche future.

Mots clés: *Communautés rurales, occupation et peuplement, territoires historiques, société, économie.*

Zusammenfassung

Wandel und Kontinuität im ländlichen Hispanien im Frühmittelalter. Ein vergleichender multidisziplinäre Ansatz zu den Territorien von Egitania (Idanha-A-Velha, Portugal) und Emerita (Mérida, Spanien)

Ziel dieses Beitrags ist es, das Forschungsprojekt Change and Continuity in rural early medieval Hispania

Introduction

The new historical paradigm highlights the continuities of the Roman world, reduces the negative impact of the barbarian invasions, and promotes the analysis of the different social and religious processes that arose over this period. The scientific community focuses on how the management of economic resources influenced the transformation of the landscape and the appearance of monumental architecture. This scientific interest was defined by C. Wickham (2005) and his method of comparing economic and social history. In the Portuguese and Spanish cases, although great progress has been made in recent years, there are still important questions to be raised and answered (Chavarría Arnau 2013). Furthermore, the archaeological documentation available stands out for its irregularity, as we have a high level of knowledge about the early medieval settlements in some areas but for others there is a significant lack of information (Martin Viso 2012). We have a great deal of knowledge about the cities, like in the case of Egitania (Cristovão 2008), but less in the countryside. A research problem very similar to Emerita, but in this case joint research on the urban and rural archaeological record has provided us with a better understanding of the Roman and early medieval periods (Cordero Ruiz 2013).

Working hypothesis

The working hypothesis that we propose as the basis of our research, the product of the work carried out in the Emerita territory, establishes that the early medieval

vorzustellen. Die Arbeitshypothese, die wir als Grundlage unserer Forschung vorschlagen, ist das Ergebnis von Arbeiten, die im Gebiet der Emerita in Südwestspanien durchgeführt wurden. Es wird argumentiert, dass die frühmittelalterliche Landschaft in einem komplexen System von Siedlungen organisiert war, die von Region zu Region auf der iberischen Halbinsel unterschiedlich waren. Auf diese Weise soll der Wandel und die Kontinuität in der Emerita zwischen dem 4. und 8. Jahrhundert mit dem ägitanischen Territorium im gleichen Zeitraum verglichen werden. Das Land liegt im Herzen der alten römischen Provinz Lusitania. Einer unserer Forschungsschwerpunkte liegt in der Analyse der sozialen und wirtschaftlichen Komplexität ländlicher Gemeinschaften in diesen Städten. Darüber hinaus wollen wir auch Referenzmodelle für die zukünftige Forschung schaffen.

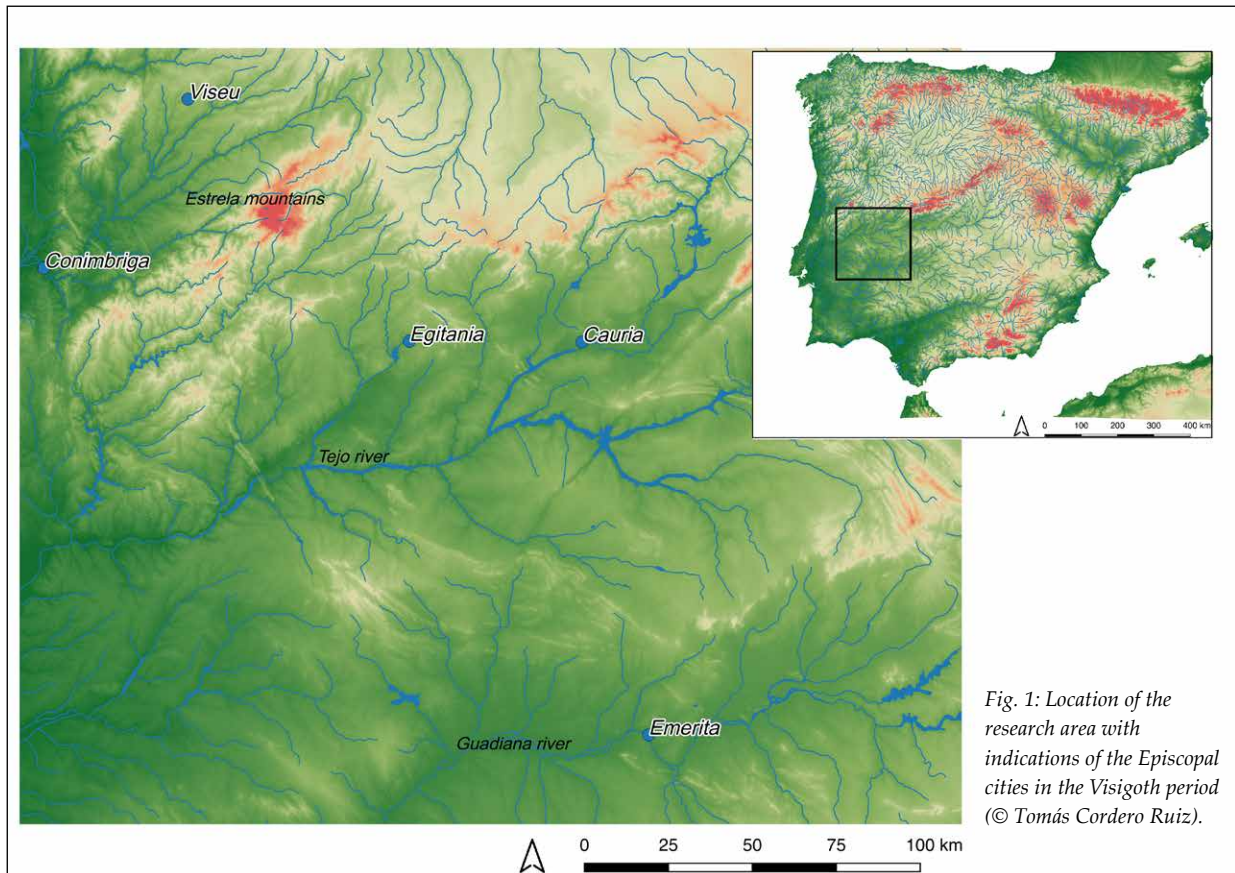
Schlagwörter: *ländliche Gemeinschaften, Siedlungsmuster, historische Territorien, Gesellschaft, Wirtschaft.*

countryside was organised in a complex system of settlements, which varied from one region to another of the Iberian Peninsula (Cordero Ruiz 2013, 343-354). This world would have been more or less hierarchically structured by the superposition of the ecclesiastical, administrative, and legal networks, which would have joined the territories and cities (Castellanos – Martín Viso 2005, 5-19). It would have been a varied map in which the rural communities would have been interwoven, and defined, as well, by their heterogeneity.

This is a comprehensive, comparative, and systematic study, concerned not with imposing a unitary historical model but instead with suggesting models open to historical debate and adapted to each region. These studies should not include all the fields of analysis related with rural areas but should focus on the selection of an open and relational topic, able to offer multiple answers to the questions raised by the scientific community. Accordingly, we believe that, due to its coincidence with the approach proposed and the need for the present historical paradigm established in the Iberian Peninsula, it is both necessary and plausible to perform an exhaustive analysis of the complexity of rural Egitania and Emerita communities (Fig. 1).

Our research wants to achieve these objectives:

- a. We want to identify general trends that are found in the analysis of the similarities. This research tries to pass the principal problems of the early medieval historiography of the Iberian Peninsula: localism and nationalism (Díaz-Andreu 1995),



which have obstructed the development of synthesis studies in the past.

- b. We want to explain regional differences. Why did societies that went through similar experiences have divergent historical developments? The answer might be discovered in the systematic contrast differences.
- c. We want to provide reference models for future research and raw material for the production of new investigations.

Methodology

This research is based on the principles laid out by the methodology of historic comparison (*Skocpol – Somers 1980*) and Landscape Archaeology, but understanding the landscape as a composition that can be measurable and individualized, among them a series of stratigraphic and contextual relations (*Martín Civantos 2006, 13*). In this sense, the Egitania countryside is separated in three elements: a) physical environment, b) social space, and c) symbolic space. The first point can be analysed through a geoarchaeological reading. The second and the third points need Archaeological methodology, written resources, and the concepts of Landscape Archaeology. Once the individual categories of

structures are documented, synchronous relationships must be analysed without neglecting economic factors. We can identify the elements that compose the landscape and the relation between them. In this way, it is important to identify the elements that compose the landscape and the relationship between them. This stratification of the landscape allows the establishment of classifications and types that can have a hierarchical or a chronological order: a) physical geography, b) settlements, and c) symbolic spaces (*Martín Civantos 2006, 14-16; Brogiolo 2015*).

In order to analyse these “stratigraphies” and their inclusion in the Egitania landscape, we suggest:

- a. A comprehensive and systematic review of the archaeological and textual documentation related to the social and economic structure of rural communities. This information should be compiled in a database linked to another one where all the data related to early medieval materials will be gathered, that is, information about settlements, architecture, ceramics, burials, etc.
- b. Both databases must work in conjunction with a Geographical Information System (GIS).

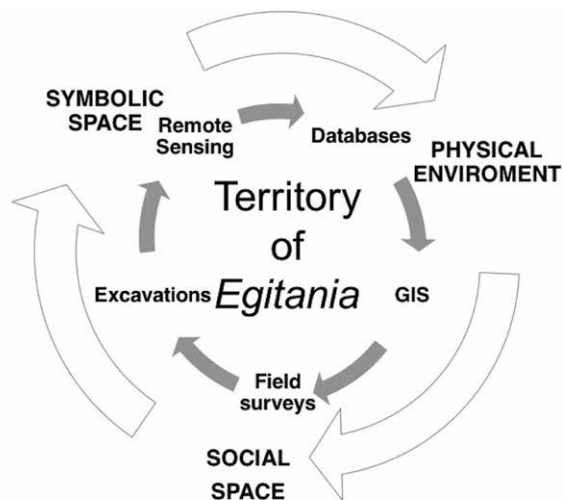


Fig. 2: Epistemological framework (© Tomás Cordero Ruiz).

- c. The aim is to create thematic layers that will explain the present state of knowledge of the territories analysed with an appropriate resolution. Thus, we will create a versatile tool that will be essential for the management of large volumes of data.

In short, this tool will make it easier to analyse the typology, chronology, and specialty of the strata that make up the landscape (Fig. 2).

First advances in the research of the Egitania countryside

Before beginning this section, it is worth clarifying that the analysis of early medieval settlement reveals, like other areas of the Iberian Peninsula, evident problems due to the existence of recurrent research problems:

The difficulty in identifying sites in this chronology due to the lack of studies interested in their material culture (Carvalho 2016, 399-401).

There are not many written and epigraphic sources relating to Egitania. The city is briefly mentioned in the Visigoth councils and in the *Parrochiale suevum* (David 1947). In addition, the epigraphic evidence is reduced to the case of one funerary inscription dated in the year 606 (Alves Dias – Sousa Gaspar 2006, 188-189). A surprising data if we compare it with the large number of Roman inscriptions documented in this region and especially significant in the case of the city during in the Roman period (Ramos Ferreira 2004; Marques de Sá 2007).

The shortage of archaeological research projects interested in the early medieval period. However, we have some studies that allow us to know better, although in a limited way, the rural settlement of this period (Ângelo –

Ribeiro 2000; Osorio 2006; Albuquerque – Guimarães dos Santos 2007; Carvalho 2016).

Despite these problems and before presenting the advances in the research carried out on the early medieval rural settlement, we want to highlight the main characteristics of the previous Roman occupation. In this regard, it is worth highlighting the articulation of the settlement patterns around the scarce cities of this area of the Iberian Peninsula, the main road network, the rivers (some of them with gold deposits) and the areas with a good potential for development of agriculture and livestock. Moreover, the main role of the vici is significant in the configuration of the Roman rural patterns, like the vicus Talabara or the vicus Venia, the small number of villae, and the large quantity of small settlements (Carvalho 2007, 375-380). Finally, the important extraction of gold from this part of the Iberian Peninsula conditioned the Roman settlement in the mining areas near the Tagus River (Henriques et al. 2011; Sánchez-Palencia Ramos et al. 2012).

The first characteristic of the early medieval field of Egitania is the maintenance of Roman occupation patterns and the absence of documentation on the Germanic peoples who entered the Iberian Peninsula in the year 409. It is true that the available data on this continuity are scarce but we have some information about the rural settlement of this period (Fig. 3). In this regard, the continuity of occupation in the roman villa of Barros is a good example of this. The *pars urbana* of the villa was probably reoccupied by peasants during the 5th and 6th centuries (Carvalho – Costa Cabral 1994, 74). Others examples are the sites of Torre de Namorados and São Pedro de Capinha. The first was an important Roman settlement with continuity of occupation uninterrupted until the Middle Ages (Ângelo – Ribeiro 2000). The second is a similar case but with continuity until the 7th or the 8th century. In addition, this site could be related to the aforementioned vicus Talabara (Albuquerque – Guimarães dos Santos 2007). Despite these data, the evident decrease in the number of known sites cannot be ignored. This fact could indicate to us a concentration of the settlements, the majority with origins in the Roman period, and probably of the property of the land.

The new settlement pattern and the reoccupation of ancient Roman sites may be contemporaneous with the arrival of a new architectural style that is more difficult for archaeologists to identify. The use of stone, brick, or tegulae continued during this period – its use is documented in urban centres such as Egitania – but in the rural world, the use of covers of perishable materials, slabs of slate, and walls made out of wood or adobe is probably more common. When houses or production structures are built with wood or slate, the evidence on site occupation decreases and it is more difficult to identify

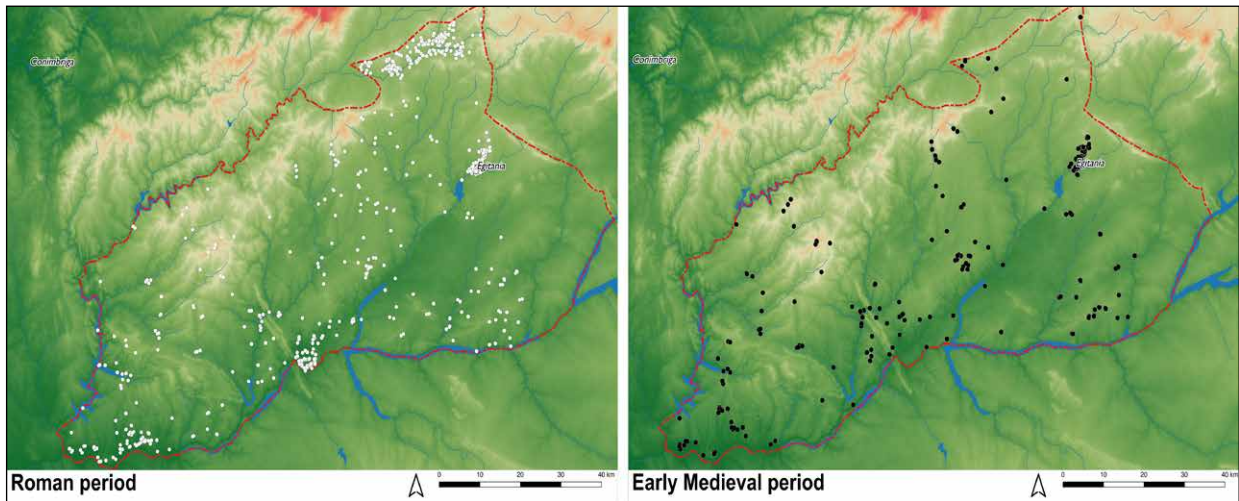


Fig. 3: Change in the settlement pattern in the territory of Egitania between the 4th and 8th centuries (© Tomás Cordero Ruiz).

the type of occupation of the settlements (Carvalho 2016, 415-417). This situation is very similar to the case of Emerita (Cordero Ruiz 2013, 311-333). Nevertheless, this situation still has to be confirmed and increased with the accomplishment of more archaeological surveys and excavation in the next years.

The continuity of Roman settlement is also compatible with the occupation of prominent places. The information about these new settlements is incomplete as of yetm but sites like Alva, Castelos Velhos, Covilhá, Manteigas, Monsanto, Penha Garcia, or Tintinolho offer important data. In this sense, it is interesting to emphasise the construction of fortifications and the discovery of Visigothic *tremissis* in these sites. These findings have allowed some researchers to identify in these places the residences of local elites (Martín Viso 2008, 10-14; Carvalho 2016, 410-413). The new settlements had great vitality, compared to the waning power of the ancient Roman cities, whose survival depended on their appointment as episcopal sees. This working hypothesis is related to the integration of the local elites of this region within the Suevic and Visigothic kingdoms. These elites used taxation – a function in which the minting of *tremissis* would be inserted – as a means to implement their power over the territory and its inhabitants and in relation to the growing power being acquired by the Church. In this sense, the establishment of the bishoprics of Egitania, Viseu, and Caliabria (Fig. 4) would entail the birth of a new political geography associated with the loss of prominence of the old Roman urban network (Cordero Ruiz – Franco Moreno *in press*). This is a change related to the appearance of new occupation patterns that, although heirs of the Roman world, would develop their own characteristics that we still do not understand in all their complexity.

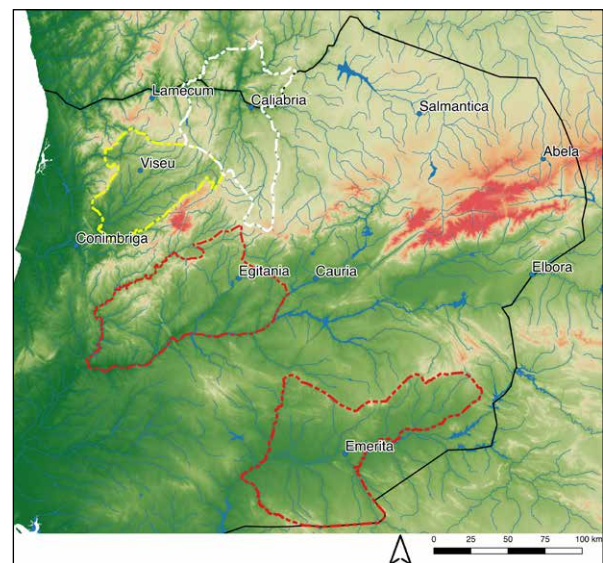


Fig. 4: Episcopal cities and their territories in Visigothic Lusitania (© Tomás Cordero Ruiz).

Another aspect to take into account would be the possible continuity of the gold-extraction activity during the early medieval period (Carvalho 2016, 421-422). The presence of this mineral in the waters of the Tagus River continued to be a resource used is mentioned by authors like Martianus Capella, Jordanes, or Boethius. In addition, Isidore of Seville mentioned the presence of gold in the Tagus in his description of the peninsular rivers. The references of these authors do not have a material correspondence because we know very little about the evolution of the Roman mining areas, distributed along the Tagus and its tributaries in the area of the territory of Egitania, beyond the third century. Nevertheless, the recognition of the continuity of mining activities in the

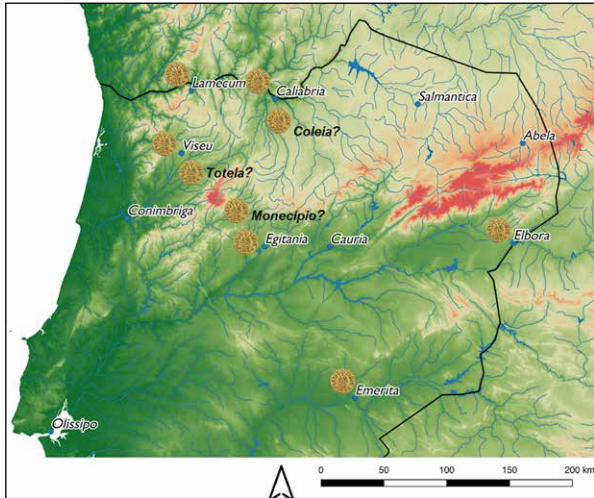


Fig. 5: Coinage centres in the interior of Visigothic Lusitania (© Tomás Cordero Ruiz).

north-west of the Iberian Peninsula (Braz 2008, 127) along with the large concentration of *tremissis* and mints in the interior of the old Lusitania could indicate the continuity of mining activity (on a smaller scale than that of the Romans) and the settlements associated with it (Fig. 5).

Conclusions

The research that has been carried out allows us to suggest:

- There was continuity of settlement in some sites and abandonment of the majority in the territory of Egitania. This situation could be related to a concentration of the settlement pattern and rural property, as in the case of Emerita (Cordero Ruiz 2013, 311-333), but it is conditioned by the lack of archaeological investigation in many areas of this space.
- Many hill forts were occupied in the period. Actually, the archaeological information is very poor but it is important to note that many settlements were not occupied during previous periods. These sites are identified as places of residence of local elites. The *tremissis* discovered in these settlements are taken as proof of this. In addition, it is likely that these sites replaced the ancient Roman cities in importance (Martín Viso 2008, 10-14).
- The creation of bishoprics such as Egitania, Viseo, and Calabria would entail the birth of a new political geography associated with the loss of prominence of the old Roman urban network and the emergence

of new patterns of occupation. In this way, the circumscriptions of Episcopal cities covered the territories of the ancient Roman cities (Tente – Cordero Ruiz – Bravo 2018).

- Egitania and other centres of inner Lusitania (Calabria, Coleia, Monecipio, Totela, and Viseo) were important centres of Visigothic coinage (Pliego Vázquez 2009, 123-128). Is it possible to relate this activity to the continuity or residual continuity of Roman gold mining in this area? In this way, the gold present in the waters of the Tagus River continued being a resource used by authors like Marciano Capella, Jordanes, Boethius, or Saint Isidore. This literature does not find a material reality, but it is likely that this activity continued in some areas in relation to the coinage centres.
- It is probable, as in the region to the north of Egitania (Tente 2015, 288), that the strategies of occupation were closely linked to local powers and family logic (*tremissis*, rock-cut graves).

References

- Alburquerque, E. – Guimarães dos Santos, M.C. 2007: Capela de São Pedro da Capinha (Fundão): primeira intervenção, *Al-Madam online Serie II* 15, 65-71.
- Alves Dias, M. – Sousa Gaspar, C.I. 2006: *Catálogo das Inscrições Paleocristãs do Território Português*. Lisboa.
- Ângelo, M.J. – Ribeiro, C.A. 2000: Torre dos Namorados (Quintas da Torre, Fundão): *Historiografia e Perspetivas de Investigação*, in: Ferreira, M. C. – Perestrelo, S. – Osorio, M. – Marques, A. (eds), *Actas das I Jornadas de Beira Interior. História e Património*. Guarda, 112-144.
- Braz, C.M. 2008: *A exploração mineira romana e a metalurgia do ouro em Portugal*. Braga.
- Brogiolo, G.P. 2015: Some principles and methods for a stratigraphic study of historic landscapes, in: Chavarría, A. – Reynolds, A. (eds), *Detecting and understanding historic landscapes*. Mantova, 359-386.
- Chavarría Arnau, A. 2013: ¿Castillos en el aire? Paradigmas interpretativos “de moda” en la arqueología medieval española. XXXIX Semana de Estudios Medievales, De Mahoma a Carlomagno: los primeros tiempos (siglos VII-IX). Pamplona, 131-166.
- Carvalho, T. – Costa Cabral, M. 1994: *A villa romana Dos Barros – Oledo*. Primeira notícia, *Portugalia Nova Série XV*, 61-82.

- Carvalho, P. 2007:*
Cova da Beira. Ocupação e exploração na época romana. Coimbra.
- Carvalho, P. 2016:*
O final do mundo romano: (Des)Continuidade e/ou (In)Visibilidade do registo nas paisagens rurais do interior norte da Lusitânia, in: D'encarnação, J. – Conceição Lopes, M. – Carvalho, P. (eds), A Lusitânia entre romanos e bárbaros. Coimbra, 397-435.
- Castellanos, S. – Martín Viso, I. 2005:*
The local articulation of central power in the North of the Iberian Peninsula, 500-1000, Early Medieval Europe 13:1, 1-42.
- Cordero Ruiz, T. 2013:*
El territorio emeritense durante la Antigüedad Tardía (siglos IV-VIII): génesis y evolución del mundo rural lusitano. Madrid.
- Cordero Ruiz, T. – Franco Moreno, B. in press:*
La desaparición, desarticulación y transformación, de la red urbana en la Frontera Inferior de al-Andalus durante el período Omeya, in: Villalba Sola, D. (ed.), II Workshop International Urbis Madina. O Papel das Fontes no estudo na cidade medieval na Península Ibérica (séculos XII-XIV). Lisboa.
- Cristovão, J. 2008:*
A aldeia histórica de Idanha-a-Velha: Guia para uma visita. Idanha-a-Nova.
- David, P. 1947:*
Études historiques sur la Galice et le Portugal du VIe au XIIe siècle. Coimbra.
- Díaz-Andreu, M. 1995:*
Archaeology and nationalism in Spain, in Kohl, P. – Fawcett, C. (eds), Nationalism, politics, and the practice of archaeology. Cambridge, 39-56.
- Henriques, F. – Batata, C. – Chambino, M. – Caninas, J.C. – Cunha, P. 2011:*
Mineração aurífera antiga, a céu aberto, no centro e sul do distrito de Castelo Branco, in: Batata, C. (ed.), VI Simpósio sobre Mineração e Metalurgia históricas no Sudoeste Europeu. Abrantes, 2-29.
- Marques de Sá, A. 2007:*
Civitas Igaeditanorum: Os deuses e os homens. Idanha-a-Nova.
- Martín Civantos, J.M. 2006:*
Il territorio stratificato: proposte dall'Archeologia del Paesaggio, in: Francovich, R. – Valenti, M. (eds), Atti del IV Congresso nazionale di Archeologia Medievale. Florence, 12-16.
- Martín Viso, I. 2008:*
Tremisses y potentes en el nordeste de Lusitania (siglos VI-VII), Melanges de la Casa de Velázquez 38:1, 175-200.
- Martín Viso, I. 2012:*
Un mundo en transformación: los espacios rurales en la Hispania post-romana (siglos V-VII), in: Caballero Zoreda, L. – Mateos Cruz, P. – Cordero Ruiz, T. (eds), Visigodos y Omeyas: El territorio. Anejos de Archivo Español de Arqueología LXI. Mérida, 31-65.
- Osório, M. 2006:*
O povoamento romano do alto Coa. Guarda.
- Pliego Vázquez, R. 2009:*
La moneda visigoda: Historia monetaria del reino visigodo de Toledo (c. 569-711). Sevilla.
- Ramos Ferreira, A.P. 2004:*
Epigrafia funerária romana da Beira Interior: inovação ou continuidade? Lisboa.
- Sánchez-Palencia Ramos F.J. – Beltrán Ortega, A. – Romero Perona, D. – Currás Refojos, B. – Reber Díez, G. – Sastre Prats, I. 2012:*
Zonas mineras y *civitates* del noreste de Portugal en el Alto Imperio (zona fronteriza con España de los distritos de Braganza y Castelo Branco), Informes y Trabajos 9, 606-627.
- Skocpol, T. – Somers, M. 1980:*
The Uses of Comparative History in Macrosocial Inquiry, Comparative Studies in Society and History 22:2, 174-197.
- Tente, C. 2015:*
Tumbas rupestres en el Alto Mondego (Guarda, Portugal): Patronos de distribución, significados y construcción del paisaje rural altomedieval, Munibe Antropologia-Arkeologia 66, 271-290.
- Tente, C. -Cordero Ruiz, T. – Bravo, R. 2018:*
A configuração territorial da Diocese Viseense no período Suevo-Visigodo, in: Tente, C. (ed.), Do Império ao Reino, Viseu e o Território (séculos V a XII). Viseu, 179-192.
- Wickham, C. 2005:*
Framing the Early Middle Ages: Europe and the Mediterranean, 400-800. Oxford.

Mountain communities in the Catalan Pyrenees: 25 years of archaeological research

Walter Alegria-Tejedor *, Marta Sancho-Planas **

✉ Maria Soler-Sala ***

ABSTRACT

Despite the gaps that still exist in our knowledge, the archaeological work carried out over the last 25 years has enabled us to establish links between the information offered by concrete archaeological finds and the overall historical framework. In this paper, we try to show the evolution of the medieval habitat and the spatial organization in this area, based on the study of the data from our archaeological excavations. Our proposal includes the period from the 5th to the 15th centuries and we discuss six archaeological sites that we are excavating. The geographic area is the Montsec mountain range, in the Catalan pre-Pyrenees.

*c. Caballero, 64, entresòl 2a
08014 Barcelona
Spain
walter.historia@gmail.com

Keywords: *Early monasticism, feudal castles, medieval habitat, medieval necropolis, medieval territorial organization.*

**Facultat de Geografia i Història
(Universitat de Barcelona)
c. Montalegre, 6
08001 Barcelona
Spain
msancho@ub.edu

RÉSUMÉ

Communautés montagnardes dans les Pyrénées catalanes: 25 ans de recherches archéologiques
Malgré les lacunes qui existent encore dans nos connaissances, les recherches archéologiques réalisées au cours des 25 dernières années nous ont permis d'établir des liens entre l'information provenant des découvertes archéologiques et le cadre historique global. A partir de l'étude des données de nos fouilles archéologiques, nous essayons de montrer l'évolution de l'habitat médiéval et l'organisation spatiale dans cette zone. Notre propos traite plus particulièrement de six sites en cours de fouilles, dont les datations couvrent une période qui s'étend du 5^e au 15^e siècle. La zone géographique concernée est la montagne du Montsec, dans les pré-Pyrénées catalanes.

***Facultat de Geografia i Història
(Universitat de Barcelona)
c. Montalegre, 6
08001 Barcelona
Spain
mariasoler@ub.edu

Mots-clés: *Monachisme précoce, Châteaux féodaux, Habitat médiéval, Nécropole médiévale, Organisation territoriale médiévale.*

ZUSAMMENFASSUNG

Berggemeinden in den katalanischen Pyrenäen: 25 Jahre archäologische Forschung

Die archäologischen Forschungen der letzten 25 Jahre hat es uns trotz mancher Wissenslücken ermöglicht, Zusammenhänge zwischen den Erkenntnissen zu archäologischen Objekten und einem allgemeinen historischen Rahmen herzustellen. In dieser Arbeit versuchen wir, die Entwicklung des mittelalterlichen Lebensraums und der räumlichen Organisation im Untersuchungsgebiet aufzuzeigen; Grundlage sind Datenanalysen archäologischer Ausgrabungen. Unsere Arbeit bezieht sich in erster Linie auf die Zeit zwischen dem 5. und 15. Jahrhundert, basierend auf sechs archäologischen Fundorten, geografisch im Gebiet des Berges Montsec, in den katalanischen Präpyrenäen gelegen.

Schlagwörter: *frühes Mönchtum, Feudalschlösser, mittelalterlicher Lebensraum, mittelalterliche Gräberfelder, mittelalterliche Landesorganisation.*

1. Introduction

The archaeological excavations at the Fabregada site began in 1992. Since then we have worked on five other sites, all located in the Montsec Mountains and dating from the Middle Ages (Fig. 1). The excavated sites comprise:

- a. Els Altimiris (2004–2017): early monastery (5th–9th centuries);
- b. Sant Martí de les Tombetes (1998–2002 and 2014–2017): settlement and cemetery (3th–13th centuries);
- c. Vilavella de Castellet (2015–2017): sheep-farming community and church (9th–13th centuries);
- d. Fabregada (1992–2002): ironworking site (11th–14th centuries);
- e. Castell de Mur (1997–2002): feudal castle (10th–15th centuries);
- f. Santa Maria de Mur (2000): Augustinian collegiate and parish church (11th–20th centuries).

Reviewing the documentation available for this area has helped us to round out our overall view of the area and its development, as well as to understand the dynamics that followed one another in the course of the Middle Ages. Despite the inevitable gaps in our knowledge, the excavation, interpretation, and study of these sites have enabled us to reconstruct the medieval history of this region, from the 5th century to the 15th.

Given the limited space available here to us, we will summarise this history. We will outline the general historic context of each point in time and situate our sites within this historical discourse.

RESUMEN

Comunidades de montaña en el Pirineo catalán: 25 años de investigación arqueológica

A pesar de las lagunas de conocimiento que tenemos todavía hoy, el trabajo arqueológico llevado a cabo en los últimos 25 años nos ha permitido establecer relaciones entre la información que nos ofrecen los restos arqueológicos y el marco histórico general. En este trabajo, tratamos de mostrar la evolución del hábitat medieval y la organización espacial en el área de estudio, en base al análisis de los datos que nos ofrecen las excavaciones arqueológicas. Nuestra propuesta se acerca al período comprendido entre los siglos V al XV, a partir de seis yacimientos arqueológicos que estamos excavando. Todo ello, en el ámbito geográfico de la montaña del Montsec, en el prepirineo catalán.

Palabras clave: *monacato temprano, castillos feudales, hábitat medieval, necrópolis medieval, organización del territorio medieval.*

So, the objective is to show the evolution of the medieval habitat and the spatial organization in this area, based on the study of the data from our archaeological excavations.

2. Early Middle Ages (5th – 9th centuries): The transition period, rupture or continuity

The 5th century saw the crumbling of the Roman model that for over 500 years had imposed a certain uniformity in terms of settlement and development in rural settings. The Montsec Mountains, like the Pyrenees, was an area of resource extraction which, through towns like Aeso or Labitlosa, transported their goods towards centres of consumption located on the coast and in the most fertile valleys, cities like Tarraco and Caesaraugusta, respectively (*Magallón et al. 2002; Magallón et al. 2004; Magallón – Sillières – Asensio 2007; Guardia – Grau – Campillo 2000*). In the course of the 5th century the Visigoths managed to create a kingdom, with its capital initially at Toulouse and, from the beginning of the 6th century, at Toledo (*Ripoll – Velázquez 1995; Ariño – Díaz 2003*).

From this time onwards, the Hispano-Roman elites lost political and military control and took refuge in a new institution, the Church, through which they clung to power, especially over the territory. The consolidation of dioceses with bishops of Hispano-Roman origin based in certain cities was to ensure this continuity of power (*Mazel 2008*). Bishoprics in our region included those of Ilerda (419), Osca (419), and Urgellium (531). Individuals at lower levels sought other ways of holding on to their power, such as the

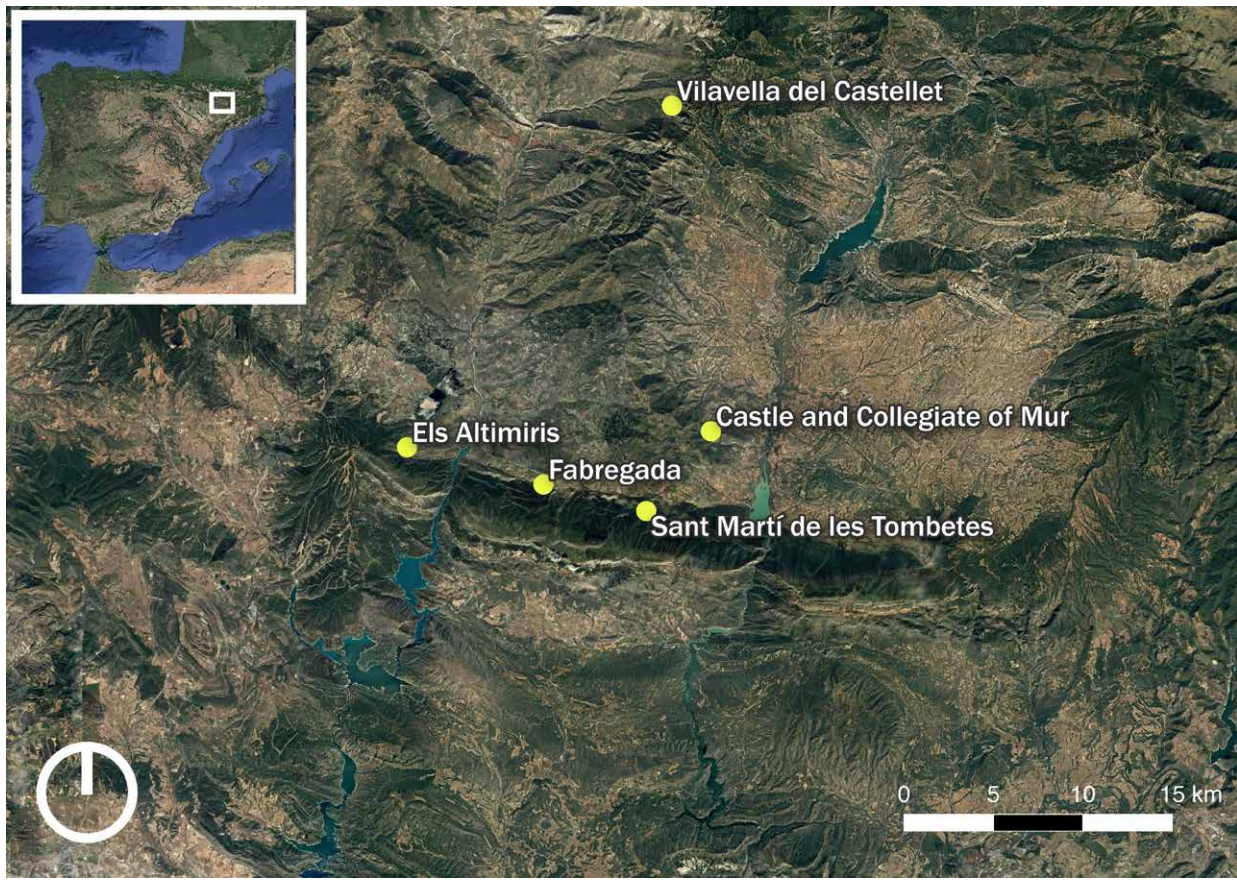


Fig. 1: Map of the archaeological sites (© Maria Soler-Sala).

creation of monastic communities that were by their nature free from tax burdens. The proliferation of these monastic establishments is illustrated by the records of the Council of Ilerda in 546, which required the self-proclaimed monasteries to declare by which monastic rule they were run for approval by the bishop in question (*Sabanés 2000*).

This process was at the origin of the monastery of Santa Cecília de Els Altimiris (Fig. 2). It is located on the top of a rocky mountain ridge, at almost 800 m above sea level. It is delineated by two cliffs that converge at the top of the site, defining a triangle, at the base of which is a closing wall, and on the top of which is the pathway of Santa Cecília, a mandatory pass in order to access to the mountain pastures of the Montsec. The total area is around 9,000 m² and the slope is angled around 30–40% (*Sancho – Alegria 2017*).

In the middle of this area there is the monastic complex with a single-nave church, chancel, choir, and presbytery; the atrium is on the north side, the corridor on the south side, and there are some adjoining structures. In this sector we have been able to differentiate two phases, from the 6th and 7th centuries. A little further south we found another construction built using roman techniques, like *opus signinum* and *opus caementicium*.

There are three cisterns close to the buildings and many cabin bases dug out of the rock. Other excavated elements like stairs, hollows, and water pipes complete the site.

The main archaeological artefacts we found were pottery and glass from the 5th to the 9th century, mainly from the 6th and 7th centuries (*Comas et al. 1997; Macias – Cau 2012*). Examples of these materials are an amphora of wine and oil of North African, South Iberian, of Eastern origin; DSP (*Derivées de les Sigillées Paleochretiennes*), TSHT (Late Iberian *Terra Sigillata*) and ARS (African Red Slip); and cups, dishes, and glass bottles. Remains of fauna, lithic material, building materials, and iron objects like nails completed the material culture of Els Altimiris. Particularly interesting is the discovery of scales, made in iron, and its small plate, made in bronze. The palynological analysis shows us that toxic substances have been mixed in, and also tells us that the environment was mainly wooded. Last year we found a set of oysters, which, with the Mediterranean pottery productions and the glasses, demonstrate some commercial contacts.

We think that Els Altimiris is a monastic establishment related to the first monastic foundations, influenced by the eremitic movement, like the foundation of Sant Victorian

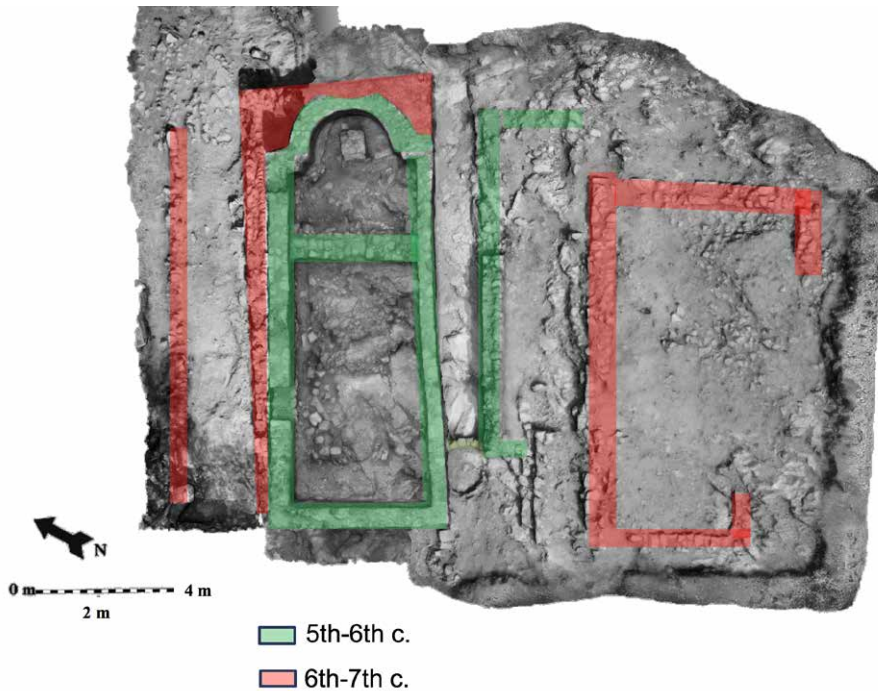


Fig. 2: Monastic complex of Els Altimiris (© Walter Alegria and Júlia Coso).

de Asán, near our archaeological site (Fortacín 1983). The identification of this site as a monastery of the 5th to the 7th century was based on its comparison with other sites of this period, the study of the scarce extant contemporary written sources, and the analysis of our data against the background of the general development of society at the time. The architectural complex around the church and the luxury material found in the site reinforce this interpretation (Sancho – Alegria 2017, 165–168).

At this time, the process of abandonment of the villas and towns by their population, together with the flight of slaves, led to the appearance of new models of settlement, especially in mountain areas, far from centres of power that might have demanded payment for the occupied land. Following the proposals of Chris Wickham, we detect different patterns of rural settlements, especially in mountain regions (Wickham 2009; Martín-Viso 1999).

In this sense, we see a clear rupture between Late Antiquity and the Early Middle Ages regarding the model of territorial organization and the exploitation of resources. Els Altimiris is the site that fits these changes. Contrary to Els Altimiris, we have a problem with the interpretation of Sant Martí de les Tombetes (Fig. 3). The archaeological record shows us the continuity of occupation from the 3rd century to the 13th. As a Late Antiquity settlement, it does not show the characteristics of this period. Therefore, we have thought about other settlement typologies that have not been extensively investigated as of this moment.

Sant Martí de les Tombetes is a fortified settlement with a necropolis lying in the centre of the Montsec Mountains, in the Pallars Jussà area, specifically in the eastern centre

of the Montsec d’Ares, at an altitude of 800 m. The spot is bounded to the north and south by stream beds, to the east by a steep but not impassable slope and to the west by a ditch cut into the rock and the remains of a tower or wall from the late Roman period. The site dates from the 3rd and 4th centuries to the 13th century AD.

Current interpretation of the site indicates that it was a fortified settlement with a tower or wall built in *opus quadratum* belonging to a Roman elite who exploited resources close to the northern slopes of the Montsec to make secondary products. The idea of exploitation of materials comes from our interpretation of several structures excavated at the highest part of the site, which resemble the holes for presses and decanting liquids. The inhabitants of this site would have had a home in this upper part, where we found the remains of a floor in *opus signinum*, indicating a Roman building tradition.

Later, around the 4th and 5th centuries, just north of this house, a necropolis was built with rectangular graves cut into the rock and extending all over the highest part of the site. In a subsequent phase between the 7th and 9th centuries a rectangular cabin was built, cut into the rock and erasing the late Roman structures, and two graves dated to the 7th to 9th centuries were cut into the rock. Around this time the tower or wall in the west was demolished to use the stones to build a simple church in the centre of the necropolis. In the last identified phase (dated with ceramic index fragments) there are anthropomorphic graves, contemporary to, or later than, the 9th century and no later than the 13th. There are also the remains of furnaces, possibly for iron, that cannot



Fig. 3: Apse and tombs in Sant Martí de les Tombetes (© Walter Alegria).

currently be ascribed to any specific period, and an area of more humble habitations that is yet to be excavated.

This site has similarities to as well as differences with the late antiquity phase of Els Altimiris, such as the absence of materials indicating imported goods (wine, oil and luxury crockery) and the presence of both fortifications (tower or wall) and weaponry (arrow and javelin heads). According to the ceramic assemblage, the site reached its peak population in the 6th to 10th centuries. We think that Sant Martí de les Tombetes was a strategic site to control specific resources like iron production. We have yet to excavate the furnaces and survey the area to identify iron mines.

3. High Middle Ages (10th – 12th centuries): The *apriusio* process and the feudalisation of the territory

In this Pyrenean region, the impact caused by the Islamic conquest must have been moderate, often limited to sporadic attacks and, in a few cases, to the establishment of centres to control the territory which, in any case, being a frontier area far from the centres of power, would have had little influence on the communities settled in these places. By the early 9th century the Pyrenean valleys were already clearly linked to local nobility with links to the Carolingian empire.

The population gradually stabilised in the mountains, with the monasteries acting as centres around which the territory was structured, and the records they kept

document the beginning of the process of repopulation, clearing new farmland, and building new settlements (Salrach 1990; Bolòs 1994). Towards the end of the 10th century, this process reached the Montsec Mountains and, from the early 11th century onwards, the effects of the process of feudalisation began to be visible (Bolòs 2004). In this case it is possible to talk about three settlements linked to this period. The first of these is Vilavella del Castellet.

Vilavella del Castellet was a sheep-farming community at an altitude of 1,100 m on a pass in the Sant Gervàs range, in the north-west of the Pallars Jussà area. Research is currently at a very early stage, but some preliminary conclusions have been drawn. Remains of pottery place the site between the 9th and 13th centuries, but future studies may open up the possibility of settlement before this.

The site is located on a quarry to make use of the least productive land in the area and to have the stones and mud needed to build the village close at hand. The area of the settlement is bounded by a high enclosing wall, within which there are houses with several rooms and circular walls around each house that we believe were livestock enclosures. A simple little church was excavated in the centre of the site (Fig. 4), with room for a maximum of 40 to 50 people, which suggests a maximum of 8 to 10 families living in the settlement. This humble church is distinguished by a more elaborate finish than the other buildings, for example in the way some blocks of stone are



Fig. 4: Virtual reconstruction in 3D of the church of Vilavella del Castellet (© Walter Alegria).

cut, or the lime mortar found in the render on the walls and on the floor around the altar.

Settlements from different time periods but built in a similar way have been found elsewhere in the Pyrenees, above 1,500 m, and most of them are firmly associated with pastoral societies who built seasonal shelters (Vidal – Alegria 2015, 759–772).

The ironworking establishment of Fabregada should also be linked to the same period. This was a centre that produced iron using an indirect reduction process for the ore, fuelled by charcoal (Sancho 1997).

Fabregada stands at an important crossroads. Running from south to north, the route coming from the Port d’Ager and the Coll d’Ares links the plains of Lleida with the high Pyrenees, and there is evidence of it from Roman times (Bolòs – Hurtado 1993). From east to west there is the route linking the different valleys of the rivers flowing through this area, from the Segre to the Isábena and beyond. This is significant because an iron-producing centre has to be well connected, both to get supplies of raw material—ore and charcoal—and to be able to distribute the iron it makes.

Research into Fabregada formed part of Marta Sancho’s doctoral thesis, in which she was able to prove, on the basis of written texts, that from the 9th century onwards the forges of the Catalan Pyrenees used water power to work, specifically to power the hammer. This question has been discussed by different authors, who consider that this did not happen until the 11th century. Whatever the reality, Fabregada is the first medieval ironworking establishment where

evidence of this has been identified, beginning around the year 1000 (Sancho 1999).

The structures of the clay-lined reduction furnace, with a slag pit outside and a forced entry of air, are complemented by evidence of the water system, which consisted of a small reservoir above the stream that created a small waterfall able to turn a drive wheel which, via a camshaft, powered a small hammer. Near the furnace a considerable amount of remains of iron ore was found, of ideal quality for reduction in a furnace of this kind. The slag heap was found about 200 m away. Excavation of a small part of the settlement of Fabregada yielded a significant number of iron objects, including an oil lamp, knives, and rings.

Exploitation of mineral resources is now clearly visible throughout the region, from salt mining in Gerri and Vilanova and iron ore extraction in other places, like the area above Gerri, to the quarrying of millstones at Vilamolera, the pumice stone quarry at Basturs, or the use of the clays and chalks present in the tertiary outcrops at the bottom of the valley (Keuper clays) (Rosell – Llompart 1988).

Without any doubt, the most important of the sites from this period is that of the castle of Mur (Fig. 5), which dominated nearly all the area of the Montsec d’Ares to the north, and from which troops set out to conquer the Ager valley in the year 1048. The Castell de Mur was a great castle associated with an extensive territory that included a series of smaller castles (like those of Guàrdia, Puigcercós, and Estorm). As the process of feudalisation intensified, smaller castles and fortifications proliferated, like the tower of Ginebrell or the fortified house of Moror.



Fig. 5: View of the castle and collegiate of Mur (© Jordi Clariana).

Excavation at the Castell de Mur made it possible to identify the different phases in its construction, beginning in the late 10th century with the building of the tower and reaching a peak in the 11th and 12th centuries, when the castle as it now stands was built. Its outside appearance dates from the first half of the 11th century, when Arnau Mir de Tost had it built (*Araguas 1983*). In the 12th century, when it was in the hands of the count of Pallars Jussà, there was a remodelling of the buildings inside it that did not affect its external structure. Study of the castle of Mur allowed the water system to be traced, in terms both of supply and storage and of drainage (*Sancho 2009*, 183–190).

During the centuries of feudalisation, the Church continued to expand and in the countryside a new type of establishment appeared: churches associated with canonical or collegiate chapters (*Corredera 2003; Martí 1794*). These institutions had some similarities with monasteries but, unlike monasteries, the members of the community were canons of the diocese and subject to the bishop and to the founding family in each case. However, the process of feudalisation did not stop and most of the canonical or collegiate churches managed to free themselves from the control of the bishop or the founding family by petitioning the papacy for direct backing. An example of this is the Col·legiata de Santa Maria de Mur (Fig. 5), consecrated in 1069 and linked to the diocese of La Seu d’Urgell and the founding family of the counts of Pallars Jussà.

This building, a stone’s throw from the castle of Mur, was altered and used for a variety of purposes during the 20th century, including the cloister being used to keep pack animals during the Spanish Civil War. Many of these alterations have made it very difficult to interpret

properly, as they were not carried out under adequate archaeological supervision. Archaeological excavations have only been conducted inside the church, but these have yielded valuable information.

The church, originally with three naves, was built in the second half of the 11th century. Soon after, the north nave collapsed and was not rebuilt. In its place a series of chapels were built, acting as buttresses to support the vaulting. Originally the floor level was formed by the natural rock, which rose gradually from an entrance from the cloister at the bottom to the apse. There was a side entrance to gain access into the community, separated from the outside, and another entrance for the inhabitants of the settlement. We suspect that there were alterations in the 12th century, possibly in connection with the collapse of the nave on the north side. These alterations probably also affected the cloister (which has not been excavated) and the side door, which was moved to the west. An atrium was added, and, in subsequent centuries, several external chapels were added.

The highlight of the archaeological finds was a distinctive burial in the central nave, just in front of the altar. The rock-cut grave was very deep and contained the remains of a man with marked pathologies, indicating a knight and a fighting man. He was buried with lime, leading us to think that this was some time after his death. The grave had been robbed of objects of value, as indicated by the marks of metal, probably bronze, remaining on the bones of the chest and skull, which was twisted round. We associated this burial with the founder of the church, the count Ramon V of Pallars, the husband of Valença, daughter of Arnau Mir de Tost, who died fighting the Muslims on Aragonese territory (*Araguas 1983*, 61–76).

Finally, mention should be made of the decoration inside the church, with the frieze typical of early Romanesque style, and the spectacular paintings from the chancel, today in the Boston Fine Arts Museum.

4. Late Middle Ages (13th – 15th centuries): Markets, crisis, and wars

During the 12th and 13th centuries, the markets recorded in the villages and towns in the counts' territories were consolidated and, as part of a solid trade network, benefitted from a powerful economic momentum. This process also took place in the mountains, with the appearance of market towns like La Pobla de Segur and Tremp. Feudal castles gradually lost their role as centres of power, which shifted down to the bottom of the valleys into these new economic centres. The castles slipped steadily into decline and were abandoned in the early 14th century. This has been thoroughly documented in the archaeological register at the Castell de Mur, with a phase of abandonment that must be placed in the 14th century, as no materials appear from this period. Other settlements were also abandoned in the first half of the 14th century, whether because of the population crisis or the impossibility of carrying on the economic activities that had sustained them. Fabregada is one of them, and very probably others of the same area were also abandoned at this time, including Cosco, the village of El Serrat de la Capella or Vilamolera.

The Catalan Civil War (1462–1472) and the War of Pallars (1484–1487) between the count of Pallars and the crown of Catalonia-Aragon, led to the occupation of the old castles like that of Mur which, with minor interior alterations, housed a military force sent by the king to confront the count of Pallars (*Bringué 2002; Bringué 2005*). This is shown by the archaeological register of Mur, with the construction of insubstantial walls over the ruins of the previous phase, with layers of occupation involving the production of pottery and other materials that can be clearly dated to the 15th century. A highlight from this period is the weaponry recovered, including a spur, stirrup, sword, and a spear that we name *alabarda* (*Sancho 2009*, 201–222).

The castle was abandoned once more in the 16th century, though parts of it may have been used as an animal enclosure.

5. Conclusions

In short, the Montsec mountain range, one of the foothill ranges of the Catalan Pre-Pyrenees, provides a privileged observatory for the study of the changes that took place during the medieval period and the evolution of productive and settlement models. This is a rural and mountainous area

that has not suffered the ravages of property speculation, and therefore some remains of its past are still extant.

Despite the remaining gaps in our knowledge, the archaeological work carried out over the last 25 years has enabled us to establish links between the evidence gathered from individual finds and the overall historical framework.

On the one hand, it is possible to attest to the new ways of life that appeared as a valid alternative in the wake of the collapse of the Roman model. Els Altimiris and Sant Martí de les Tombetes, active between the 6th and the 9th centuries, exemplify this transformation.

On the other, Vilavella, Fabregada, and Castell de Mur showcase the emergence of a new social, economic, and territorial model: what we are happy to refer to as feudalism. Between the 11th and the 13th centuries, castles such as Mur structured and shaped the territory, while livestock—in places like Vilavella—and the exploitation of natural resources—in sites such as Fabregada—consolidated as the main productive activities. Afterwards, in the Late Middle Ages, castles were abandoned and the population concentrated in flat areas and market villages.

Work in this area will continue. Archaeological fieldwork has begun in Les Esplugues de Segur and El Pui de Sant Miquel. These are the origin, in the Early and High Middle Ages, of the market village of La Pobla de Segur. This archaeological investigation will allow us to trace the evolution of settlement from the 5th–6th centuries to the 13th–14th centuries.

References

Araguas, Ph. 1983:

Les châteaux d'Arnau Mir de Tost. Formation d'un grand domaine féodal en Catalogne au milieu du XI siècle. 106 Congrès National des Sociétés Savantes (Perpignan 1981). Paris, 61-76.

Ariño, E. – Díaz, P. 2003:

Poblamiento y organización del espacio: La Tarraconense pirenaica en el siglo VI, *Antiquité Tardive* 11, 223-237.

Bolòs, J. 1994:

Poblament i societat: Transformacions en el tipus d'hàbitat a Catalunya a l'edat mitjana, in: Azuar, R. – Martí, J. (coords.), *IV Congreso de Arqueología Medieval Española* 2. Alicante, 331-340.

Bolòs, J. 2004:

Els orígens medievals del paisatge català: L'arqueologia del paisatge com a font per a conèixer la història de Catalunya. Barcelona.

Bolòs, J. – Hurtado, V. 1993:

La xarxa viària catalana a l'Alta Edat Mitjana: Una aproximació des de la cartografia, *Anuario de Estudios Medievales* 23, 3-26.

- Bringué, J.M. 2002:*
Dels Pallars als Cardona: Guerra i canvi a la societat del Pallars, segles XV–XVI, in: Rella, F. (dir.), Hug Roger III: senyor en les muntanyes. Procés al darrer comte de Pallars, 1491. Lleida, 181-212.
- Bringué, J.M. 2005:*
Entre la guerra i la pau. Les transformacions polítiques i socials als territoris de l'antic comtat de Pallars, in: Miquel, M. (coord.), Muntanyes en rebel·lia. Hug Roger III i la fi de la Catalunya comtal. Barcelona, 98-131.
- Comas, M. – Gurt, J.M. – López, A. – Padrós, P. – Roca, M. (eds) 1997:*
Contextos ceràmics d'època romana tardana i de l'alta edat mitjana (segles IV-X). Arqueològic Mediterrània 1. Barcelona.
- Corredera, E. 2003:*
Santa Maria de Mur, Cronologia. Tremp.
- Fortacín, J. 1983:*
La donación del diácono Vicente al monasterio de Asán y su posterior testamento como obispo de Huesca en el siglo VI. Precisiones críticas para la fijación del texto, Cuadernos de Historia Jerónimo Zurita 47-48, 7-70.
- Guardia, J. – Grau, M. – Campillo, J. 2000:*
Iulia Lybica (Llívia, Cerdanya): Darreres intervencions i estat de la qüestió, Tribuna d'Arqueologia 1997-1998, 97-124.
- Macías, J.M. – Cau, M.A. 2012:*
Las cerámicas comunes del nordeste peninsular y las Baleares (siglos V–VIII): balance y perspectivas de la investigación, in: Bernal, D. – Ribera, A. (eds), Cerámicas hispaniromanas II: Producciones regionales. Cádiz, 511-542.
- Magallón, A. – Navarro, M. – Rico, Ch. – Sillières, P. – Fincker, M. 2002:*
Excavaciones en la ciudad hispano romana de Labitolosa (La Puebla de Castro, Huesca), Saldvie 2, 373-382.
- Magallón, A. – Rico, Ch. – Fincker, M. – Asensio, J.A. – Catalán, S. 2004:*
Excavaciones en la ciudad hispano romana de Labitolosa (La Puebla de Castro, Huesca), Saldvie 4, 489-506.
- Magallón, A. – Sillières, P. – Asensio, J.A. 2007:*
La ciudad romana de Labitolosa (La Puebla de Castro, Huesca). Zaragoza.
- Martí, J. 1794:*
Recopilación y resumen de los instrumentos y papeles que se hallan recónditos en el archivo de la iglesia colegiata de Mur, ordenados por Joseph Martí, canónigo regular del Real monasterio de Santa María de Bellpuig de las Avellanas, en 1794. Manuscrito núm. 150 conservado en la Biblioteca de Catalunya.
- Martín-Viso, I. 1999:*
Organización episcopal y poder entre la Antigüedad tardía y el Medioevo (siglos V–XI): las sedes de Calahorra, Oca y Osma, Iberia 2, 151-190.
- Mazel, F. (dir.) 2008:*
L'espace du diocèse: Genèse d'un territoire dans l'Occident médiévale (Ve–XIIIè siècle). Rennes.
- Ripoll, G. – Velázquez, I. 1995:*
La Hispania visigoda. Del rey Ataúlfo a Don Rodrigo. Historia de España 6. Historia 16-Temas de Hoy. Madrid.
- Rosell, J. – Llompart, C. 1988:*
Guia geològica del Montsec i de la Vall d'Àger. Barcelona.
- Sabanés, R. 2000:*
Los concilios ilerdenses de la provincia eclesiástica tarraconense en la Edad Media (a. 546–1460), in: Busqueta, J. – Bolòs, J. (eds), Territori i societat a l'Edat Mitjana 3. Lleida, 377-438.
- Salrach, J.M. 1990:*
“Nos traximus de Heremo Primi Homines”: Notes sobre la fase A del creixement medieval, Cota Zero 6, 86-91.
- Sancho, M. 1997:*
“Ipsa Fabricata”: Estudi arqueològic d'un establiment siderúrgic medieval. Barcelona.
- Sancho, M. 1999:*
Homes, fargues, ferro i foc: arqueologia i documentació per a l'estudi de la producció de ferro en època medieval. Barcelona.
- Sancho, M. 2009:*
Mur: la història d'un castell feudal a la llum de la recerca històrico-arqueològica. Tremp.
- Sancho, M. – Alegria, W. 2017:*
Propuesta de contextualización del yacimiento tardoantiguo y altomedieval de Els Altimiris (Prepirineo Leridano), siglos V–IX, Archeologia Medievale XLIV (XLIV), 155-170.
- Vidal, À. – Alegria, W. 2015:*
El jaciment de La Roureda de La Margineda (Andorra La Vella): un model de poblament medieval als Pirineus, in: Vila, J.M. (coord.), Cinquè Congrés d'Arqueologia Medieval i Moderna a Catalunya 2. Barcelona, 759-772.
- Wickham, Chr. 2009:*
Una historia nueva de la Alta Edad Media. Barcelona.

Not so dark centuries: Changes and continuities in the Catalan landscape (6th – 12th centuries)

Jordi Bolòs*

Abstract

This paper aims to show the effect on land settlements and use of the different transitions between the years AD 500 and 1200 in Catalonia. The pattern is similar to those experienced by many other Mediterranean European countries. Recent studies have given new insight into the importance of continuities and novelties brought about by transformations at the end of the Roman Empire, the Islamic or Frankish conquest, or the changes from the year 1000 on. Case studies from the Pyrenees (Cerdanya, Pallars, and Ribagorça) and eastern (Empordà, Vallès, and Penedès) and western Catalonia (Segrià, la Noguera) show how the landscape was transformed in relation to such issues as population, land use, or organisation of the road network. In order to understand these changes, we need to get closely acquainted with the new settlements (*e.g.* medieval *vilars* or hamlets, Islamic *almúnies*), the new cultivated spaces (*combes* or gullies, concentric forms, terraces), irrigation channels, and, after the year 1000, ecclesiastical villages or towns built around castles (*pobles castrals*), new towns (*vilanoves*), or scattered farmsteads. Certainly, the descriptive studies of landscape carried out in the last few years have provided further insight to these realities. Likewise, the current design of atlases of the counties of Carolingian Catalonia have made it possible to add all the information from thousands of documents written before the year 1000, which has allowed us to assess the importance of toponymy and the possibility of knowing the settlement in relation to many counties of Old Catalonia.

Keywords: *Historic landscape, Catalonia, transitions, Early Middle Ages, toponymy.*

Résumé

Des siècles pas si sombres: changements et continuités dans le paysage catalan (6ème-12ème siècles)

Cet article a pour but de montrer l'effet des transitions survenues en Catalogne entre 500 et 1200 sur le peuplement; les résultats durent être similaires à ceux observés dans d'autres pays méditerranéens. Des études récentes donnent un nouvel aperçu de l'importance des continuités et des nouveautés provoquées par les transformations autour de la fin de l'Empire romain, des conquêtes islamique ou franque et des changements

* Departament d'Història. Facultat de Lletres
Universitat de Lleida
Plaça de Víctor Siurana, 1
25003 Lleida (Catalonia)
jbolos@historia.udl.cat

de l'an 1000. Quelques études de cas dans les Pyrénées (Cerdagne, Pallars, et Ribagorça), en Catalogne orientale (Empordà, Vallès, et Penedès) et occidentale (Segrià, la Noguera) montrent comment le paysage s'est transformé, tout comme l'occupation du sol ou l'organisation du réseau routier. Pour comprendre ces changements, nous devons nous familiariser avec les nouveaux habitats (par exemple les *villares* ou hameaux du haut Moyen Âge, les *almúnies* islamiques), les nouveaux espaces cultivés (vallons ou combes, formes concentriques, terrasses), les canaux d'irrigation et, après l'an 1000, les villages ecclésiastiques (*sagreres*) ou les villages castraux (*pobles castrals*), les villes neuves (*vilanoves*) ou les fermes dispersées (*masos*). Les études du paysage réalisées ces dernières années ont permis de mieux comprendre ces réalités. De même, la publication des atlas des comtés de la Catalogne carolingienne a permis de reporter sur ces cartes toutes les informations de milliers de documents écrits avant l'an 1000, ce qui souligne l'importance de la toponymie et la possibilité de reconstituer le peuplement dans le cadre de tous les comtés de la vieille Catalogne.

Mots-clés: *peuplement, paysage, haut Moyen Âge, Catalogne.*

Zusammenfassung

Nicht so dunkle Jahrhunderte: Veränderungen und Kontinuitäten in der katalanischen Landschaft (6.-12. Jh.)
In diesem Beitrag sollen die Auswirkungen auf die Übergangsbesiedelung in Katalonien zwischen 500 und 1200 gezeigt werden, die denen in vielen anderen Mittelmeerländern sehr ähnlich sind. Jüngste Studien haben einen neuen Einblick in die Bedeutung von Kontinuitäten und Neuerungen gegeben, die durch Transformationen am Ende des Römischen Reiches, der islamischen oder fränkischen Eroberung und den Veränderungen um die Jahrtausendwende entstanden sind. Fallstudien aus den Pyrenäen (Cerdanya, Pallars, und Ribagorça), aus dem östlichen (Empordà, Vallès, und Penedès) und westlichen Katalonien (Segrià, la Noguera) zeigen, wie sich die Landschaft, die Landnutzung und die Organisation des Straßennetzes gewandelt hat. Um diese Veränderungen zu verstehen, müssen wir uns mit den neuen Siedlungen (z. B. mittelalterliche vilares oder Weiler, islamische almúnies), den neuen Kulturlandschaften (Täler, konzentrische Formen, Terrassen), den Bewässerungskanälen und, nach dem Jahr 1000, den kirchlichen Ansiedlungen (*sagreres*), Schloss-Dörfern (*pobles castrals*), neuen Städten (*vilanoves*)

und verstreuten Gehöften (*masos*) vertraut machen. Historische Landschaftsstudien der letzten Jahre haben es ermöglicht, diese Realitäten besser zu verstehen. Die Veröffentlichung der Atlanten der karolingischen Landkreise Kataloniens hat es darüber hinaus ermöglicht, alle Informationen aus einer Vielzahl von Dokumenten, die vor dem Jahr 1000 geschrieben wurden, auf diese Karten zu übertragen. Diese Arbeit hat die Bedeutung der Toponymie unterstrichen, und bewiesen, dass die Rekonstruktion der Besiedlung aller Grafschaften des alten Kataloniens möglich ist.

Schlagwörter: *historische Landschaft, Katalonien, Übergänge, Frühmittelalter, Ortsnamen.*

Resum

Uns segles no tan foscos: canvis i continuïtats en el paisatge català (segles VI-XII)

Aquest article vol mostrar els efectes que tingueren sobre el poblament les diferents transicions que s'esdevingueren a Catalunya entre els anys 500 i 1200; els resultats degueren ésser semblants als que hi hagué en altres països mediterranis. Estudis fets recentment han aclarit la importància de les continuïtats i de les novetats que es produïren arran de la fi de l'imperi romà, de les conquestes islàmica o franca o bé dels canvis de l'any 1000. Alguns estudis de cas amb relació als Pirineus (Cerdanya, Pallars, i Ribagorça), a la Catalunya oriental (Empordà, Vallès, i Penedès) i occidental (Segrià, la Noguera) permeten mostrar les transformacions del poblament, de l'ús de la terra o de la xarxa de camins. Per tal d'entendre aquests canvis, hem de conèixer els nous llocs de poblament (per exemple els vilars de l'alta edat mitjana o les almúnies islàmiques), els nous espais conreats (comes o fondalades, formes concèntriques, terrasses o feixes), les sèquies i, ja després de l'any 1000, els pobles eclesials (de *sagrera* o *cellera*) o els edificats entorn d'un castell, les *vilanoves* o bé els *masos* dispersos. Els estudis que s'han dut a terme al llarg dels darrers anys han aportat molta claror sobre aquestes realitats. Així mateix, la realització dels Atlases dels comtats de la Catalunya carolíngia ha permès traslladar sobre mapes tota la informació de milers de documents escrits abans de l'any 1000, fet que ens obliga a valorar la importància de la toponímia i la possibilitat de reconstruir el poblament amb relació a tots els comtats de la Catalunya Vella.

Paraules clau: *paisatge històric, Catalunya, transicions, alta edat mitjana, toponímia.*

1. Introduction: Medieval transitions

Throughout the centuries from the 6th to 12th AD, major changes and remarkable continuities took place. Anything from previous stages that could still be used was re-used and re-adapted to new necessities that were distinct from those of the Roman period. Obviously, many new landscape elements had to be created. In fact, the Early Middle Ages saw the establishment of landscape foundations, especially medieval and modern settlements. In this paper, our focus will be directed at the territory known as Catalonia, situated at the far north-east end of the Iberian Peninsula, in close contact with the Occitan regions of Languedoc and Gascoigne.

In the Catalan regions of Old Catalonia (Fig. 1), conquered by Carolingian kings or counts

between AD 759 and the late 10th century, a large number of documents were written up, many of which have survived. This has enabled the research project *Atlas of the counties of Carolingian Catalonia*, consisting of maps made to scale of 1:100,000, which show all the place names identified in these documents from before the year 1000. There are nine volumes already published, the latest one on the counties of Cerdanya and Berga (*Bolòs – Hurtado 2015*). With regard to other regions, the information available enabled a detailed reconstruction of the territory: nearly all the villages and main locations were displayed and positioned. Nevertheless, our work delved only into Catalonia's northernmost half, and only for the second half of the entire time period. Therefore, we saw the



Fig. 1: Map of Catalonia. The lines indicate boundary divisions of Catalan regions (comarques), and shaded areas show those regions highlighted in several studies around this project. Also, the main locations under analysis in this paper are shown (© Jordi Bolòs).

need to find a system that would enable us to discover, for example, whether, according to the documents, the population density in Old Catalonia between the 8th and 10th centuries existed before then (*i.e.* during the years under Visigoth and Islamic rule) or whether a settlement existed, approximately equivalent to New Catalonia, where Muslim rule persisted well into the 12th century. That would explain why no documents from the 8th to the 10th centuries have been identified. To better understand the following explanation, we will first survey through the main transitional stages of the territory currently known as Catalonia, between the 5th and the 12th centuries AD.

To begin this account, we need to mention the great changes caused by the transition from Roman to medieval times, in the 5th and 6th centuries. We should consider how the rural world was affected by the profound transformations of society and economy in the Early Middle Ages. If no written evidence can be found, can other sources enable us to understand continuities and innovation experienced throughout these centuries? It is worth noting that, while current settlements are mainly of medieval origin, the origins of cultivated land date back to pre-medieval times.

The territory currently identified as Catalonia between the years AD 713 and 720 went through another transition upon the arrival of Muslim, Arabic, and Berber armies. The Islamicisation process was slow and was not completed until after the year 1000 (*Sénac 2006*). Because of this, the main events of this period – *e.g.* those related to water use – should not conceal the continuities existing for many years and in many locations, in relation to the previous stage.

The late 8th century marked a new transition, following the conquests of the Carolingians: in AD 759 the Carolingians went on to occupy Roussillon; towards AD 785, Girona, the region of Cerdanya, and the county of Urgell; and in AD 801 it was the city of Barcelona, besieged and eventually conquered, that became part of the new Carolingian empire (*Sabrich 1987*). This stage is very well-documented. What we may lack is the capability of distinguishing what is new from what is only a legacy from the past. For example, the fact that a road, a settlement, or a castle is firstly documented in the 9th or 10th centuries does not necessarily imply that these features did not exist before.

In the late 10th and early 11th centuries, a new change occurred. This change has been defined as the ‘mutation’ of the year 1000 (*Bonnassie 1975-1976*). Much debate has been generated around the issue of how fast this process was: what we *do* know is that, in the 11th century, there were significant changes in the landscape, like the creation of *sagrera* or ecclesiastical villages (*Catafau 1998*); an increase in the number of low

nobility or stronghouses; the dissemination of scattered settlements in some Catalan regions, especially isolated farmhouses (*Bolòs 2004*); and the appearance of towns with a market (*villes-marché*) everywhere.

Finally, in the 12th century, there was the conquest of New Catalonia by the Counts of Barcelona and Urgell.

The next few pages will bring us closer to the Middle Ages from different perspectives and in different Catalan territories (Fig. 1).

2. Cerdanya: Written evidence

Close study of Cerdanya gives us an insight into the significance of the past, especially evident in place names, network of pathways, and the shape of some cultivated fields (*Bolòs 2014a; Bolòs 2014b*). But mainly, the study reveals the origin, from the beginning of the Middle Ages, of a new network of villages and churches. Cerdanya is a region situated in the Catalan Pyrenees, spread over a plain of over 1000 m high surrounded by mountains.

On completion of the atlas of the county of Cerdanya in Carolingian times (*Bolòs – Hurtado 2015*), we have verified that a significant percentage of inhabited settlements and churches in this county from before AD 1000 are duly recorded in documents. This has facilitated accurate reconstruction of the settlement process of this Pyrenean region from the 8th – 10th centuries. However, further work should be undertaken in doing research about prior times: in Cerdanya, the special characteristics of its toponyms and landscape point to continuous occupation of this territory throughout its different transitional stages. Certainly, many place names of inhabited locations were coined in a language that was no longer spoken towards the 6th century (*Coromines 1965*). Also worth noting is the fact that the network of pathways in the early Middle Ages would follow the directions of the many land divisions (perhaps *centuriations*) from Roman times (*Bolòs 2014a*). It is also noticeable that the settlement stretched out mainly along this older pre-medieval network of pathways.

An analysis of toponyms of inhabited places (Fig. 2) reveals that 59.5% are of pre-Roman origin (either Basque or non-Basque), 11.5% are names coined in Roman times (*e.g.* Montellà, Queixans, or Meranges) and only 29% are of Latin or Romanesque origin (many of them from the Early Middle Ages, like Palau, or even after the year 1000, like Bellver and Puigcerdà). This reflects a strong trend of continuity of population settlements, most probably dating back to around the early medieval centuries. It is also worth noting that 75% of pre-Roman place names are already documented as early as the 9th and 10th centuries (although their actual origin surely dates back to earlier times).

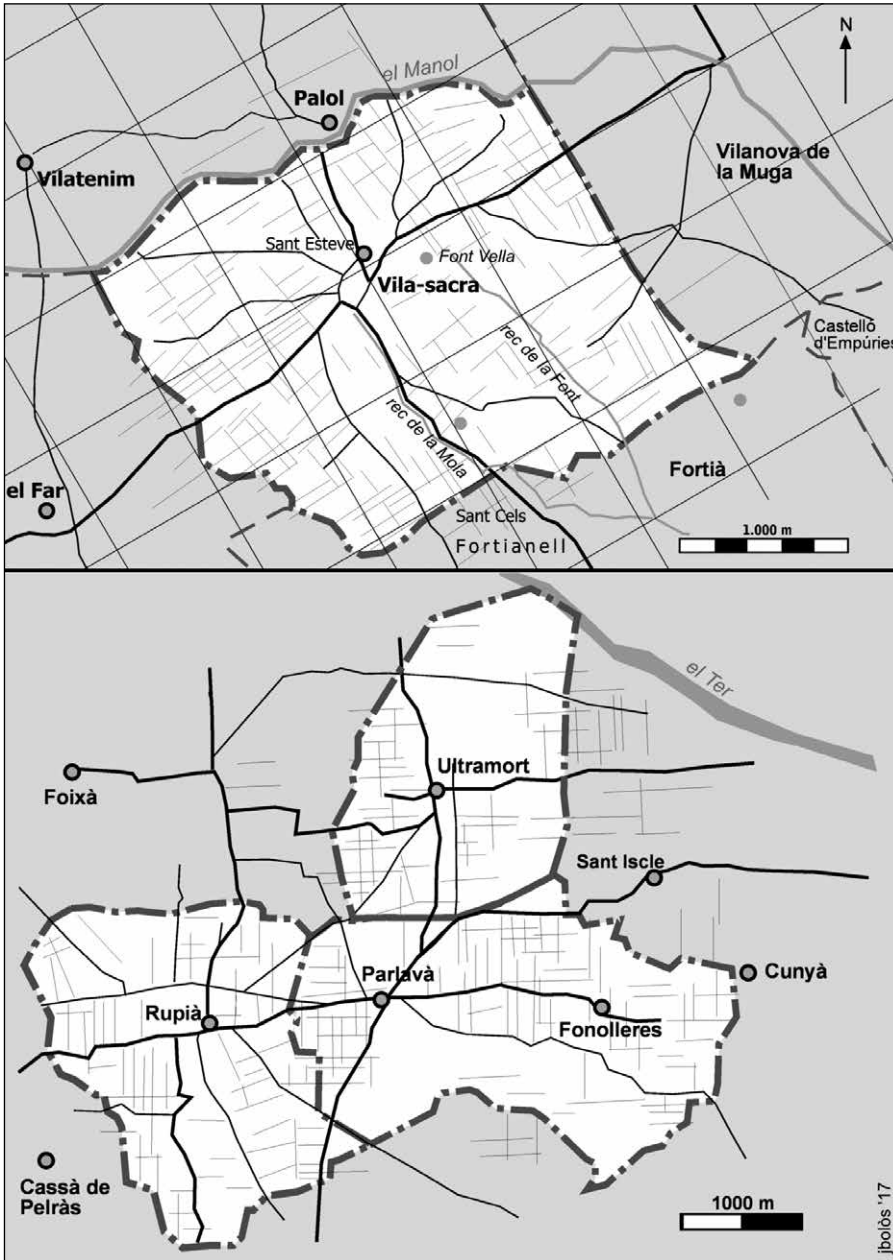


Fig. 3: Above: current municipality of Vila-sacra (Alt Empordà), a location situated at 4.5 km east of Figueres. The boundaries of this stately home and parish, and many of the pathways leading to the population are oriented following the Roman centuriation structure. Below: the current municipalities of Rupia, Parlavà, and Ultramort (Baix Empordà). These locations were yielded by the Count of Empúries in AD 989. The boundaries of these places, the network of pathways, and many field margins follow the same orientation as that of centuriations typical of this region (© Jordi Bolòs).

place names of non-pre-Roman, but old, origin, such as Caldes (from *aquas calidas*, Latin for 'hot waters'), already existed in the early Middle Ages. As seen in the annexed figure (Fig. 2), in the high valleys of Pallars and Ribagorça, 55.1% of the names of the inhabited settlements owe their linguistic origin to pre-Roman names, and yet no written evidence exists before the year 1000. Nevertheless, we can guarantee that the name existed and that, most probably, the settlement was inhabited (*Roig – Roig 2000*).

Certainly, from the 6th century on, a model of space utilisation was consolidated, based mainly on cattle farming, and the all-pervasive presence of agriculture, as proved by analyses of pollen from this Pyrenean region

(*Galop 1998; Ejarque 2013; Rendu 2003*). Last but not least, recent research has demonstrated that, in Visigoth times, metalwork activities of these regions were also noticeable (*Esteban 2003, 149*).

4. Empordà and Roussillon: Boundaries

We have pointed out the importance of written documentation and toponymy studies for the understanding of rural settlements in the Early Middle Ages in Catalonia. Now we will highlight the significance of understanding and interpreting boundaries, in order to evaluate the importance of continuities, and

the innovations introduced throughout the Early Middle Ages. We believe that the maintenance, in a few current boundaries, of orientations that coincide with those from Roman *centuriations* proves that not only did physical realities of territories persist (for example, pathways), but also mental realities were linked to the existence of communities endowed with right of use or submitted to obligations within well-defined boundaries. Examples of the persistence of such boundaries can be found in many regions; however, after studies deriving from *Atlas of the counties of Carolingian Catalonia*, our main focus of attention will be a series of examples from north-east Catalonia.

In Vila-sacra (Alt Empordà) we find that the boundaries of the current municipality (east, west, and south) are oriented according to the prevailing *centuriations* from the region of Alt Empordà; the northern boundary is delimited by the River Manol (Fig. 3). We must consider that the current municipality corresponds to the territory of a Carolingian village and a parish dedicated to Saint Stephen, also from the Early Middle Ages. We ignore what was there in the 6th to 8th centuries AD, but we assume that, in all likelihood, this territory was occupied by a village, perhaps a stately home or a fiscal unit.

One final example is related to Baix Empordà: Count Gausfred of Empúries, in 989, bequeathed, in his will, the villages of Ultramort, Parlavà, and Rupjà to his faithful Guillem (Fig. 3). A current map of the area reveals that the boundaries of these municipalities are oriented according to the prevailing *centuriation* of this region and that, besides – as is the case of Vila-sacra – the main paths leading to these villages follow the same orientation as that created before the Middle Ages (Bolòs 2007, 196). It is worth mentioning that many of the toponyms of this region are names created in Roman times (e.g. Rupjà, Foixà, or Cassà) or the Early Middle Ages (e.g. Parlavà, Palatio Ravano, or Ultramort).

Although some of these examples focus more on continuities than on innovations, we cannot ignore the changes that took place throughout the 6th – 11th centuries. We believe that these clear-cut territories were consolidated precisely throughout the Early Middle Ages, in relation to a settlement and a church. We also know that they received fiscal rights beginning in Carolingian times, on account of the ecclesiastical tithes. In all likelihood, these locations date back to the Early Middle Ages and were not affected by mutations caused by the arrival of the Arabs or Berbers. Nor did they change much after the arrival of Carolingian armies between the years AD 759 and 785. In sum: only from Carolingian times do we have well-documented evidence of the places of Rupjà, Vila-sacra, or Bao, with clear-cut boundaries; we cannot assume from it, however, that they were newly established in the late 8th century. We believe that the roots of all

these clearly defined territories run deep in time, as far back as the first centuries of the Middle Ages (like similar cases in other European countries).

5. Vallès and Penedès: Plot division

The Catalan region of Vallès was wrested by the Carolingians from the hands of Islamic authorities around the year AD 800. By contrast, the region of Penedès did not fall prey to the Counts of Barcelona until the 10th century. It was Penedès, an example of a *march* or frontier land, that brought about the appearance of a thick network of castles.

According to recent studies, closer attention to the cultivated landscape formed by the regions from the Carolingian county in Barcelona reveals, firstly, the deep imprint of Roman land divisions (perhaps *centuriations*), and secondly, the existence of so-called *comes* (gullies or combs) or fertile hollows, probably heavily occupied in the Early Middle Ages. Thirdly, we find locations that bear witness to concentric forms reflecting an occupied and broken territory. Fourthly, there is a remarkable representation of the existence of *feixes* or terraced land, slowly built by the Middle Ages on gradients for cultivation purposes; these were commonly found around early medieval hamlets or high medieval *masos* (farmsteads). Finally, we find evidence of irrigated land; nevertheless, the regions that show more evidence of the importance of this type of land use are Lleida and Tortosa, highlighted in the next section. These forms of cultivated space organisation can either reflect continuations or innovations (for example in the case of concentric spaces).

The site of Santa Maria de Palautordera was inhabited throughout the Late Middle Ages. By AD 862 the name of the site of Pallatium was already recorded, also considered as a villa, and also known as Bitamenia, with a church dedicated to Saint Mary (Abadal 1926-1952, 357). One can assume that this valley had several hamlets around a central place (with a 'palace' and a church) during Visigoth times (until 714), the Islamic years (until around 785-800), and also during the Carolingian period. In all likelihood, this church existed before the year 800, hence, in 714. A close-up of cultivated land division of this valley (Fig. 4) clearly reveals that the orientation of pathways and plots of land had a great influence on the pre-medieval parcellation that coincides with Tarraco I or Vallès A (Palet – Orengo 2010). It is, perhaps, not by accident that many pathways and boundaries of fields follow this orientation exactly. Continuity throughout the Late Middle Ages is reflected in the name Pallatium (the toponym was coined a few centuries before the year 800, and could possibly be related to a tax-raising location situated next to the fiscal lands of Montseny and the road that linked Girona and Barcelona).

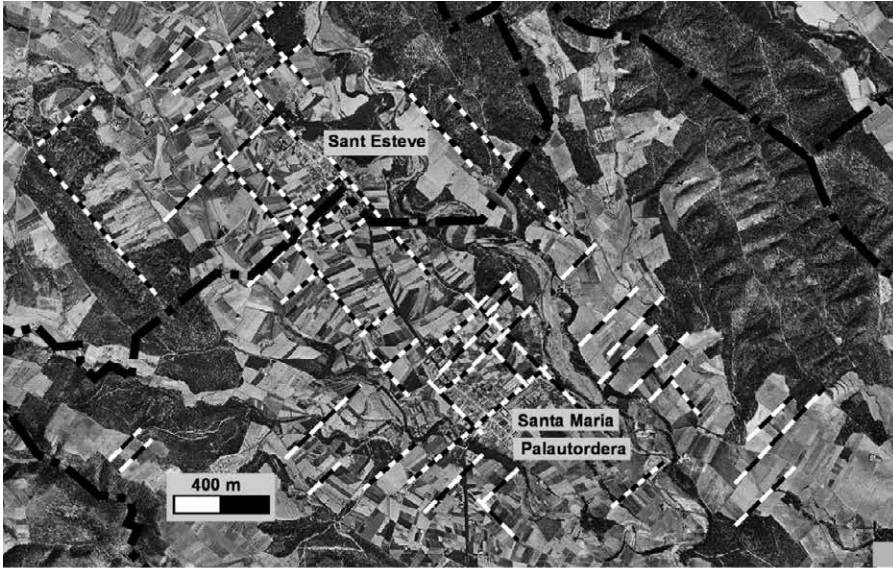


Fig. 4: Above: locations of Santa Maria and Sant Esteve de Palautordera (Vallès Oriental). Many pathways, boundaries of cultivated lands, and municipal boundaries show the same orientation as that of Roman parcellations typical of this territory to the south of Montseny. Below: territory of Castell del Vallès (Vallès Occidental). The pathways and most boundaries of these lands are situated on a plain, to the east of the Castle and church of Castellar, and follow the same orientation as that of Roman parcellations (or centuriations). (Cartographical source: © ICGC, year 1956).

There is written evidence from AD 912 of the castle of Castell del Vallès (*kastro Kastellare*, Baiges – Puig *in press*, doc. 116) and shortly after, from 930, of the boundaries of this place (*apendicio de Castellare*, Baiges – Puig *in press*, doc. 172). The same documentation shows the reasons for the significance of this location, mentioning not only a fortification, possibly from before Carolingian times, but also a series of disseminated settlements scattered within its boundaries, cultivated lands (working, for example *parilio I de boves*), vineyards (*tonnas II*, *cubos II*), a mill (*mulino uno molente*), and also a mine for iron extraction (*ipsa mena de ferro*) (Baiges – Puig *in press*, doc. 261, and 945). In this location (Fig. 4), close attention to the plot

division at the bottom of the valley, existing until 50 years ago, reveals in the previous example a space cultivated and divided according to the Roman *centuriation* typical of this region: Vallès C (Aguilar – Olesti – Plana 1991, 123). This also demonstrates a strong continuity of land use within the boundaries of Castell del Vallès. There is a likely reorganisation of the habitat in the transition from Roman to medieval times, as shown by the abandonment of roman villae and the construction of several hamlets (Roig 2009). Possibly many of these hamlets endured the test of time and survived for many centuries, although some of them were probably abandoned or moved, as was the case in other Catalan regions (Kotarba 2007). Be that

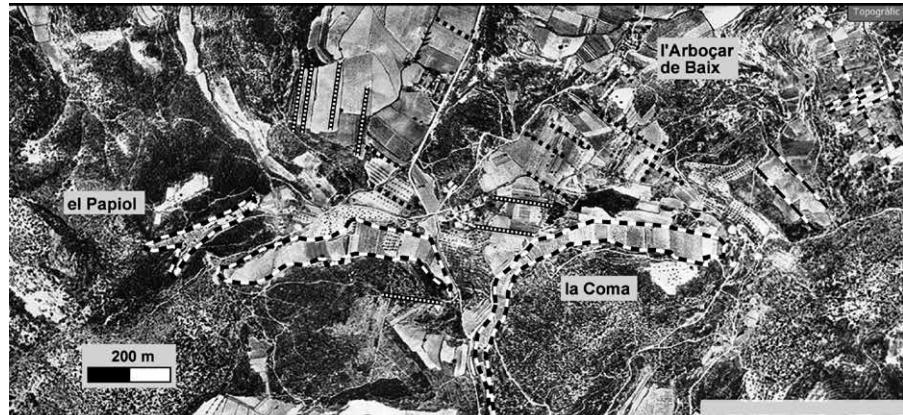
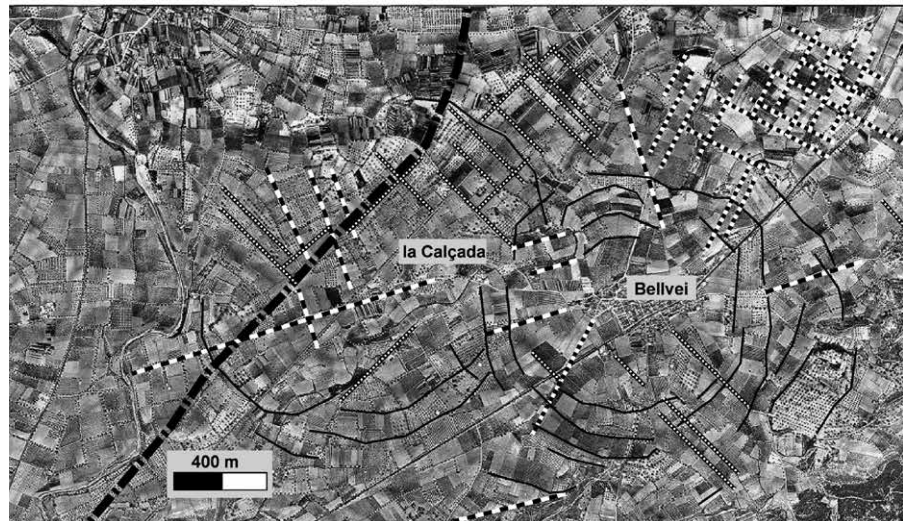


Fig. 5: Above: map of several combes to the east of Papiol (municipality of Olèrdola, Alt Penedès) and south of L'Arboçar (Avinyonet de Penedès, Alt Penedès). Below: orthophotomap of the municipality of Bellvei (Baix Penedès). It reveals the existence of concentric lines, fossilised as boundaries of cultivated land or pathways, created during the process of conquest from the 10th-century on. These rounded forms have not diluted totally the straight lines created in roman times (Cartographic source: © ICGC, year 1956).



as it may, the organisation and persistence of cultivated land occurred thanks to the continuity of some of its population. It should also be noted that the persistence of a network of pathways may have played an essential role in maintaining these neatly ordered pieces of land.

Several studies carried out within the last few years support the importance of localising cultivated *combes* (Catalan, *comes*) as the key to understanding the human landscape of the Early Middle Ages and the settlement distribution, especially in New Catalonia (Bolòs 2015). *Combes* are hollow spaces in mountain hills, whose deepest parts are most humid and fertile; sometimes, they could even be watered. They had probably been cultivated since the first medieval centuries. In the region of Penedès there are some examples of special interest. To the east of the place of Papiol (in the municipality of Olèrdola, Alt Penedès), there are two *combes* (one of which is still called that) (Fig. 5). Papiol was a hill, but also an inhabited place recorded as far back as AD 984 (Baiges – Puig *in press*, doc. 842). Around Olèrdola, later in the Early Middle Ages to become the capital of the region of Penedès, the remains

of many other *combes* or cultivated gullies with a similar morphology are fossilised into the current landscape.

The place of Banyeres (Baix Penedès) can be taken as a model to understand the new settlement of space in medieval times and the creation of concentric forms of settlement (Palet 2003). Around this place, conquered in the 10th century (recorded around AD 936-937, Baiges – Puig *in press*, doc. 207), we see several field boundaries and mainly pathways represented as rounded lines, spinning around a central point, which represents the location. Certainly, this gives evidence of a settlement process and reclamation from the territory, characterised by space reorganisation. This phenomenon must have occurred in the 10th century.

It is far from being a unique case. In a neighbouring location, Bellvei, we also find concentric lines similar to those seen in Banyeres (Fig. 5). At Bellvei, as in the previous case, some pre-medieval parcellations had a strong bearing on how the orientation of pathways and cultivated lands was organised. In all these cases, we can infer that the existence of these circular or concentric forms reflected

the state of abandonment, either short- or long-lived, and its ensuing occupation during the process of conquest by the Counts of Barcelona before the year 1000. One can also assume that, due to the special characteristics of this region of Baix Penedès, perhaps before the 10th century, pastureland and partially inundated land were the prevailing landscape features (Riera 2003); by contrast, after the counts' conquest, cereal cultivation became the overriding form of cultivation, with relation to new inhabited places.

6. The Lleida region: *Combes* and irrigated land

The climate of the Lleida region is drier in general than that of Old Catalonia (Fig. 1). Until AD 1149 this region continued to be under Islamic rule. It is difficult to verify which of these two realities weighed more heavily on the defining of its landscape. Despite the differences between Old and New Catalonia, according to studies we can now prove, firstly, the significance of the pre-medieval past in New Catalonia. Secondly, we can highlight the influence of settlements organised in relation to *combes*, similar to what happened in the region of Penedès. Thirdly, the importance of the creation of water-based spaces is worth mentioning. We are not aware of the exact reality prior to the arrival of the Arabs. We do know, however, that, as a result of the Islamic transition, the amount of irrigated areas increased progressively (and that this process continued well into the counts' conquest) (Bolòs – Bonales 2013; Bolòs – Sánchez-Boira in press).

In Ivars de Noguera we notice a long *combe* to the north of this village, the lower half of which could be watered. By contrast, lateral *combes* were smaller, actually accessory side strings of a bigger one and were not watered; it is even plausible that not all of them were cultivated at the same time. Secondly, in this location there were dry fields oriented mostly following pre-medieval parcellation patterns (e.g. Ilerda B2, Bolòs 2010a; Bolòs 2010b); we cannot specify the exact moment when these lands started to be cultivated. Thirdly, there was irrigated land on the left margin of the River Noguera Ribagorçana. In all probability, this irrigated land was first settled by Islamic people and was extended after the counts' conquest, as was the case in other locations, according to written evidence. Finally, we should note a series of terraces, probably created at a time when there was need of cultivated space (for example, in the 13th or 14th centuries, or the 18th and 19th centuries). In Ivars de Noguera, between the 6th and 12th centuries, there were changes but also remarkable continuities that benefitted from existing features.

To conclude, we will point out the evolution of settlements in the territory along Séquia de Segrià (to the north of Lleida). The area reveals transformations, as

a result of different transitions, similar to those possibly found throughout the Early Middle Ages in many other regions of Catalonia. We can also see the continuity of use of a small territory, but also the change of location of the inhabited portion. In the municipality of Rosselló (Segrià), there was in Roman times a settlement on the current location of La Tossa (Fig. 1). In Visigoth times, a remarkable necropolis was built made of tombs excavated in the rock, about 250 m to the south of its Roman settlement (Tossa de Baix). In Islamic times, around 900 m to the north-west of this Visigoth settlement an *almunia* (hamlet) was built up, in Alcanís. Finally, after the counts' conquest, this settlement of Alcanís was maintained for a few years, and a new one was created around 1200 m to the south-west, in Rosselló, next to a new irrigation channel. This land was always cultivated, maybe as dry land and later as irrigated land, although the inhabited settlements changed location by a few hundred metres. As mentioned above, similar occurrences of this phenomenon could possibly be found across Catalonia.

7. Settlements after the year AD 1000

Before the year AD 1000, open settlements seem to have been an overriding feature, together with walled villages. In general, the typical settlements were half scattered; *vilars* or hamlets abounded (those known as *almúnies*, *alqueries* or *burgs* under Islamic rule). After the year 1000, there were important changes in settlement patterns. Briefly, four of them comprised: firstly, the appearance of ecclesiastical villages or *sagrera* (Catafau 1998); secondly, the consolidation of villages built next to a castle (*castrum*), often on a hilltop (Bolòs 2004); thirdly, the creation of new villages (such as Bellver and Puigcerdà) and, finally, the dissemination of scattered settlement, mainly on lands of the so-called Old Catalonia (To 1997; Bolòs 1995).

8. Discussion and conclusion

The main conclusion reached from this study refers to the settlements of the Early Middle Ages from almost everywhere in Catalonia. Until now, historiography has focused on population loss of inhabited areas and repopulation processes. The high density of population and, mainly, the regular distribution of population, is a widely known fact about Old Catalonia in Carolingian times; we now know of its existence across Catalonia, even in relation to the Visigoth and Islamic periods. This was probably a half-scattered settlement, located in small hamlets (or *vilars*), villages (or *villae*), *almúnies*, or towers (*turres*). This settlement slowly consolidated when churches were created; before then, this was not a stabilised feature, as seen in the region of Segrià (prior to the 12th century) or the region of Visigoth Roussillon; however, progressively,

the different cultivated lands started taking shape, for example, along the *combe*. The 'dark' stages, from the 6th to the 8th century (or prior to the 12th century in New Catalonia) saw the establishment of the bases of settlements, territorial organisation, and a network of pathways that have, often, lasted into the present day.

9. References

- Abadal, R. 1926-1952:*
Catalunya Carolíngia, II: Els diplomes carolíngs a Catalunya. Barcelona.
- Aguilar, À. – Olesti, O. – Plana, R. 1991:*
Cadastres romans a Catalunya: Empordà i Gironès, Cerdanya i Vallès Occidental. Tribuna d'Arqueologia 1989-1990. Barcelona, 111-124.
- Baiges, I. – Puig, P. in press:*
Catalunya Carolíngia, VII: El comtat de Barcelona. Barcelona.
- Bolòs, J. 1995:*
El mas, el pagès i el senyor: Paisatge i societat en una parròquia de la Garrotxa a l'edat mitjana. Barcelona.
- Bolòs, J. 2004:*
Els orígens medievals del paisatge català: L'arqueologia del paisatge com a font per a conèixer la història de Catalunya. Barcelona.
- Bolòs, J. 2007:*
Conèixer el paisatge històric medieval per poder planificar i gestionar el territori, in: Bolòs, J. (ed.), *Estudiar i gestionar el paisatge històric medieval. Territori i Societat a l'edat mitjana IV*. Lleida, 145-226.
- Bolòs, J. 2010a:*
Un paisatge complex d'un país molt vell: Els estudis d'història del paisatge per comprendre i valorar el territori, in: Bolòs, J. (ed.), *La caracterització del paisatge històric. Territori i Societat: el paisatge històric V*. Lleida, 83-147.
- Bolòs, J. 2010b:*
PaHisCat: a project to discover the landscape of the past and manage the countries of the future, in: Bolòs, J. (ed.), *La caracterització del paisatge històric. Territori i Societat: el paisatge històric V*. Lleida, 371-407.
- Bolòs, J. 2014a:*
Paisatge històric, cartografia i societat a l'alta edat mitjana: l'exemple de la Cerdanya, in: Bolòs, J. (ed.), *Poblament i societat als Pirineus els darrers dos mil anys. Territori i Societat: el paisatge històric VI*. Lleida, 37-146.
- Bolòs, J. 2014b:*
The landscape of a Pyrenean comarca in the Early Middle Ages: Settlements, roads, toponyms and churches in Cerdanya (Catalonia), in: Bolòs, J. (ed.), *Poblament i societat als Pirineus els darrers dos mil anys. Territori i Societat: el paisatge històric VI*. Lleida, 265-289.
- Bolòs, J. 2015:*
Paisatges i transicions: canvis i continuïtats al llarg de la història, in: Bolòs, J. (ed.), *El paisatge en èpoques de transició al llarg dels darrers dos mil anys. Territori i Societat: el paisatge històric VII*. Lleida, 59-126.
- Bolòs, J. – Bonales, J. 2013:*
Atlas històric de Menàrguens: El paisatge històric d'un municipi de la comarca de la Noguera al llarg de dos mil anys. Lleida.
- Bolòs, J. – Hurtado, V. 2012:*
Atlas dels comtats de Pallars i Ribagorça (v806-v998). Barcelona.
- Bolòs, J. – Hurtado, V. 2015:*
Atlas dels comtats de Cerdanya i Berga (v788-v990). Barcelona.
- Bolòs, J. – Sánchez-Boira, I. in press:*
Séquies i comes a la riba esquerra del Cinca. La cartografia com a eina per a l'aprenentatge i el coneixement, in: Vicedo, E. (ed.), *Regs històrics: pagesia, història i patrimoni. IX Congrés sobre sistemes agraris, organització social i poder local*. Lleida.
- Bonnassie, P. 1975-1976:*
La Catalogne du milieu du Xe à la fin du XIe siècle: Croissance et mutation d'une Société. Toulouse.
- Catafau, A. 1998:*
Les celleres et la naissance du village en Roussillon (Xe-XVe siècles). Perpignan.
- Coromines, J. 1965:*
Estudis de toponímia catalana, vol. I. Barcelona.
- Coromines, J. 1994-1997:*
Onomasticon Cataloniae: Els noms de lloc i els noms de persona de totes les terres de llengua catalana, vols. II-VIII. Barcelona.
- Ejarque, A. 2013:*
La alta montaña pirenaica: génesis y configuración holocena de un paisaje cultural: Estudio paleoambiental en el valle del Madriu-Perafita-Claror (Andorra). Oxford.
- Esteban, A. (ed.) 2003:*
Los paisajes de Parques Nacionales: La humanización de las altas cuencas de la Garona y las Nogueras (4500 aC – 1955 dC). Madrid.
- Galop, D. 1998:*
La forêt, l'homme et le troupeau dans les Pyrénées: 6000 ans d'histoire de l'environnement entre Garonne et Méditerranée. Toulouse.
- Kotarba, J. 2007:*
Les sites d'époque wisigothique de la ligne LGV,

- apports et limites pour les études d'occupation du sol de la plaine du Roussillon, in: Catafau, A. (ed.), *Activités, échanges et peuplement entre Antiquité et Moyen Âge en Pyrénées-Orientales et Aude, Domitia 8-9*, 43-70.
- Palet, J.M. 2003:*
L'organització del paisatge agrari al Penedès i les centuriacions del territori de Tàrraco: estudi arqueomorfològic, in: Guitart, J. – Palet, J.M. – Prevosti, M. (eds), *Territoris antics a la Mediterrània i a la Cossetània oriental*. Barcelona, 211-229.
- Palet, J.M. – Orengo, H.A. 2010:*
Les centuriacions de l'*Ager Tarraconensis*: organització i concepcions de l'espai, in: Prevosti, M. – Guitart, J. (eds), *Ager Tarraconensis 1: Aspectes històrics i marc natural*. Tarragona, 121-154.
- Rendu, C. 2003:*
La montagne d'Enveig: une estive pyrénéenne dans la longue durée. Perpignan.
- Riera, S. 2003:*
Evolució vegetal al sector de Vilanova-Cubelles (Garraf) en els darrers 3000 anys: processos naturals i transformacions antròpiques d'una plana litoral mediterrània, in: Guitart, J. – Palet, J.M. – Prevosti, M. (eds), *Territoris antics a la Mediterrània i a la Cossetània oriental*. Barcelona, 303-312.
- Roig, J. 2009:*
Asentamientos rurales y poblados tardoantiguos y altomedievales en Catalunya (siglos VI al X), in: Quirós, J.A. (ed.), *The Archaeology of Early Medieval Villages in Europe*. Bilbao, 207-251.
- Roig, A. – Roig, J. 2000:*
Formes de poblament agrupat d'alta muntanya: la vall de *Siarb* (Soriguera, Pallars Sobirà), in: Berthe, M. – Cursente, B. (eds), *Villages pyrénéens: Morphogenèse d'un habitat de montagne*. Toulouse, 209-220.
- Salrach, J.M. 1987:*
El procés de feudalització (segles III-XII). Edicions 62. Barcelona.
- Sénac, Ph. 2006:*
Stratigraphie du peuplement musulman au nord de l'Ebre (VIIIe-XIe siècles), in: Sénac, Ph. (ed.), *De la Tarraconaise à la Marche Supérieure d'al-Andalus (IVe-XIe siècle): les habitats ruraux*. Toulouse, 61-73.
- To, L. 1997:*
Le mas catalan du XIIe s.: genèse et évolution d'une structure d'encadrement et d'asservissement de la paysannerie, *Cahiers de civilisation médiévale* 142, 151-177.

Endogenous and exogenous characteristics of settlement development of an early medieval settlement at Sursee (Canton of Lucerne, Switzerland)

*Christian Auf der Maur**

Abstract

The article deals with the transition from the Roman to the early medieval period in the settlement area around Sursee. The aim is to ask questions about the endogenous and exogenous causes of development processes within the settlement structure in post-Roman society and to find possible answers. After the 5th century AD, which is barely visible in the archaeological data, the expansion from Roman to early medieval settlement takes place along the river at Sursee. In the 6th century, an increasing number of habitation structures show an organised society. The founders of a wooden church around AD 600 seem to be associated with an upper class, as they are buried inside the church, which is built at an important crossroads. The church is then rebuilt in stone, and attracts an increasing number of burials by the growing Christian community. Simultaneously, large post structures indicating site continuity by their superposition of earlier structures show features of an upper-class society. The infrastructure (*i.e.* melioration of building ground, road) of the village therefore attests to a highly structured society. In the late 7th century, a few examples of an Alemannic (?) nobility can be observed with isolated inhumations and – in an old-fashioned manner – with grave goods. While the early medieval settlement is completely deserted on the left bank of the river, a concentration of the settled area emerges around the church during the next centuries. It is not until the high medieval period that a possible exogenous impact on the settlement can be identified by the rise of water levels.

* ProSpect GmbH
Mühlemattstr. 4
5000 Aarau
Switzerland
aufdermaur@pro-spect.ch

Keywords: *Transition, Late Antiquity, early medieval period, settlement, church, society, rural elite, continuity, change, Swiss Plateau.*

Résumé

Caractéristiques endogènes et exogènes du développement d'un habitat du haut Moyen Âge à Sursee (Canton de Lucerne, Suisse)

L'article traite de la transition entre l'époque romaine et le haut Moyen Âge du peuplement à Sursee et ses alentours. L'objectif est de poser des questions sur les causes endo- et exogènes des processus de développement au sein de la structure de peuplement de la société post-romaine et d'y trouver des réponses. L'extension de l'habitat de l'époque romaine à Sursee est délocalisée le long de la rive après la période du 5^e siècle ap. J.-C.: le nombre de structures d'habitation augmentent lors du 6^e siècle et montre une société bien organisée. Les fondateurs d'une église en bois aux alentours de 600 ap. J.-C. devaient disposer d'une position sociale majeur d'après la présence de leurs inhumations à l'intérieure de l'église, qui fut construite à proximité d'un important carrefour. Une nouvelle construction d'une église maçonnée suit le bâtiment en bois ; elle attire un nombre croissant d'inhumations chrétiennes. D'autres indices de la présence d'une couche sociale élevée transparaissent dans les structures villageois rurales par les larges bâtiments à poteaux conservant leur emplacement. Les infrastructures du village (p. ex. amélioration du terrain, construction routière) attestent une société fortement structurée. Une inhumation isolée attestant à travers ses objets funéraires de rites archaïques, témoigne, encore à la fin du 7^e siècle, de l'existence d'une élite alémanique (?).

Alors que l'habitat du haut Moyen Âge est abandonné le long de la rive gauche, l'habitat des siècles suivants se concentre autour de l'église. Ce n'est qu'au Moyen-Âge central qu'une influence probablement exogène à l'habitat est attestée par une montée du niveau d'eau du lac voisin.

Mots clés: *Transition, Antiquité tardive, haut Moyen Âge, peuplement, église, société, élite rurale, continuité, changement, Plateau suisse.*

1. Introduction

The shift from the Roman to the medieval period marks a historic change with large effects, even if the terms 'Roman period' and 'medieval period' are modern designations and differentiate between cultural developments of a certain duration in time. The transitional period between has been discussed contrariwise in historic and archaeological research, due to its inherent change in cultural elements and the complexity of capturing its origins (Brather 2008, 1-4). The longue durée of this transition has to be taken

Zusammenfassung

Endogene und exogene Merkmale der Siedlungsgenese am Beispiel des frühmittelalterlichen Siedlungsraums bei Sursee (Kanton Luzern, Schweiz)

Der Artikel befasst sich mit dem Übergang der spätrömischen zur frühmittelalterlichen Zeit im Siedlungsraum rund um Sursee. Ziel ist es, Ursachen zu den endo- und exogenen Entwicklungsabläufen innerhalb des Siedlungsgefüges in der nachrömischen Gesellschaft zu untersuchen. Die Siedlungsausdehnung des römischen Sursee verlagerte sich nach der archäologisch kaum fassbaren Zeit des 5. Jahrhunderts entlang des Fließgewässers. Zunehmende Siedlungsbefunde des 6. Jahrhunderts fügen sich zu einem Bild einer organisierten Bewohnerschaft. Die Stifter einer Holzkirche um 600 n. Chr. scheinen ihrerseits eine wichtige, gesellschaftliche Stellung inne gehabt zu haben, ließen sie sich doch im Innern des an verkehrstechnisch prominenter Stelle gegründeten Baus bestatten. Ihm folgte schon bald eine neue Stiftung eines steinernen Kirchenbaus, bei dem sich die wachsende christliche Gemeinschaft vermehrt beisetzen ließ. Im dörflichen Siedlungsgefüge zeichnen sich anhand großer Pfostenbauten und ihrer Platzkontinuität weitere Merkmale einer Oberschicht ab. Die dörfliche Infrastruktur (u.a. Geländemelioration, Straßenbau) spiegelt dabei einen hohen Grad einer strukturierten Gesellschaft wider. Noch im späten 7. Jh. gaben sich vereinzelt Vertreter einer alemannischen(?) Oberschicht nach ihrem Tod mit isolierter Grablege und in altertümlichen Weise mit Grabbeigaben zu erkennen. Während die linksseitige frühmittelalterliche Besiedlung vollständig aufgegeben wurde, konzentrierte sich in den nachfolgenden Jahrhunderten das Siedlungsgefüge im Bereich der Kirche. Erst für das Hochmittelalter lässt sich mit dem Seespiegelanstieg möglicherweise ein exogener Einfluss auf die Besiedlung feststellen.

Schlagwörter: *Übergang Spätantike-Frühmittelalter, Besiedlung, Kirche, Gesellschaft, ländliche Oberschicht, Kontinuität, Umbruch, Schweizer Mittelland.*

into consideration in order to understand the effects of transition (Buttinger 2006, 8f.).

The phenomenon of a significant decrease of archaeological remains for the 5th century is widespread throughout the Swiss Plateau. Most of the reference sites comprise late Roman *castra* and cathedral cities. In contrast, the rural areas barely reveal traces of occupation. This situation is caused by the current state of research (i.e. the stoppage of mintage or unknown data on the exact duration of the circulation of late Roman coins). New research studies, however, aim to discover the

missing links (Marti 2000; SPM 2005; Steiner 2011; Windler 2012; Auf der Maur 2016). For the 6th century, the amount of archaeological remains increases. One of the reasons lies in the migration movements and their impact on the local population and vice versa within the late Roman province of Maxima Sequanorum, resulting in new settlement dynamics and changes in funeral traditions (SPM 2005, 317-329).

By analysing archaeological remains, this paper intends to plot the settlement transformation from the late Roman period (4th/5th century) to the pre-Carolingian period (7th/8th century) in the area around Sursee, at the northern end of Lake Sempach (Fig. 1). It will focus on the interpretation of possible indications of a transmuting society from the end of the Roman period in the early 5th century. The archaeological data is based primarily on the early medieval site of Sursee-Mülihof, excavated between 2004 and 2006. Other excavated sites are Sursee-Centralstrasse (2012), Sursee-Stadtkirche St. Georg (1985-1986), Sempach-Kirche St. Martin (1952-1959) and Sursee-Zellmoos (1941). Most of the sites mentioned were discovered in the 19th and early 20th centuries and were not properly documented. The following are all burial sites: Mauensee-Opplisacker (1852), Kottwil-Strittrain (19th century), Eich-Oeli (19th century) and Kottwil-Seewagen (1932). In the case of Kottwil-Strittrain, some information on the burials from 1864 was published in 1879 (Auf der Maur 2016, 24-40).

The main objective of this article is based on the project 'Archaeology of the early to late medieval period around the Lake of Sempach'. It was financed by the Swiss National Science Foundation and the Canton of Lucerne, and was handed in at the Institute of medieval art history and archaeology of the early, high and late medieval periods at the University of Zurich. The project was supervised by Prof. Carola Jäggi and Titular Prof. Adriano Boschetti-Maradi. It started in 2011 and ended with the report's publication in early 2016 (Auf der Maur 2016; Auf der Maur – Rösch 2016a).

2. Topography of the Region of Sursee

The region in question is geographically part of the Swiss Plateau and comprises part of the Alpine foothills. It is connected to the main Roman west-east route from Aventicum (Avenches VD) to Vindonissa (Windisch AG) by the north-south communication routes from Basel and Vindonissa. The roads meet at Sursee and lead to Lucerne and Central Switzerland (Fetz et al. 2003, 34f.). Lake Sempach is embedded between two hills orientated northwest-southeast. They were formed by the Last Glacial Maximum of the Upper Pleistocene as lateral moraines. The delta of the River Sure is located in the northwest corner of the lake, which itself is the result of a melted dead ice basin. The river meanders around the front moraine and breaks

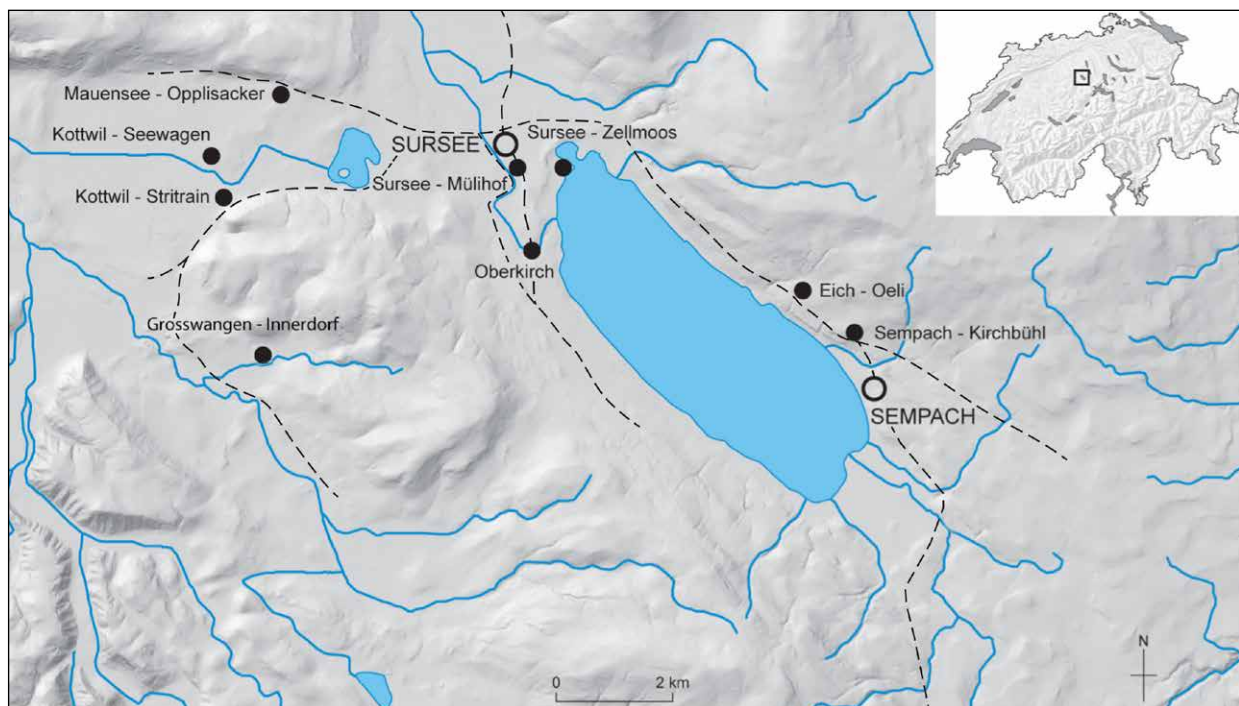


Fig. 1: The region around Lake Sempach with the sites mentioned in the article and probable as well as evidence-based communication routes (© Kantonsarchäologie Luzern).

through a narrow gap. This situation is an important issue for the settlement in Roman and medieval times.

3. Indication of early settlements prior to Late Antiquity

Remains of microliths suggest that the region around Sursee has been populated since the Mesolithic period. Lakeside settlements attest to dwellings in the Neolithic and Bronze Age in Sursee, Eich, and Sempach. The site of Sursee-Mülihof has revealed earliest countryside settlement traces dating back to the late Bronze Age/Early Iron Age. Several cremation graves found north of Sursee-Mülihof date to the Late Iron Age, suggesting a contemporaneous settlement that must have been already related to communication routes. This is probably the reason why the Romans founded a small town, a so-called vicus, in the 1st century AD (Fetz *et al.* 2003). A further important issue was its function as a bridgehead. Both transport axes, the one from Basel/Augusta Raurica (Augst BL)–crossing the River Sure – and the one from Vindonissa meet at this point and continue along the northern shore of the lake towards Lucerne and Central Switzerland (Fig. 1). Archaeological remains of the vicus were excavated from 1999 until 2002, but a complete analysis is still lacking (Fetz *et al.* 2003, 9).

The excavated area of about 9,400 m² is located on the left bank of the river and comprises a road running from west to east with buildings on its south side. The buildings of the imperial period belong to the *Streifenhäuser* type and are aligned north-south, with one gable bordering on the road side. The urban layout follows the road. The settlement most probably extended to the other side of the bridgehead, as findings of tegulae and pottery indicate.

4. Changes of the settlement areas between Late Antiquity and the Early Middle Ages

The Roman settlement existed at least until the late 4th century AD, as finds of Theodosian coins and tombs indicate (Auf der Maur – Rösch 2016a, 15-23; Auf der Maur 2016, 20-22). Presumably, the settlement continued to decline in the 5th century (Auf der Maur – Rösch 2016b, 5-8). At the current state of research, only a few structures can be associated with this period, namely, stone foundations dug out for stone exploitation in the late 4th or early 5th century, as a Theodosian coin at the bottom of the refilled ditch attests. Unfortunately, the structures of the settlement of this period are still lacking accurate analysis. Therefore, the problem of continuity is still unsolved, because the Roman (or pre-Roman) name of the vicus has not survived. The name 'Sursee' is a toponymical creation of the stem 'sur' of the River Sure,

originating probably from Celt. *sura* (sour), and the Old High German word *sê* for lake (Auf der Maur 2016, 15f.).

Evident traces of a new settlement, south of the western bridgehead, do not appear until the early 6th century (Fig. 2). A pit with a flat floor was observed near the western bank of the river. It was filled with some pottery (pots, bowls), which share technical aspects of late antique pottery and are typologically similar to the spectrum found in the western and the north-western parts of Switzerland, around Basel and its hinterland (Auf der Maur 2016, 147f.), indicating a strong connection to this region at that time.

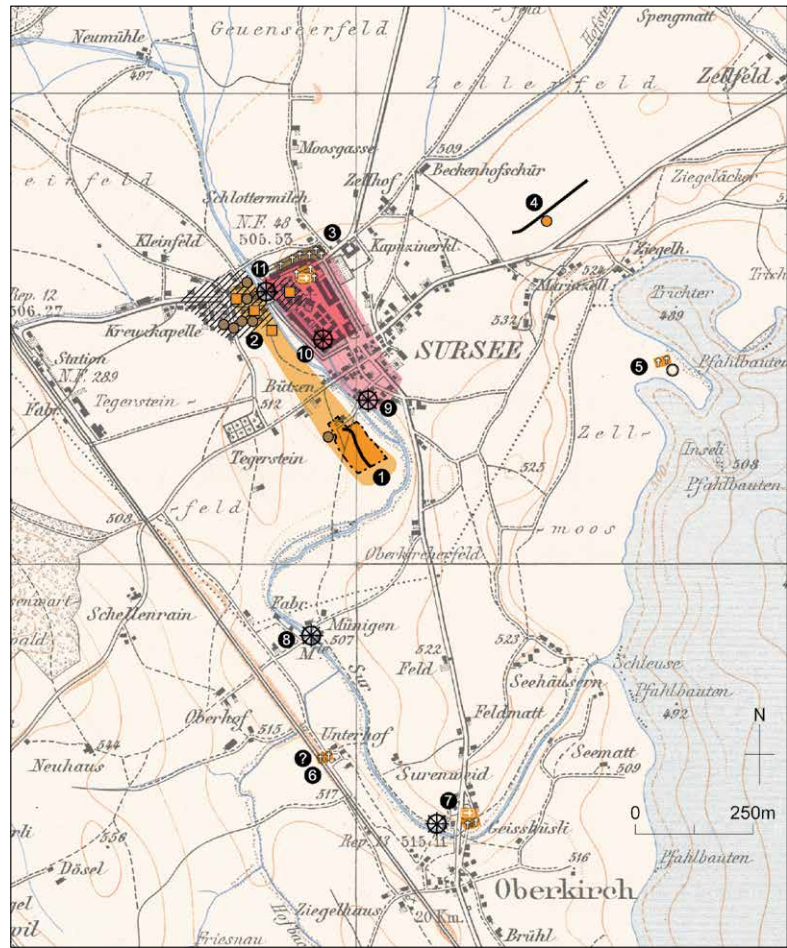
The archaeological remains show an enlargement of the settlement in the late 6th century. A scattered settlement follows the southern bank, up the River Sure at the site of Sursee-Mülihof. The area was once crossed by a small brook pouring into the River Sure. The first intervention by the medieval people was to fill in the brook and raise the ground level with earth in order to reclaim the ground. At least 300 m³ of material was brought to the area, corresponding to a minimum of 4,500 wheelbarrow loads of the early modern period. However, the source of the sediment is unknown. An operation of this size could have been carried out by a large number of people in a relatively short time; for example, 10 persons would need to work just about 14 days (10 h / day) to transport that amount of earth from a hypothetical source site some 300 m away.

A path or a kind of a square was built over this reclamation using one layer of pebble and rubble stones (Auf der Maur 2016, 43-45). In close proximity, a post structure with a surface area of almost 50 m² could be identified, representing one of the largest buildings of the site at that time. Aligned to the path by its eave, it was located on a hillock, slightly higher than the surrounding area and adjacent to the running water (Fig. 3). It is the only representative with a hipped roof in Sursee-Mülihof. Other post structures and ditches were located south of the path, pointing out an area with a higher density of construction and anthropogenic activities.

The availability of an amelioration like the reclamation and paved path leads to the question of the organisation of its construction: who is the customer and who is the workman? Does such a project refer to a hierarchically organised society? Alternatively, could this operation have been executed in a cooperative manner? This would mean several peasant families working together within a flat hierarchy, which requires the resources and skills of each of them.

However, a few on-site finds indicate the presence of a hierarchical pattern. The large building with the hipped roof stands out from the other structures. It could have been a dwelling for a member of a possible upper class, although there are no other archaeological arguments to support this interpretation, such as rich finds. In contrast,

Fig. 2: The area around Sursee in late Roman and early medieval times. Single find (point), single structure (square), grave (cross), Roman period (hatching), late Roman period (brown), early medieval period (bright and dark orange), high medieval period (bright red), late medieval period (dark red), mill mentioned in medieval written sources (mill wheel). 1: Early medieval settlement of Sursee-Müllihof, late 6th-late 7th century AD, 2: Sursee-Centralstrasse, pit of the early 6th century AD, 3: late Roman cemetery, 4: Roman and early medieval roads, 5: Sursee-Landzunge Zellmoos, Roman and late Roman finds, early medieval cemetery, monastery (early 11th century AD), 6: Oberkirche-Untertof, early medieval graves in question, 7: Oberkirch-Church St. Pankratius with graveyard and mill (mentioned 1278), 8: Oberkirch-Münigen, mill (1184), 9: Sursee-Oberkircher Vorstadt, mill (1415) and another mill of unknown location (1045), 10: Sursee-Old Town, town mill (early 14th century AD), 11: Sursee-Old Town, mill Grabenmühle (1344) (© Siegfriedkarte 1889, sheet 183, reproduced with permission of swisstopo (BA 18027); Kantonsarchäologie Luzern).



its prominent location reveals site continuity: after the building with the hipped roof had been abandoned, a multi-naved post structure was constructed over it in the 7th century. This large post structure with a surface area of 180 m² stands out within the settlement, as it is by far the largest building on the site.

5. Early noblesse around AD 600?

Early evidence for a group of people representing an early noblesse appears with the founders (*Stifter*) of the first church around AD 600 (*Auf der Maur – Rösch 2016a*, 52-56). The church itself was built as a wooden structure with posts (Fig. 4). Two tombs can be associated with the building (*Auf der Maur – Rösch 2016a*, 105f.). The tombs were placed inside the church in the north-east and the south-west corners. The positioning of the burials suggests that the buried persons belonged to the founder generation (*Brather-Walter – Brather 2012*, 140). The tombs did not contain any grave goods. Although they were disturbed by later tombs, there is no evidence for the removal of rich grave goods. They can be related to a reduced funeral tradition with either no burial object or

a single object (*Auf der Maur – Rösch 2016a*, 105f.). This kind of tradition also appears in a burial site at Sempach-Kirchbühl around the same time (*Auf der Maur – Rösch 2016a*, 157f.). Although such poor grave goods are widely spread in the Gallo-Roman region, an ethnocultural interpretation of that kind of tradition with unique ‘Roman’ origin within the border area of the former late Western Roman Empire is largely disputed in current scientific discourse (*i.e.* Fehr 2008, 69f.).

The location of the sanctuary in Sursee has obvious geographical importance, situated at a prominent site on the mound on the front moraine, above the old bridgehead and the junction of the communication routes from both Vindonissa and Basel/Augusta Raurica to Lucerne. This might indicate a privileged social status. It is also interesting that the site is situated less than 100 m away from the late Roman cemetery. There is no archaeological evidence of a deliberate connection to the funeral site, such as its building over a late Roman tomb, yet it does appear that a funeral tradition or – more likely – knowledge about old funeral traditions continued to exist.

As written sources are completely absent, the founders of the church are unknown. The archaeological remains

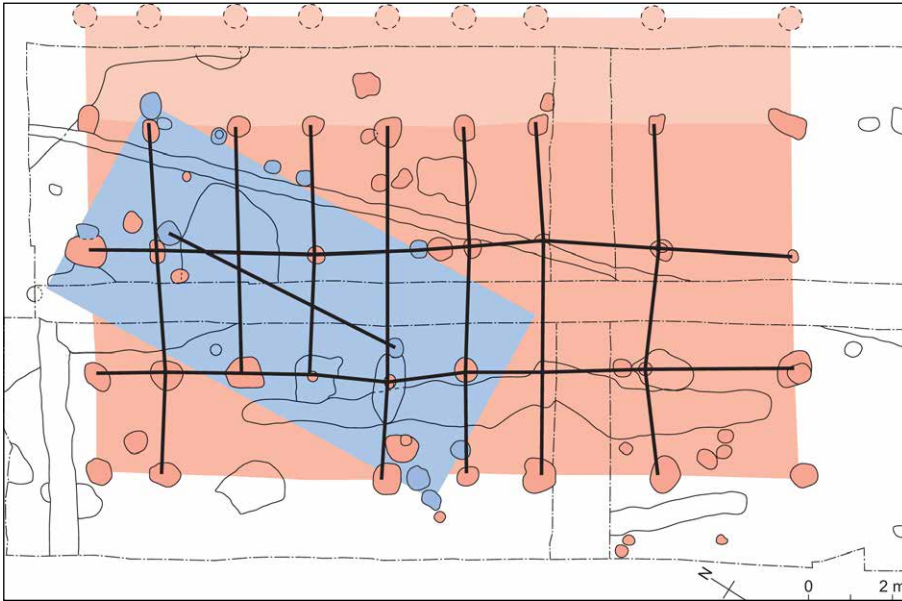


Fig. 3: Sursee-Mülihof. A post structure with hipped roof (black line) of the late 6th century (blue) was superseded by a large post structure with 4 naves (red) in the 7th century, demonstrating site continuity. Its architectural units of chevrons and purlins are highlighted with black lines (© Kantonsarchäologie Luzern).



Fig. 4: Sursee-Town Church St. Georg. Early wooden church (blue with highlighted architectural units of chevrons and purlins) with two graves located within the church. It was replaced by a stone-walled church (red) with mural tomb (red) and graves inside and outside the church (graves with burial objects: dark red). Later investigations are also highlighted (grey), as is today's ground plan (thin dark line) (© Kantonsarchäologie Luzern).

likewise provide no answer. They even raise another question: is one single family or several families involved? However, if it is assumed that the founder generation was represented by members of an upper-class society, then the church may have been built on a private donation (Maurer 2000, 159; SPM 2005, 277). The purpose could be in a private or in the community's interest. This again implies a certain hierarchical order (SPM 2005, 314f.). For the period in question, this process could be related to the Frankish territory gains (Maurer 2000, 144). In the Church of St. Martin of Hitzkirch LU, to the north-east of Sursee, members of a clan with Frankish background are buried in several tombs, in a mausoleum that was later integrated into a church (Martin 1988). Furthermore, the Church of St. Mauritius of Zofingen AG, west of Sursee, contains the remains of a founder couple with connections to the Frankish West, as indicated by the grave goods dating around AD 600 (Hartmann 1981).

At the same time, the settlement at Sursee-Mülihof expanded with new post structures on the banks of the River Sure and the density of building activity increased (Auf der Maur 2016, 47-49). After a second aggradation of the same area with earth material, a road was built complete with a foundation layer and a surface layer, replacing the earlier path. Around the nucleus, more post structures appeared, arranged along the road and in a denser and court-like manner. The settlement pattern now shows the characteristics of a clustered village. Near the wooden church, on the right side of the River Sure and around the old Roman road on the left side of the river, the settlement also expanded (Auf der Maur 2016, 144-156). We can also anticipate that the early medieval people generally preferred to settle down near the river banks, as other examples like Zürich ZH or Basel BS show. One of the possible reasons was to have ready access to the water for many kinds of handicrafts. In Sursee-Mülihof, iron forging, bronze working, textile manufacturing, and probably glass processing were all carried out (Auf der Maur 2016, 107-125).

6. Changes in the 7th century AD

One or two generations later, the wooden church was rebuilt completely in masonry (Auf der Maur – Rösch 2016a, 133-136). A brick-built chamber tomb, located at the inner northern wall, demonstrates the status of the new founder and presumably his family (Fig. 4). The tomb contained a man of large stature with an abnormal pathological growth (acromegaly). Two women – a younger and an older woman – were buried in the same tomb, whereas one of them was buried last. Within this latest burial, only 2 fine *lamellae*, made of bones, probably part of a comb, 1 small rivet head of bronze, and 2 knives were added. A small buckle of bronze was found between

the rejected bones. It seems that those burials also refer to the tradition of a reduced number of burial objects.

The construction of the second church with the founder's tomb may be at the origin of a structural change within the local Christian community. During the period in question, a growing number of burials outside and inside the church can be observed. This phenomenon could reveal a process that tied the community's members to the patron (Eigenkirchenherr) or priest in a binding relationship, even after death. However, the contemporary historical sources do not reveal much about this kind of relationship. This situation is all the more notable because other burial grounds were founded at the same time in remote areas with no relation to a church: for example, Sursee-Landzunge Zellmoos, Eich-Oeli and Grosswangen-Innerdorf (Auf der Maur – Rösch 2016a, 24-45). These examples all include the late tradition of grave goods like weapons and dress accessories. This may either prove the arrival of new groups of immigrant people who settled down in the surrounding area of Sursee, or it may be part of new burial customs, emerging in the mingled cultural zone within the border area of the former late Western Roman Empire (Fehr 2008, 97-102).

At this same time, the settlement of Sursee-Mülihof changed again. The road was enlarged and a new massive post structure with four naves was built on top of the building with the hipped roof, a characteristic for site continuity (Fig. 3). It may have been surrounded by a wooden palisade enclosure. Comparable to other examples in Switzerland (*i.e.* Gipf-Oberfrick AG; Schleithem SH) or South Germany (*i.e.* Kirchheim, Lkr. München; Lauchheim, Lkr. Ostalbkreis), these large post structures could be interpreted as the residences of noblemen (Hep – Marti 2005, 232f.). The nearby river tributary was completely filled in with earth mingled with settlement waste at this moment. A possible explanation for this lies in the canalisation of the river. Written sources, which appear from the 11th century onwards, refer to the running water for mills, and this might suggest the reason for such adaptation of the landscape in the early medieval period.

In contrast, the settlement activity on the river banks of Sursee-Mülihof decreased in the late 7th and 8th century. A settlement shift to the right side of the River Sure near the church seems to have occurred in the next few centuries. The 11th-century sources also mention a *curtis* (*Herrenhof*) beside the church, which supports the archaeological inference of the concentration of settlement around the church, to emphasize its socio-economic position.

In the course of the 7th century, the tradition of grave goods disappears, which is generally observed in the Frankish Empire. Both historical and archaeological research of the last decades has explained this as part of

the spreading of Christianity. Current views regard it as a transition from the funerary rite of enclosing grave goods according to the status of the deceased towards the salvation by the church and its rituals (Krohn 2012, 74f.). Interestingly however, isolated tombs with weapons (*spatha*, *scramasaxes*) and spurs appear in the late 7th century, mostly in what were remote areas like Mauensee-Opplisacker, Kottwil-Stritrain, or Kottwil-Seewagen (Fig. 1). At the same time, a tomb with a spur and belt buckle was found at the Church of St. Georg in Sursee. Do they belong to a new upper-class society? Can they be related to a settlement of the Alemannic population? This would correspond to the historic events related to the Alemannic consolidation of power in the Swiss Plateau under the rule of the Austrasian kings (SPM 2005, 41-50). Unfortunately, due to the typological standardisation of grave goods during the 7th century, the origins of the deceased cannot be specified. Furthermore, the tradition of burial objects in tombs had lost its significance. An alternative approach to identifying the origins of the deceased could be followed by Strontium-Isotope-Analysis of the tooth enamel from a large group of skeletons, where the stored isotopes provide information on the diet of their childhood and thus to the place of origin (SPM 2005, 180). However, the loss of the skeletons since they were exposed prevents an analysis in our case.

7. Changes and impulses in early medieval society

As we have seen, different transformations can be determined in the archaeological record. From the 6th to the 7th century AD, structurally weak areas in proximity to the former Roman habitat developed in Sursee. The connection to running water seems to play an important role, in combination with craftworking. The use of mills in the early medieval period could be indicated, as the written sources tell us for later centuries. Different interventions in the landscape, such as projects that adapt ground levels, reclaim land, redirect river channels, and construct roads and large post structures, require an organised execution and a large group of labourers. The archaeological remains indicate the presence of an elite group in Sursee. The founding of the church could be related to them. Did they act within an organised structure of power, for example, that of the Austrasian Empire of Theudebert II to convert the region of the Alpine Foothills? There is also the possibility that the impacts are associated with the Irish monks in the entourage of Saint Columbanus, travelling from the Burgundy of Theuderic II to the Austrasian Swiss Plateau of Theudebert II. The founding of the Church St. Georg in Sursee is the earliest example so far identified in the region of the Canton Lucerne.



Fig. 5: Sursee-Mülihof. Belt tongue with a bichromatic damascening, representing a fish at the front end and a fishing net at the opposite flat end (mid-7th century AD, reconstructed fish image below). This would be one of the earliest symbols of Christian faith in the region (© Kantonsarchäologie Luzern).

In the late 7th century, the settled areas witnessed a topographical shift and seem to have concentrated more and more around the church, which is testament to its importance within the local Christian community (Fig. 5). The shift of settlement is a known fact for a wide area in central Western Europe (Schreg 2012a). In the late 7th century, isolated graves from horsemen with weaponry appeared. These new elite members could belong to the Alemannic colonists of the Swiss Plateau and Alpine Foothills on behalf of the Austrasian kings, reinforcing the buffer zone against the Burgundian Empire. They settled down in areas that were not yet touched by the Frankish settlement directly, closing the gaps in the territories of the Altsiedelland.

8. Endogenous and exogenous indications influencing settlement activities

A palaeoenvironmental core drilled into the bottom of the northern bay of the Sempachersee provides insight to climatic and ecological processes since post-glacial times (Gobet – van Leeuwen 2016, 227-229). The palynological diagram shows a maximum forestation in the 6th century AD, after larger agricultural areas have existed in Roman times. However, in the course of the 6th/7th century, forest indicators were steadily decreasing again. At the same time, meadow indicators like sweetgrass were increasing. They are signs of the increasing, endogenous influence on land use at the time: agricultural activities that are attested – amongst others – by crop plants like hemp, chestnut, walnut, and rye.

Another indicator is green algae (*Pediastrum*), which is a freshwater algae that spreads very well in meso- and eutrophic waters. Looking at the presence of the algae, after a slow increase since Roman times, it reveals a marked increase in the 9th/10th century. This must be due to increased waterside inputs of nutrients (phosphorus), which may have happened through animal manure and, as such, be indirect evidence of the growing importance in livestock farming during this period.

There is also evidence for the rising water level of Lake Sempach. Limnic sediments suggest this near Sempach at the south-eastern end of the lake. The event probably took place in the late 12th century AD, flooding the monastery on the promontory of Zellmoos, at the northern end of the lake (*Auf der Maur – Rösch 2016a*, 232f.). It might have had the effect – among others – of the road maintenance being abandoned at Sursee-Mülihof in the 13th century (*Auf der Maur 2016*, 98f.). Why the lake rose is still not known; both an endogenous and exogenous cause could be at its origin. There may have been a natural blockage of the outlet, or the increasing number of mills – attested from the 11th century – along the lake's outlet could offer an explanation for the rising water levels. A similar situation is illustrated through a recorded litigation in the 17th century, between communities and millers, regarding the rising lake level due to the backflow of the outlet caused by the mill operations (*Auf der Maur – Rösch 2016a*, 233).

9. Conclusion

The transition from the traditional Roman-influenced society towards a society with emerging new cultural elements in the region of Sursee can be related to endogenous causes. However, due to the lack of historic written sources, it has to be critically evaluated in light of the archaeological sources. This is why the main cause of the changes is associated with intervention by humans, adapting initially to the environmental conditions, and then changing them to suit their purposes.

The reason for the early medieval shift in settlement from the urban areas and Altsiedelland of the Roman period to the riverbanks lies in the increasing use of running water. The old urban areas were still part of the settlement, regarding the infrastructure such as the bridgehead and the communication routes. The foundation of a church at the crossing point of these routes proves a strong attachment for this.

Indications of representatives of an elite class – *i.e.* the founder of a church – show the possible impact of hierarchical organisation in the colonisation of the Altsiedelland (*SPM 2005*, 295; *Auf der Maur – Rösch 2016b*, 6-8). The question of cooperatives in colonisation areas cannot be archaeologically proven.

However, this research topic should be consistently considered in settlement studies of early medieval society (*Schreg 2012b*).

The settlement's shift in the 8th century AD shows a consolidation of territory near the church and its proximity to the transport axis. The church as a centre of the Christian community consolidated its importance for the medieval people (*Auf der Maur – Rösch 2016b*, 9).

There might be an example of exogenous impact in the later process of settlement: the water level of Lake Sempach rose in the late 12th century AD, which is attested in archaeological data. The impact results in the monastery site being abandoned at the northern end of the lake. Further consequences could have been the neglecting of the maintenance of the road near the River Sure. However, the question is unsolved as to whether the lake's outlet would have been naturally blocked or if the growing infrastructure of the mills along the river banks could have caused this.

Human impact on the natural environment is reflected in its land use, which is best recorded in archaeological field data as the contemporary written sources remain silent or are absent. The interpretation of 'soft' facts in these data (*i.e.* origin, intentions) is still debated.

References

- Auf der Maur, Ch. 2016:*
Archäologie des Früh- bis Spätmittelalters am Sempachersee: Wandel einer Kulturlandschaft zwischen Spätantike und Hochmittelalter. Archäologische Schriften Luzern 16.2. Luzern.
- Auf der Maur, Ch. – Rösch, Ch. 2016a:*
Archäologie des Früh- bis Spätmittelalters am Sempachersee: Kirchen, Friedhöfe und Gräberfelder. Archäologische Schriften Luzern 16.1. Luzern.
- Auf der Maur, Ch. – Rösch, Ch. 2016b:*
Mittelalter am Sempachersee, Archäologie Schweiz 39.4, 4-15.
- Brather, S. 2008:*
Archäologie des 4. bis 7. Jahrhunderts im Westen: Einführung, in: Brather, S. (ed.), Zwischen Spätantike und Frühmittelalter: Archäologie des 4. bis 7. Jahrhunderts im Westen. Ergänzungsbände zum Reallexikon der germanischen Altertumskunde 57. Berlin, 1-9.
- Brather-Walter, S. – Brather, S. 2012:*
Repräsentation oder Religion? Grabbeigaben und Bestattungsrituale im frühen Mittelalter, in: Krohn, N. – Ristow, S. (eds), Wechsel der Religionen – Religion des Wechsels. Studien zu Spätantike und Frühmittelalter 4. Hamburg, 121-143.
- Buttinger, S. 2006:*
Das Mittelalter. Stuttgart

- Fehr, H. 2008:*
Germanische Einwanderung oder kulturelle Neuorientierung? Zu den Anfängen des Reihengräberhorizontes, in: Brather, S. (ed.), Zwischen Spätantike und Frühmittelalter: Archäologie des 4. bis 7. Jahrhunderts im Westen. Ergänzungsbände zum Reallexikon der germanischen Altertumskunde 57. Berlin, 67-102.
- Fetz, H. – Meyer-Freuler, Ch. – Gerig, J. 2003:*
Der Vicus Sursee – Eine römische Kleinstadt zwischen Mittelland und Alpen: Erste Einblicke und Resultate. Surseer Schriften, Geschichte und Gegenwart 6. Sursee.
- Gobet, E. – van Leeuwen, J. 2016:*
Landschaftsgeschichte und menschlicher Einfluss im Umkreis des Trichters des Sempachersees seit der Eisenzeit, in: Auf der Maur, C. (ed.), Archäologie des Früh- bis Spätmittelalters am Sempachersee: Wandel einer Kulturlandschaft zwischen Spätantike und Hochmittelalter. Archäologische Schriften Luzern 16.2. Luzern, 227-229.
- Hartmann, M. 1981:*
Die Stiftergräber in der Stadtkirche St. Mauritius von Zofingen, Archäologie Schweiz 4.1981, 148-163.
- Hep, A. – Marti, R. 2005:*
Neues zur Besiedlung des Fricktals in prähistorischer und frühmittelalterlicher Zeit: Die Ausgrabungen in Gipf-Oberfrick 1998 (Allmentweg) und 2002 (Kornbergweg), Jahrbuch der Schweizerischen Gesellschaft für Ur- und Frühgeschichte 88, 217-254.
- Krohn, N. 2012:*
Christianisierung oder Institutionalisierung? Zur Brauchbarkeit theologisch-kirchengeschichtlicher Begriffe für die Interpretation archäologischer Befunde, in: Krohn, N. – Ristow, S. (eds), Wechsel der Religionen – Religion des Wechsels. Studien zu Spätantike und Frühmittelalter 4. Hamburg, 69-76.
- Marti, R. 2000:*
Zwischen Römerzeit und Mittelalter. Forschungen zur frühmittelalterlichen Siedlungsgeschichte der Nordwestschweiz (4.-10. Jahrhundert). Archäologie und Museum 41. Liestal.
- Martin, M. 1988:*
Das frühmittelalterliche Grabgebäude unter der Kirche St. Pankratius in Hitzkirch. Archäologie Schweiz 11. 2, 89-101.
- Maurer, H. 2000:*
Das Bistum Konstanz und die Christianisierung der Alemannen, in: Berschin, W. et al. (eds), Mission und Christianisierung am Hoch- und Oberrhein (6.-8. Jahrhundert). Archäologie und Geschichte. Beiträge des Kolloquiums 1997 Bad Säckingen. Archäologie und Geschichte, Freiburger Forschungen zum ersten Jahrtausend in Südwestdeutschland 10. Stuttgart, 139-163.
- Schreg, R. 2012a:*
Farmsteads in early medieval Germany – Architecture and organisation, in: Quirós, J. A. (ed.), Arqueología de la Arquitectura 9, Archaeology of Architecture and Household Archaeology in early medieval Europe. Madrid/Vitoria, 260-262.
- Schreg, R. 2012b:*
Kontinuität und Fluktuation in früh- und hochmittelalterlichen Siedlungen Süddeutschlands, in: Fey, C. – Krieb, S. (eds), Adel und Bauern in der Gesellschaft des Mittelalters. Internationales Kolloquium zum 65. Geburtstag von Werner Rösener. Studien und Texte zur Geistes- und Sozialgeschichte des Mittelalters 6. Korb, 137-164.
- SPM 2005:*
Die Schweiz vom Paläolithikum bis zum frühen Mittelalter. Frühmittelalter Band VI. Schweizerische Gesellschaft für Ur- und Frühgeschichte. Basel.
- Steiner, L. 2011:*
La nécropole du Clos d'Aubonne à la Tour-de-Peilz (Canton de Vaud): Origine, développement et abandon d'un ensemble funéraire du V^e au IX^e siècle. Cahiers d'archéologie romande 129. Lausanne.
- Windler, R. 2012:*
Ein Gräberfeld des 5.-7. Jahrhunderts bei Flaach. Zürcher Archäologie 29. Zürich 2012.

Counting heads: Post-Roman population decline in the Rhine-Meuse delta (the Netherlands) and the need for more evidence-based reconstructions

Rowin J. van Lanen & Bert J. Groenewoudt***

Abstract

In this study we present a new method of modelling demographic fluctuations during the first millennium AD in the present-day Netherlands, most notably the Rhine-Meuse delta. We argue that such evidence-based, quantitative approaches are essential for future research, and can inform about the impact of past populations on land-use systems and the carrying capacity of landscapes. Past-population numbers are reconstructed based on high-resolution Roman and early medieval settlement data. The primary aim of this paper is to quantify Roman and early medieval palaeodemographics, applying a high-resolution chronological scale, and to compare these data with other north-west European regions. The quantification of such data is essential for future research into the impact of past-population fluctuations on historical landscapes, for example. Results show that the first millennium AD in our study area was characterised by two periods of major population growth: the middle Roman period (AD 70-270) and the early medieval period C (AD 725-950). During the intermediate late Roman period (AD 270-450), the study area witnessed a major population decline, with numbers declining by 78%-85%. After this decline, first-millennium population numbers never again reached middle Roman period levels. The precise timing and size of the post-Roman population decline (slightly) differs throughout northwest Europe, but the reconstructed patterns appear to be accurate, with similar trends showing in Belgium, Denmark, France, Germany, Italy, and Norway.

Cultural Heritage Agency of the
Netherlands
P.O. Box 1600
3800 BP, Amersfoort
the Netherlands

* r.van.Lanen@cultureelerfgoed.nl
(corresponding author)

**b.groenewoudt@cultureelerfgoed.nl

Keywords: *Palaeodemography, archaeology, Roman period, Early Middle Ages, evidence-based modelling, quantification historical data.*

Résumé

Compter les têtes: Déclin de la population post-romaine dans le delta Rhin-Meuse (Pays-Bas) et la nécessité de reconstructions davantage fondées sur des preuves

Dans cette étude, nous présentons une nouvelle méthode de modélisation des fluctuations démographiques au cours du premier millénaire après J.-C. dans les Pays-Bas actuels, notamment dans le delta Rhin-Meuse. Nous soutenons que de telles approches quantitatives, basées sur des preuves, sont essentielles pour les recherches futures concernant entre autre, l'impact des populations anciennes sur les systèmes d'utilisation des terres et la capacité de charge des paysages. Les chiffres de peuplements antérieurs sont reconstitués à partir de données de peuplement à haute résolution datant de l'époque romaine et du haut Moyen Âge. L'objectif principal de cet article est de quantifier les paléo-démographies romaines et du haut Moyen Âge en aliçant une échelle chronologique à haute résolution et de comparer ces données avec d'autres régions d'Europe du Nord-Ouest. De plus, nous soutenons que la quantification de ces données est essentielle pour de future recherche sur l'impact des fluctuations passées de la population sur les paysages historiques. Les résultats montrent que le premier millénaire après J.-C. dans notre zone d'étude était caractérisé par deux périodes de croissance démographique majeure : durant la période romaine (70-270 après J.-C.) et durant le haut Moyen Âge C (725-950 après J.-C.). Au cours de la fin de la période romaine (270-450 après J.-C.), la zone d'étude a connu un déclin important de la population, de l'ordre de 78% à 85%. Après ce déclin, les chiffres de la population du premier millénaire n'ont jamais atteint les niveaux de la période du Haut Empire. Bien que le moment précis et l'importance du déclin de la population post-romaine diffèrent (légèrement) dans tout le nord-ouest de l'Europe, les modèles simulés coïncident avec des tendances similaires en Belgique, au Danemark, en France, en Allemagne, en Italie et en Norvège.

Mots-clés: *Paléo-démographie, Archéologie, Période romaine, haut Moyen Âge, Modélisation basée sur des preuves, Données historiques de quantification.*

1. Introduction

Population size no doubt had a significant impact on the way societies and landscapes developed in the past (e.g. Klein-Goldewijk et al. 2010). The essentiality of palaeodemographics for understanding the dynamics and evolution of societal aspects over time has already been put forward in several archaeological studies (e.g. Hassan, 1981; Theuvs, 1988; Shennan, 1998; Chamberlain, 2006;

Zusammenfassung

Menschen zählen: Der nachrömische Bevölkerungsrückgang im Rhein-Maas Delta (Niederlande) und die Notwendigkeit für mehr faktengestützte Rekonstruktionen

In dieser Studie stellen wir eine neue Methode zur Modellierung der demographischen Schwankungen während des 1. Jahrtausends n. Chr. in den heutigen Niederlanden vor, insbesondere für das Rhein-Maas-Delta. Wir argumentieren, dass solche evidenzbasierten, quantitativen Ansätze für die zukünftige Forschung unerlässlich sind und der Einfluss vergangener Populationen die Landnutzungssysteme und die Tragfähigkeit von Landschaften beeinflussen können. Die Rekonstruktion der bisherigen Bevölkerungszahlen erfolgt auf der Grundlage spezifischer römischer und frühmittelalterlicher Siedlungsdaten. Das Hauptziel dieses Beitrags ist es, die römische und frühmittelalterliche Paläodemographie zu quantifizieren, eine hochauflösende chronologische Skala anzuwenden und diese Daten mit anderen nordwesteuropäischen Regionen zu vergleichen. Die Quantifizierung solcher Daten ist unerlässlich für die zukünftige Erforschung von Bevölkerungsschwankungen in der Vergangenheit, z.B. in Bezug auf historische Landschaften. Die Ergebnisse zeigen, dass das 1. Jahrtausend n. Chr. in unserem Untersuchungsgebiet durch zwei Perioden großen Bevölkerungswachstums gekennzeichnet war: die mittlere römische Periode (70-270 n. Chr.) und die frühmittelalterliche Periode C (725-950 n. Chr.). Während der spätrömischen Zeit (270-450 n. Chr.) verzeichnete das Untersuchungsgebiet einen starken Bevölkerungsrückgang um 78%-85%. Nach diesem Rückgang erreichten die Einwohnerzahlen des 1. Jahrtausends nie wieder das Niveau der mittlerömischen Zeit. Der genaue Zeitpunkt und die genaue Größe des Rückgangs der nachrömischen Bevölkerung unterscheidet sich (leicht) in Nordwesteuropa, aber die rekonstruierten Muster scheinen zutreffend zu sein, wobei ähnliche Trends in Belgien, Dänemark, Frankreich, Deutschland, Italien und Norwegen zu beobachten sind.

Schlagwörter: *Paläodemographie, Archäologie, Römerzeit, Frühmittelalter, faktengestützte Modellierung, Quantifizierung historische Daten.*

De Moor, 2016). Processes such as economic growth, political turmoil, and the general spread of culture can never fully be understood without knowledge of past-population development. Additionally, such data assist in evaluating the contribution of palaeodemographics to the observed patterning in the archaeological record (Chamberlain 2006). Dutch archaeologist Frans Theuvs (1988, 89) emphasised the importance of population

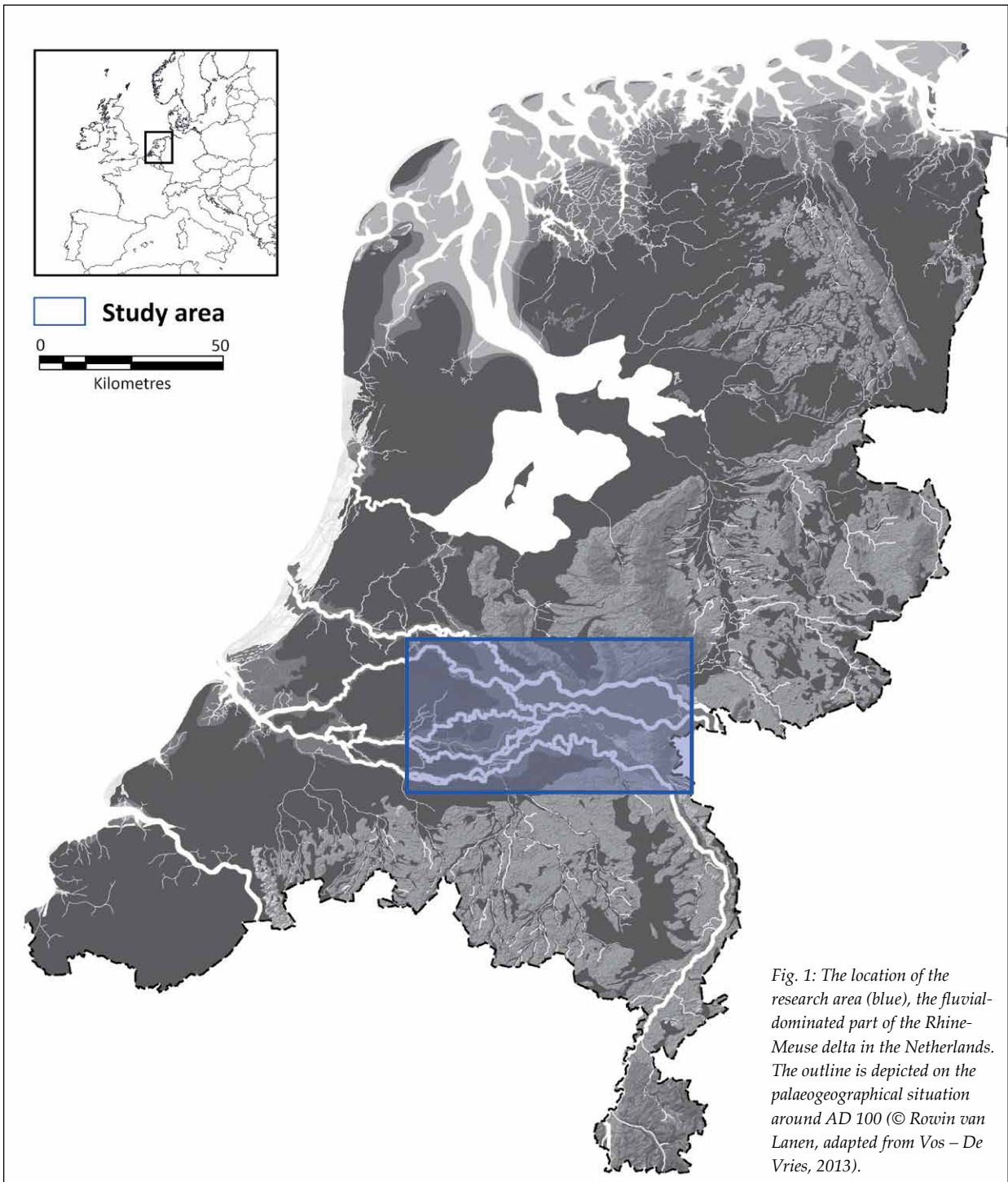


Fig. 1: The location of the research area (blue), the fluvial-dominated part of the Rhine-Meuse delta in the Netherlands. The outline is depicted on the palaeogeographical situation around AD 100 (© Rowin van Lanen, adapted from Vos – De Vries, 2013).

size and distribution in order to understand how local communities were organised. Despite this importance, only a few archaeologists have dared to reconstruct and quantify past-population sizes, especially on a larger scale. Harsema (1980, 17) classified the calculation of historical population numbers as a ‘precarious enterprise’. According to Halsall (1996), all estimates of (pre-modern) population levels are per definition

unreliable, since no trustworthy population censuses exist predating the 18th century. We will argue that, despite all these challenges, detailed past-population reconstructions indeed are possible by using detailed archaeological data and applying an evidence-based and multi-scale variable approaches. These reconstructions, however, do require quantitative or qualitative validation.



Fig. 2: The location of the research area (black) on the northern border of the continental Roman Empire, during the 2nd century AD (© Rowin van Lanen).

Our study area is the present-day Netherlands and particularly the fluvial-dominated part of the Rhine-Meuse delta located in the centre of the country (Figure 1). This region is well-suited for demographic reconstructions since it was densely populated especially from the Bronze Age (2000-800 BC) onwards. This almost continuous habitation occurred mainly because of its high-level (long-distance) connectivity to central Europe and the British Isles and relatively fertile substrates (Louwe Kooijmans 1974; Cunliffe 2004; McCormick 2007; Arnoldussen, 2008; Pierik – Van Lanen 2017). During the first millennium AD, major cultural and natural changes occurred in this delta (e.g. Henderikx 1983; Willems 1986; Van Es – Verwers 2010; Jansma et al. 2014; Van Dinter et al. 2017; Pierik – Van Lanen 2017; Van Lanen – Pierik 2017). Similar to many other parts of Europe, Roman occupation of the area during the first centuries AD generated an unprecedented (and as yet unquantified) demographic and economic growth. The collapse of the Roman frontier (*limes*) around AD 270

triggered large-scale depopulation, economic decline, and general political instability (e.g. Gibbon 1776-1788; Alföldi 1967; Willems 1986; Cheyette 2008; Van Dinter 2013; Heeren 2015). This dynamic transitional period between the Roman and early medieval periods has traditionally been one of the main issues in European history, of which many have a demographic dimension. It is generally accepted that during this period population sizes (strongly) declined (McEvedy – Jones 1978; Daugherty – Kammeyer 1995; Heeren 2015). This decline is mainly deduced from two patterns visible in the archaeological record: (1) dwindling rural and urban settlement numbers (e.g. Louwe Kooijmans 1995; McCormick 2007; Wickham 2005; 2008; 2009; Cheyette 2008), and (2) the reforestation of abandoned arable lands (e.g. Teunissen 1990; Roymans – Gerritsen, 2002; Groenewoudt et al. 2007; Kalis et al. 2008; Kaplan et al. 2009). This general decline continued until the 6th-7th centuries, after which the major rivers in the Netherlands regained much of their transport-geographical importance

(Van Es – Verwers 2010). The impact of these changes on actual population numbers and how these relate to other nearby regions is generally still unclear.

In the Netherlands several attempts have been made to generate multi-scale, evidence-based reconstructions of population sizes for the Roman and early medieval periods (c. 12 BC-AD 1050; Tab. 1). The main goal of this study is to present a new model for quantifying past population numbers and to validate these outcomes by comparing (crosschecking) and discussing them with other estimates and methods applied in north-west Europe. The presented model will specifically focus on the Rhine-Meuse delta (eastern river area; Fig. 1), which will be then put in a broader spatial context.

2. Calculating population sizes until now

In the past, there have been several attempts to reconstruct historical population sizes in the Netherlands and the Rhine-Meuse delta specifically. However, most of these endeavours mainly have focused on the early and middle Roman periods (c. 12 BC-AD 270). Studies by Bloemers (1978) and Willems (1986), and more recently by Vossen (2003), Vos (2009), and Verhagen et al. (2016), have calculated Roman population sizes based on a variety of methods. Generally, adaptations of two different modelling types have been applied: (1) the so-called recruitment model (RM), which reconstructs population numbers based on Roman military-requirement numbers known from historical sources (e.g. the number of Batavian men obliged to participate in the Roman army; Bloemers 1978; Willems 1986); and (2) the settlement-density model (SDM), which calculates population size based on the number of settlements, average number of houses, and household size (Bloemers 1978; Willems 1986; Vossen 2003; Vos 2009; Dijkstra 2011). Recently, Verhagen et al. (2016) has suggested that many of these models are based on an insufficient understanding, and incorporation, of processes such as natural population growth, migration, military recruitment, and effects of (low-level) urbanisation. Against this theoretical background, we have developed a new evidence-based SDM for the Rhine-Meuse delta and will compare these

patterns with other parts of the Netherlands and north-western Europe. We focus on the delta area because (1) throughout the whole of the first millennium this region was very densely populated; (2) the majority of the first-millennium population must have lived in rural settlements; (3) high-quality settlement data are available for this area, facilitating an evidence-based approach; (4) it is impossible to verify the reliability of historical sources mentioning army recruitment numbers; and (5) our model allows for calculating the relative contribution of low-level urbanisation through analysis of individual larger settlements (> 5 ha).

3. Reconstructing population numbers

3.1. Quantifying population size

Rural population

Roman and early medieval population numbers were reconstructed based on settlement data derived from the Archaeological Information System of the Netherlands (ARCHIS). The ARCHIS database contains a continuously updated supraregional overview of known archaeological finds (Roorda – Wiemer 1992; Wiemer 2002). We expanded this dataset with detailed published metadata from regional overview studies (Bechert – Willems 1995; Verwers 1998). Data on Roman military structures were derived from the LGL World Heritage database (2010). Specifics on larger settlements were collected through the Electronic Archiving System (EASY) and from published historical or archaeological overview studies. EASY is an online archiving system for archaeological excavation data, such as figures, GIS files, photos, and research reports. Chronological diversification within the model was based on the Archaeological Basic Register (ABR). On archaeological and historical grounds the ABR differentiates three Roman and four early medieval periods (Tab. 1).

Based on these archaeological data, we deduced rural population numbers for each ABR sub-period. Calculations were based on applying the following SDM to the study area:

Archaeological Period	Sub-period	Abbreviation	Age
Roman period (RP)	Early Roman period	ERP	12 BC-AD 70
	Middle Roman period	MRP	AD 70-270
	Late Roman period	LRP	AD 270-450
Early Middle Ages (EMP)	Early medieval period A	EMPA	AD 450-525
	Early medieval period B	EMPB	AD 525-725
	Early medieval period C	EMPC	AD 725-900
	Early medieval period D	EMPD	AD 900-1050

Tab. 1: Periods and sub-periods as specified by the Archaeological Basic Register (ABR).

$$R_p = (S_v + S_u) \times \delta \times \alpha \quad (1)$$

R_p : rural population

S_v : number of verified settlements

S_u : number of (probable) undiscovered settlements

δ : average number of houses per settlement (constant)

α : average number of individuals per house (constant)

In this equation, rural population (R_p) is calculated by multiplying not only the number of verified and but also (probable) undiscovered settlements (S_v and S_u) with the average number houses per settlement (δ) and household size (α) in the study area. Consequently, the total number of settlements is derived from both excavated and undiscovered settlement data, since archaeological research has demonstrated that in the Netherlands on average at least 50% of the settlements are not (yet) discovered (cf. *Bult 1983; Deeben et al. 2006*). In the calculations we included only settlement data with a high chronological resolution, *i.e.* dating to a specific ABR sub-period. The average number of houses per settlement and the average household size per ABR sub-period were determined based on estimates published in archaeological excavation reports and overview studies (Tab. 3).

Large settlements

We classified settlements with an uncommonly large size of >5 ha as large settlements. We based population numbers for these large settlements on settlement size, building density of houses, and average household size. Quantitative data from well-researched and documented larger settlements in the area, such as Roman Nijmegen and early medieval Dorestad, were used as a frame of reference for reconstructing population numbers in other, less-known, contemporary large settlements.

Military presence

During the Roman period the study area bordered on, and in part constituted, the northern frontier of the Roman Empire (Fig. 2), and therefore was characterised by a substantial military presence (*e.g. Van Es 1981; Polak 2009*). Our estimates of the number of troops during the Roman period are based on a combination of historical sources (*e.g.* containing information about the size of Roman legions and fortresses) and archaeological studies (*e.g.* publications about excavated fortresses in the study region). Data on less-known fortresses was derived from similar well-documented military sites. Military presence in our modelling includes both the Roman fortresses (*castella* and *castra*) and the associated civilian settlements (*vici* and *canabae legionis*). Based on research by Van Dinter et al. (2014) we were able to set the average size of military presence in the *castella* at 350 soldiers. However, much less is known about the corresponding

vici. Some researchers have suggested that the number of people living in a *vicus* may have been twice that of the soldiers in the corresponding *castellum* (*e.g. Sommer 1984; 1991*). However, judging from the size and building density of *vici* in the study area (*e.g. Hazenberg 2000; Ploegaert 2006; Blom – Vos 2007; Vos et al. 2012; Waasdorp – Van Zoolingen 2015*), such an estimate is most probably too high. Van Dinter et al. (2014, 29) even go as far as stating that for the western part of the Dutch *limes* their assumption of 350 soldiers per fort and an equal number of people living in the associated *vicus* could well be an over-representation. Excavation results from Königen and Ladenburg (Germany) hint at a similar ratio between the number of Roman soldiers and *vici* inhabitants (*Hanel 2007, 13*). In our modelling, we applied a safe 1:1 ratio between *castellum* and *vicus*. An exception is the uncommonly large Roman *castra* and *canabae legionis* at Nijmegen (c. AD 70-104), which we modelled separately. Although according to most of the literature, both date to the very beginning of the MRP, the Roman military presence in Nijmegen was a direct consequence of a preceding ERP event (the revolt of the Batavi in AD 69-70), and was not characteristic for the MRP. Subsequently we included these numbers in the ERP-population reconstruction.

3.2. Validating through comparison data

In order to determine the feasibility of our reconstructed first-millennium population numbers, we compared the resulting trends with population-size reconstructions from other parts of north-west Europe. Information on these past populations outside the study area was derived from a variety of written sources ranging from historical studies, specialised academic papers, regional landscape-archaeological overview studies, and archaeological excavation reports. An overview of this literature can be found in section 5 of the text and the reference list.

4. Results: Population size during the first millennium

Based on these numbers we reconstructed and quantified first-millennium population trends for each individual ABR sub-period. Integrated quantitative overviews for the whole of the first millennium are provided in Tables 3-7.

4.1. Population sizes per ABR sub-period

Early Roman Period: 12 BC-AD 70 (ERP)

The ERP was characterised by the start of Roman occupation and the influx of Roman troops into the area. Nonetheless, settlements remained predominantly rural during this period and consisted of isolated farms and small agglomerations of farms. Based on the work by

Bloemers (1978) on the civitas Cananefates, Vos (2009) on the Kromme-Rijn area, Heeren (2009) on the civitas Batavorum, and Dijkstra (2011) on the estuaries of the Rhine and Meuse, we determined an average number of 1.5 houses per ERP settlement, and a household size of 6.5 (Tab. 3).

Military presence

Roman military presence during the ERP fluctuated greatly. In our calculations we have included the maximum number of soldiers during this period. Although from a historical perspective the ERP ends in AD 70 (after the army successfully quelled the Batavian revolt of AD 69-70), we included the Roman military presence between AD 70-104 in our demographic calculations of the ERP. The reason for this approach is that the military presence during these 34 years was a direct consequence of preceding ERP events and hence not characteristic for the largest part of the MRP. Around AD 70 some 4,000 Roman soldiers (8 cohorts = 8 x 400 soldiers) of the 10th legion (Legio X Gemina) occupied the *castra* at Nijmegen (Driessens 2007; Fig. 3). Following them around 10,000 people settled in the nearby *canabae legionis*, which covered almost 100 ha (Willems et al. 2005). We calculated 10,000 people for the *canabae legionis* based on

the fact that this settlement covered twice the surface area of the later Roman town at Nijmegen – 50 ha – and was characterised by a similar level of house density, therefore probably containing twice as many people.

Besides the large *castra* at Nijmegen, the study area encompassed 14 smaller Roman fortresses, the *castella* (Tab. 2; Fig. 3). Although the chronological framework of each individual *castellum* differs, they all were in use after AD 70 and should therefore be included in the demographic calculations of both the ERP and MRP. In order to reconstruct the number of soldiers and *vici*-inhabitants represented by these *castella* we applied the 1:1 ratio. Based on Van Dinter et al. (2014) we set the population numbers for each *castellum* at 350 soldiers and for each associated *vicus* at 350 civilians (Tabs. 2 and 4).

Large settlements

With the exception of the Canabae Legionis located at Nijmegen, no large settlements are known dating to the ERP.

Middle Roman period: AD 70-270 (MRP)

The MRP reflects the heyday of Roman occupation. For this period we calculated an average of 3 houses per settlement, as was suggested by Bloemers (1978).

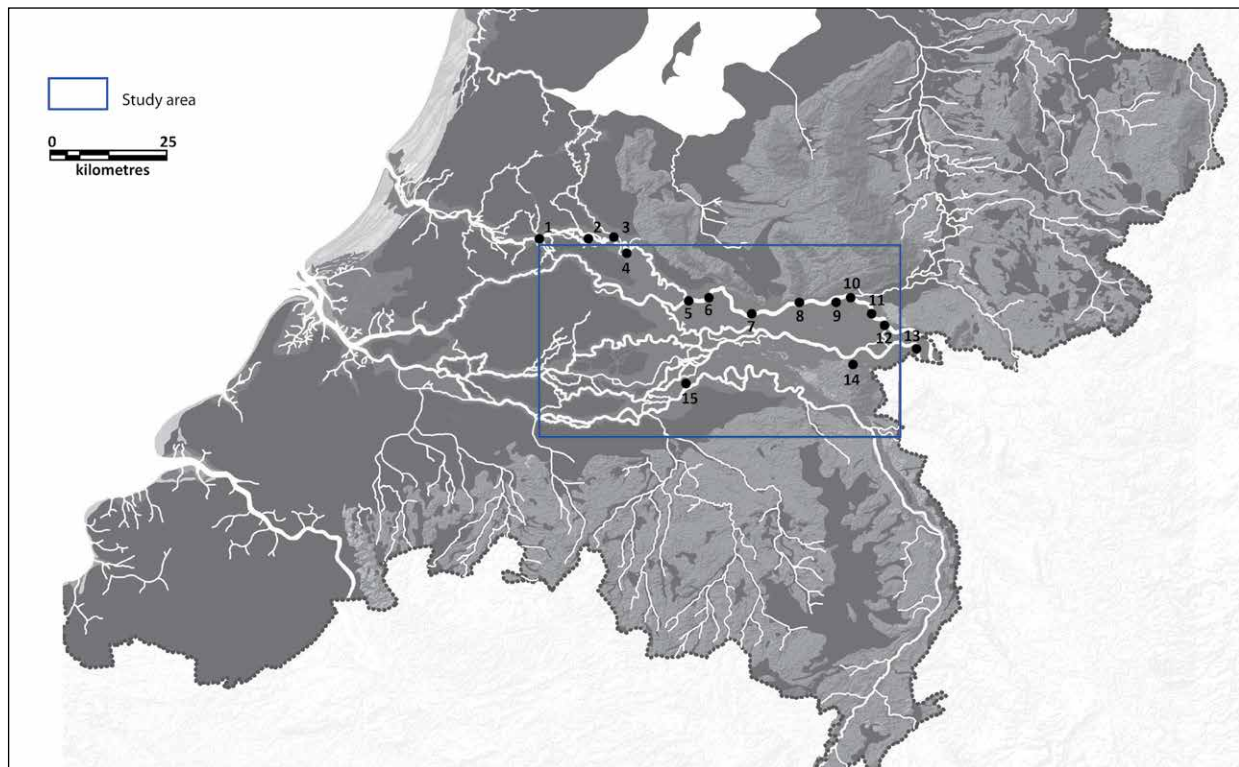


Fig. 3: Roman military fortresses mentioned in the text: 1=Woerden, 2=Utrecht De Meern, 3=Utrecht Domplein, 4=Vechten, 5=Rijswijk, 6=Maurik, 7=Kesteren, 8=Randwijk, 9=Driel, 10=Arnhem, 11=Huissen, 12=Duiven, 13=Herwen, 14=Nijmegen, and 15=Rossum. Locations are overlain on the palaeogeographic reconstruction of the area around AD 100 (© Rowin van Lanen, adapted from Vos – De Vries, 2013).

Although the number of houses per settlement in other studies has been suggested to have ranged between 4 and 5 during this period, recent research by Dijkstra (2011) for the Rhine and Meuse estuaries has shown that during this

Name	Type
Arnhem Meinerswijk	Castellum
Nijmegen	Castra
Woerden	Castellum
Utrecht De Meern	Castellum
Utrecht Domplein	Castellum
Vechten	Castellum
Rijswijk Roodvoet	Castellum
Maurik Eckse Waarden	Castellum
Kesteren Lede en Oude Waard	Castellum
Duiven Loowaard	Castellum
Herwen De Bijland	Castellum
Randwijk	Castellum
Driel Baarskamp	Castellum
Huissen Hazebergh	Castellum
Rossum Kloosterwaard	Castellum

Tab. 2: Overview of castella and castra included in the demographic modelling for the ERP and MRP.

period numerous smaller isolated farmsteads were also present in (the western part of) the river area. Dijkstra (2011) therefore concluded that an average of 2.5 houses per settlement is more likely. However, research on the settlements at Tiel-Passewaaij and Wijk bij Duurstede-De Horden, both located in the study area, has shown that in these parts during the 2nd century 4 to 5 houses per settlement was not uncommon. In order to compensate for these discrepancies, we conservatively applied an average of 3 houses per settlement during the MRP (Tab. 3).

Military presence

The military presence in the study area during the MRP was dynamic. For the population calculations we applied the maximum number of military occupations during this period. Military presence in the *castella* during the MRP was comparable to the final period of the preceding ERP, with a total of 14 smaller Roman fortresses being located in the study area (Fig. 3). Each *castellum* was inhabited by a maximum of 350 soldiers and each accompanying *vicus* by an equal amount of civilians. Roman military presence at Nijmegen during the MRP was significantly lower than during the preceding ERP, consisting of no more than 1,000 soldiers (S. Heeren, 2016, pers. comm.; Brulet 2017). After the 10th legion left the region in AD 103-104, little is known about the occupation of the *castra*.

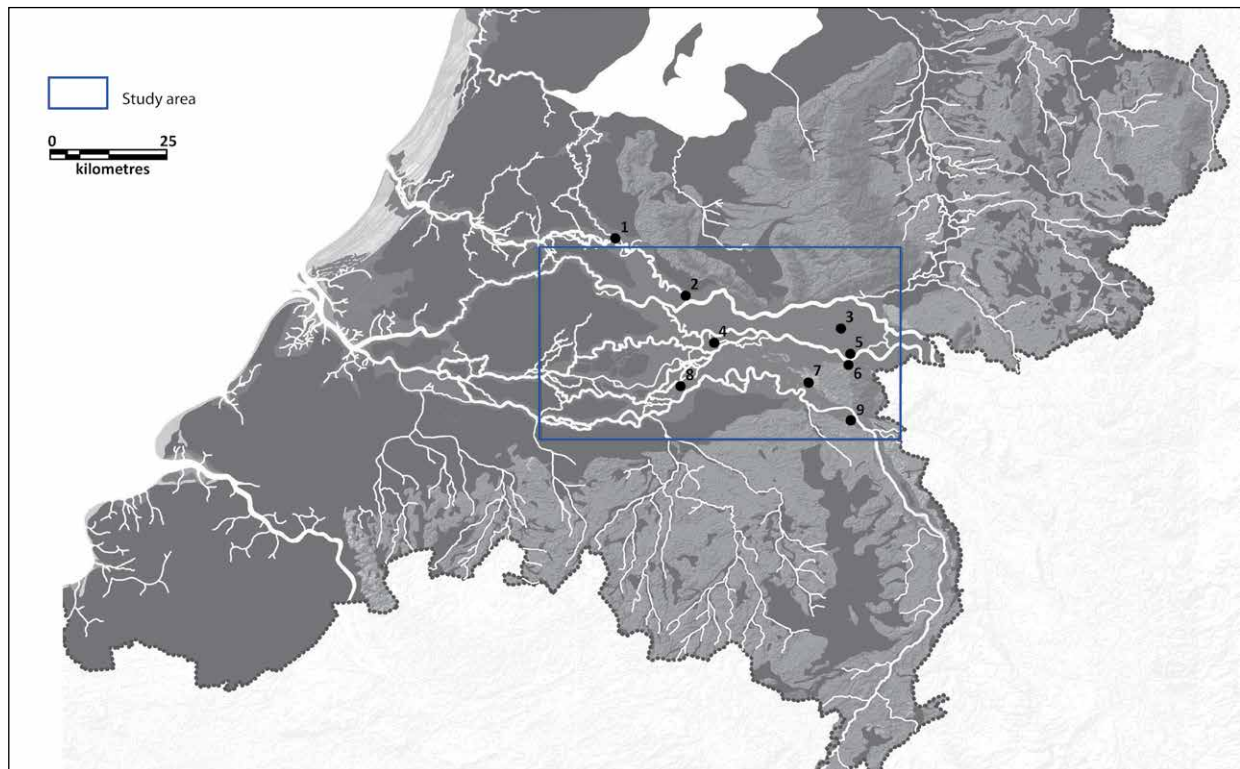


Fig. 4: Large settlements mentioned in the text: 1=Utrecht, 2=Dorestad, 3=Elst, 4=Tiel, 5=Lent, 6=Nijmegen, 7=Wijchen, 8=Rossum, and 9=Cuijk. Locations are overlain on the palaeogeographic reconstruction around AD 100 (© Rowin van Lanen, adapted from Vos – De Vries 2013).

It is, however, clear that after the departure of the 10th legion the Canabae Legionis was completely abandoned. Around AD 121 the Legio IX Hispana (9th legion), or at least a part of it, appears to have stayed at Nijmegen briefly, but for the period after AD 125 little additional information is available regarding military occupation of the *castra* (Bechert – Willems 1995).

Large settlements

During the MRP large settlements developed (or were founded) as rural centres or *civitas* capitals in the study area. Based on archaeological research, 5 large settlements could be identified (Tab. 5 and Fig. 4). For each of these large settlements, population numbers were calculated individually, based on published demographic reconstructions and on settlement size. The latter approach, which was applied in cases where the surface area of a settlement is known but there was no extant research offering population estimates (e.g. Rossum and Wijchen), consisted of applying population density per hectare derived using data from large settlements for which population estimates do exist.

Late Roman period: AD 270-450 (LRP)

The study area during the LRP underwent a major demographic decline. During this last phase of the Roman occupation in this area, not only does the number of settlements appear to have been much lower, but settlement size was significantly reduced, to an average of 1.5 houses per settlement (Tab. 3).

Military presence

Little is known of LRP military presence in the Rhine-Meuse delta. Because of socio-economic and political instability in the Roman Empire, numerous changes in defence policies occurred during this period (such as the introduction of the *limitanei*; see Van Daele 2003, for example). Additionally, after the fall of the Roman *limes* around AD 270, Roman occupation of the study area was not continuous. In order not to underestimate population sizes, we incorporated the maximum number of soldiers into the demographic reconstructions of the LRP. After the collapse of the

limes most *castella* were abandoned and other military sites developed. Only a few of these late Roman military sites are known (Fig. 3). An estimate is only possible using available data from other late Roman *burgi*, like Heumensoord, Goch, Wijchen (average of 20-50 soldiers), Nijmegen (around 1,000 soldiers), Cuijk, Wijk bij Duurstede, and Vechten (with the latter three containing around 250 soldiers; S. Heeren, pers. comm.). Using this approach we estimated the total Roman military presence during the LRP at 2,500 soldiers (Tab. 4).

Large settlements

In the study area no large settlements are known dating to the late Roman period. The large settlements dating to the preceding MRP have all yielded archaeological evidence of severe depopulation or complete abandonment.

Early medieval period A: AD 450-525 (EMPA)

During the EMPA the rural population declined even further. After the Roman occupation definitively ended, the number of settlements in the study area decreased. Research by Dijkstra (2011) on the Rhine and Meuse estuaries has shown that settlement size during the EMPA increased slightly to 3-5 houses per settlement. For our reconstructions we have conservatively set the number of houses at an average of 3 (Tab. 3).

Military presence

There is no evidence of a centralised military presence during the EMPA.

Large settlements

No large settlements are known dating to the EMPA.

Early medieval period B: AD 525-725 (EMPB)

During the EMPB, the first signs of revival and demographic rise occurred in the study area, which is mainly reflected by an increasing number of settlements dating to this period. According to Dijkstra (2011), settlement size at this time was similar to the preceding period, consisting of 3-5 houses. Therefore, in the demographic calculations we have set the settlement and

Tab. 3: Average number of houses and household size per ABR sub-period, based on (published) archaeological excavation data. Sources were selected for sites and regions within and in the immediate vicinity of the study area.

Period	N houses per settlement	Average household size	Source(s)
ERP	1.5	6.5	Bloemers 1978; Vos 2009; Heeren 2009; Dijkstra 2011
MRP	3.0	6.5	Bloemers 1978; Vos 2009; Heeren 2009; Dijkstra, 2011
LRP	1.5	6.5	Bloemers 1978; Vos 2009; Heeren 2009; Dijkstra 2011
EMPA	3.0	6.5	Dijkstra 2011
EMPB	3.0	6.5	Dijkstra 2011
EMPC	3.0	6.5	Dijkstra 2011
EMPD	5.0	6.5	Dijkstra 2011; Hamerow 2002; Van Beek et al. 2015

Early and Middle Roman periods							
Type	N	N soldiers ERP (AD 70-104)	N people ERP (AD 70-104)	Total population ERP (AD 70-104)	N soldiers MRP (AD 104-270)	N people MRP (AD 104-270)	Total population MRP (AD 104-270)
Castella	14	4900	4900	9800	4900	4900	9800
Castra	1	4000	10000	14000	1000	1000	2000
Total	15	8900	14900	23800	5900	5900	11800
Late-Roman period							
Name of late Roman fortress (in study area)						N total soldiers LRP AD270-450	N people LRP AD 270-450
Cuijk						250	250
Nijmegen						1000	1000
Small <i>burgi</i> like Heumensoord, Goch, Wijchen (probable average of 20-50 soldiers each)						250	250
Vechten						250	250
Wijk bij Duurstede						250	250
Probable undiscovered LRP military sites						500	500
Total						2500	2500

Tab. 4: Calculations are based on historical sources, archaeological data, and (for the LRP) on personal communication with S. Heeren. See Table 3 for a complete list of castella and castra names.

Period	Name	Surface (in ha)	People	Source(s) (Based on either population or surface reconstructions)
MRP (AD 70-270)	Nijmegen	40	5000	Brunsting 1937; Willems – Van Enckevort 2009
	Elst	15	1875	Willems 1986
	Cuijk	10	1250	Van Enckevort – Thijssen 2002
	Rossum	5	625	Little is known about these settlements. However, they are clearly smaller in size and have no signs of (monumental) stone building, which is characteristic for <i>vici</i> according to Hiddink 1991. Extrapolations based on the <i>vicus</i> of Elst.
	Wijchen	5	625	
	Total	75	9375	
EMPB (AD 525-725)	Nijmegen	10	500	Den Braven 2014; Hendriks et al. 2014
	Lent	10	500	Harmsen et al. 2012
	Total	20	1000	
EMPC (AD 725-900)	Dorestad	100	10000	Van Es – Verwers 2015
	Nijmegen	10	1000	Kuys et al. 2005; Den Braven 2014; Hendriks et al. 2014
	Utrecht	20	500	Renes 2005; Van Rooijen 2010
	Total	130	11500	
EMPD (AD 900-1050)	Nijmegen	10	1000	Kuys et al. 2005; Den Braven, 2014
	Tiel	12	600	Oudhof et al. 2013
	Utrecht	20	1000	Renes 2005; Van Rooijen 2010
	Total	42	2600	

Tab. 5: Overview of Roman and early medieval large settlements located in the study area.

household sizes at the same levels as were used for the EMPA period (Tab. 3).

Military presence

There is no evidence of centralised military presence during the EMPB.

Large settlements

In the Netherlands large settlements dating to the EMPB are rare. In the study area only 2 sites, at Nijmegen and Lent, appear to have been significantly larger than the majority of rural settlements (Tab. 5; Fig. 4). Both are located in the eastern part of the Rhine-Meuse delta near the current border with Germany. Based on research by Harmsen et al. (2012), Den Braven (2014), and Hendriks et al. (2014), we determined that both settlements probably were inhabited by around 500 individuals.

Early medieval period C: AD 725-900 (EMPC)

The EMPC was characterised by a continuation and intensification of the demographic rise that had started during the EMPB. The number of settlements in the study area increased significantly under Carolingian rule. Settlement size in the estuary of the Rhine and Meuse in this period appears to have been equal to settlement sizes during the preceding early medieval periods (Dijkstra 2011). We set the settlement and household sizes in the study area to the same levels as the preceding early medieval periods, at 3 houses per settlement (Tab. 3).

Military presence

There is no evidence of centralised military presence during the EMPC.

Large settlements

During the EMPC, large settlements at Dorestad, Nijmegen, and Utrecht developed into pre-urban towns (Tabl. 5; Fig. 4). The population centre at Nijmegen was located slightly to the southeast of where it had been in the preceding EMPB settlement phase and has yielded archaeological evidence of continuous habitation (Kuys et al. 2005; Den Braven 2014; Hendriks et al. 2014). During the EMPC the settlement appears to have doubled in size to 10 ha. At the same time, in Utrecht a larger settlement developed, consisting of several smaller inhabited zones clustered around the old Roman *castellum* (e.g. Renes 2005; Van Rooijen 2010). The largest settlement dating to this period, Dorestad, developed south-east of Utrecht and west of Nijmegen. This remarkable settlement clearly surpassed all other EMPC settlements, both in terms of surface area and number of inhabitants (Tab. 5; Fig. 4). According to recent calculations based on building density by Van Es and Verwers (2015, 197-200), Dorestad in its heyday was probably inhabited by 10,000 people. Van Rooijen (pers.

comm.) states that the building density in Utrecht was considerably lower at the start of the EMPC than at the end of this period and during the following EMPD. An estimate of 500 inhabitants for the 9th-10th centuries is most likely. Since the site of Dorestad has been excavated extensively, we have used the ratio of inhabitants per hectare of this settlement to extrapolate the population of Nijmegen during the EMPC. This is justified because the *Pfalz* constructed during this period (Den Braven 2014) must have drawn people towards this area, which must have resulted in a relatively high building density.

Early medieval period D (AD 900-1050)

The EMPD was characterised by a slight drop in the number of settlements, which can be attributed to several non-exclusive causes: (1) The EMPD only covered a relatively short time span; (2) as was already suggested by Hamerow (2002) and Van Doesburg (*in prep.*), during the EMPD the number of houses per settlement probably increased; (3) civil unrest caused by Viking raids (Henderikx 1986); and (4) difficulties in dating settlements archaeologically to the EMPD, leading to an underrepresentation in the archaeological dataset (Bartels et al. 1997). We have compensated for the increased habitation clustering during this period in the demographic calculations by increasing the number of houses per settlement to 5.

Military presence

There is no evidence of centralised military presence during the EMPD.

Large settlements

In the study area, three large settlements date to the EMPD. These were located at Nijmegen, Tiel, and Utrecht (Tab. 5; Fig. 4). The settlements at Nijmegen and Utrecht represent continuations of the settlements located here during the EMPC. The population at the settlement in Nijmegen (which included a *Pfalz*) appears to have remained comparable to that during the preceding EMPC (Kuys et al. 2005; Den Braven 2014). In Utrecht, population numbers increased rapidly, and had almost doubled by the beginning of the EMPD. This rapid increase is best explained by the arrival of the bishop at the former *castellum*, which led to the development of a major ecclesiastical centre in Utrecht (Van Rooijen, 2010). The decline and eventual abandonment of the largest EMPC settlement in the study area, Dorestad, is striking, as is the subsequent rise of the settlement at Tiel to the south. Most likely due to major changes in landscape conditions and river transport routes, Tiel developed as a trade settlement of approximately 12 ha (Oudhof et al. 2013). In the demographic calculations, based on the ratio between inhabitants and hectare at Dorestad, we estimated the population at Tiel to have been around 600.

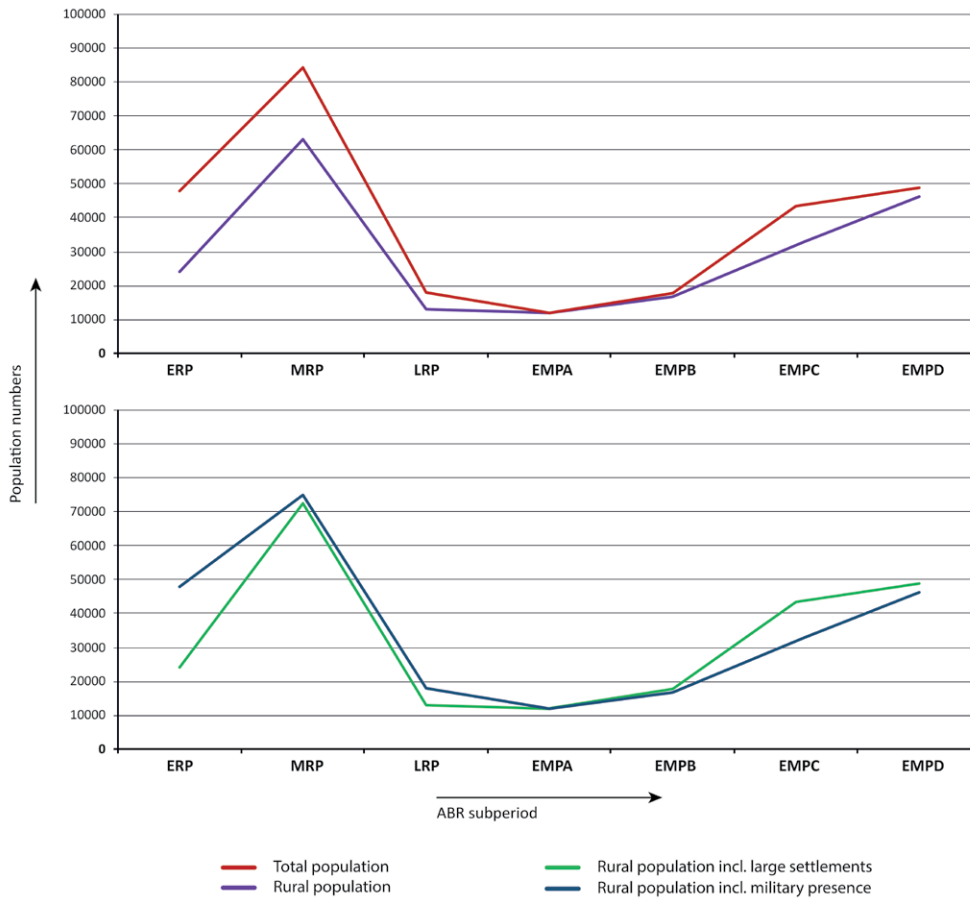


Fig. 5: Reconstructed palaeodemographic trends for the Rhine-Meuse delta during the first millennium AD. For each of the ABR sub-periods the total population size, the number of rural people, large-settlement inhabitants, and military population are given (© Rowin van Lanen).

Period	Total population study area	Rural population + military presence	Rural population + large settlements	Rural population	% military	% low-level urbanisation
ERP	47863	47863	24063	24063	24.9%	0%
MRP	84316	74941	72516	63141	7.9%	11.1%
LRP	17948	17948	12948	12948	14.0%	0%
EMPA	11934	11934	11934	11934	0%	0%
EMPB	17692	16692	17692	16692	0%	5.7%
EMPC	43402	31902	43402	31902	0%	26.5%
EMPD	48815	46215	48815	46215	0%	5.3%

Period	Total population study area	Surface area total study region (in km ²)	Surface area without flood basins (in km ²)	Population/km ² total study region	Population/km ² without flood basins
ERP	47863	3306.8	2409.1	14.5	19.9
MRP	84316	3306.8	2409.1	25.5	35.0
LRP	17948	3306.8	2531.3	5.4	7.1
EMPA	11934	3306.8	2531.3	3.6	4.7
EMPB	17692	3306.8	2531.3	5.4	7.0
EMPC	43402	3306.8	2527.5	13.1	17.2
EMPD	48815	3306.8	2527.5	14.8	19.3

Tab. 6: Estimated total population in the study area based on archaeological data, settlement size, structure, and density. For each ABR sub-period the relative contribution of military presence (i.e. active soldiers) and urbanisation to total population numbers is provided. Additionally population numbers are compared with the surface area of habitable (excluding flood basins) lands.

4.2. Total first-millennium population estimates

Based on the presented trends per ABR sub-period, we were able to quantify the rural population, potential military presence, and demographics per large settlement (Tab. 6; Fig. 5). During the Roman period there was a dramatic shift in rural population sizes, consisting of a strong rise towards the MRP and an equally strong decline during the LRP. The most notable decline dates to the MRP-LRP transition, when the rural population declined by 79.5%. After that numbers remained low until well in the Early Middle Ages, specifically the EMPC. After this period, a steady rise occurred, which continued during the remainder of the early medieval period.

When including trends such as military presence and (low-level) urbanization, the calculated estimates show similar trends as the rural populations (Tab. 6; Fig. 5), underlining the dominant role of the rural population on first-millennium palaeodemographics. During the MRP a strong population increase occurred (43.2%), which was mainly fuelled by a rise in rural population numbers as well as an increase in large settlements. A significant drop in population occurred during the LRP (by an astonishing 78.7%), which seems to have been caused by an all-out decrease in rural population numbers, military presence, and diminishing large settlements. After that population numbers remained relatively low until the EMPC, when a steady increase in population size is evident. During the heyday of Roman occupation, the MRP, Roman military presence was relatively low compared to the rural population (Tab. 6). However, perhaps remarkably, the highest level of (low-level) urbanisation appears to have been reached during the EMPC, mainly fuelled by the development of the exceptionally large trade centre at Dorestad (26.5%).

5. Validation through comparison

Our modelling results show a dramatic population decline starting at the end of the 3rd or the beginning of the 4th century AD. A fundamental question, however, remains concerning the extent to which these

archaeological data can be trusted to illustrate past demographic fluctuations. In order to determine the feasibility of and validate our reconstructions, we have compared our numbers with other estimates in north-west Europe.

The comparison of population size and density between regions is challenging, mainly because of differences in chronology, scale, and culture. However, by applying a qualitative approach we are still able to compare trends, while other reconstructions in north-west Europe and explore the reliability of our modelling outcomes. For example, Dutch archaeologist Heidinga (1987) calculates between 20,000 and 30,000 inhabitants for the seventh-century Netherlands. Our average post-Roman estimates (c. AD 270-727; around 24,000-31,000) are in line with this reconstruction (Tab. 6). Although the supra-regional ('national') estimate by Louwe Kooijmans et al. (2005) for the MRP suggests around 150,000 people inhabiting the present-day Netherlands, the observed increasing trend in population size between the ERP and MRP corresponds with our reconstructions for our study area. When extrapolating our data with other first-millennium population reconstructions, our quantitative overviews also show great similarities (around 167,000 inhabitants; cf. Groenewoudt – Van Lanen 2018).

In order to compare our modelling results with other parts in north-west Europe, we have translated our population numbers to population densities per km² (Tab. 6). Based on these calculations, we see that our estimates are in the same range as the 'traditional' Roman-period estimates, which are largely based on the fundamental work of nineteenth-century historian Karl Julius Beloch (1854-1929), who used planimetric estimates by contemporary military cartographers (Frier 2000: Tab. 4). For the Roman Empire as a whole, the given mean population density was 13.6 inhabitants per square kilometre at the beginning of the first century (AD 14), and 15.9 in the mid-Roman period (AD 164; Tab. 7). For 'Gaul and Germany' (of which the southern Netherlands were a part), Frier (2000) for both periods gives settlement densities of 9.1 and 14.2, respectively. Our reconstructions show slightly higher numbers, but also reflect a region that can be defined as densely

Region	Area (1000 km ²)	AD 14 Population (millions)	AD 14 Density (per km ²)	AD 164 Population (millions)	AD 164 Density (per km ²)	Population increase (%)
Gaul and Germany	635	5.8	9.1	9.0	14.2	55.2
Danube Region	430	2.7	6.3	4.0	9.3	48.1
Iberia	590	5.0	8.5	7.5	12.7	50.0
Italy	250	7.0	28.0	7.6	30.4	8.6

Tab. 7: Estimate of the population of selected regions within the Roman Empire. After: Frier 2000, 812, tab. 5, 814, tab. 6. Data derived from https://en.wikipedia.org/wiki/Demography_of_the_Roman_Empire.

populated (the Dutch Eastern River Area). If we compare relative trends in timing and degree of population increase and decrease, clear similarities can be observed.

Post-Roman population decline

Perhaps the most remarkable first-millennium population trend is the severe drop of population numbers immediately after (the heyday of) Roman occupation. In his landmark paper on the transition of the Roman to the early medieval landscape, Cheyette (2008, 139) summarises settlement evidence (largely qualitative) from different European regions suggesting ‘a radical thinning out of ... habitation sites during the 5th and 6th centuries’ (north-eastern Gaul, western Eifel-Germany, Paris Basin, Danube Frontier etc.). Published decline percentages vary, however. On the basis of numbers presented by Klein Goldewijk et al. (2010: Tab. 2) a c. 12% decline can be inferred between AD 0 and 500 for the whole of Europe (AD 0: 4.1 persons/km², AD 500: 3.6 persons/km²). Rough estimates by the historian Russel (1972) allow us to calculate a c. 35% decline between AD 500 and 650. Adding (debatably) both percentages results in a 47% population decline between AD 0-650. The data presented by Van Munster (2012) suggest that population numbers almost halved. Our high-resolution modelling based on ARCHIS settlement data (Tab. 6) indicate that the number of settlements dropped even more steeply: 73.1% and ultimately even 92.1%. ARCHIS-based decline estimates for the Eastern River Area range between 80% and 87%. In Northern France Wickham (2005, 508) observed the number of sites declining by 50%. According to Russel (1972), the overall population decline in France and the Low Countries (the Netherlands and Belgium) between AD 500 and 650 was approximately 40%. Interestingly, a significant population decline also occurred outside (former) Roman territory, for example in Frisia, and further to the north, albeit somewhat later (Groenewoudt – Van Lanen, 2018). Later but still very similar trends have been observed in Norway: following a population peak (AD 200-600), between AD 600-800 the Norwegian population declined by some 70% (F. Iversen, pers. comm.). This estimate is based on numbers of graves, settlements, and stray finds (cf. Solberg 2000; Iversen 2016; Vetrhus 2017). The reconstructed decline percentages vary significantly. This may reflect historical reality and regional variability, or scale differences (generalisation) and methodological diversity as well (variation in reliability and accuracy). Pinpointing causes is difficult. In the Aisne Valley in northern France, for instance, a c. 50% decline has been established on the basis of systematic fieldwalking (Haselgrove – Scull, 1995, 26), which corresponds neatly with the general, supra-regional, estimates (c. 40-50%) mentioned above. Aerial survey data from the neighbouring Somme region, however, suggests an 80% decline (Agache, 1978). Is this regional diversity or methodological bias?

Substantial (micro-) regional variability, as demonstrated in this paper, was definitely a general characteristic of the early post-Roman settlement landscape (e.g. Ouzoulias – Van Ossel 2001).

6. Discussion: The potential of quantitative methods

Results show that it is possible to quantify historical population size based on high-resolution archaeological data. By applying an evidence-based, multi-disciplinary approach combining historical and archaeological data we were able to fairly accurately reconstruct demographic fluctuations in the past. Although the timing of these trends varied greatly across Europe, together they show a consistent pattern, all pointing to a significant decrease in human activity in the centuries following the Roman period. This decline is further underlined by a recent study by Groenewoudt and Van Lanen (2018) that integrated overviews of multiple proxies (e.g. fibulae, timber finds, and charcoal kilns) dating to the first millennium in the Netherlands. Although one should be cautious against directly comparing such proxies with population numbers, they all point to similar contemporary declining trends. In a qualitative manner such data support our reconstruction outcomes. Interestingly, when comparing population density in fertile areas – such as our study area – with less-fertile (sandy) soils, the densities are consistently three to four times as high but the trends are exactly the same. Consequently, being part of the Roman Empire (Fig. 2) does not appear to have been a decisive factor in demographic fluctuations.

In our research, population numbers were reconstructed based on high-resolution settlement data dating to specific ABR sub-periods such as ERP, MRP, or LRP (Tab. 1). Settlements dating to overarching ABR periods were excluded from the calculations, as they do not provide enough high-resolution chronological information and their documentation often reflects inconsistencies in data administration. In this respect, our rural population numbers may indeed reflect a conservative estimate. The reliability of our modelling results is, however, supported by previous estimates for the civitas Batavorum (between 50,000 and 120,000 inhabitants) made by Vossen (2003) and by Willems et al. (2005; Tab. 6), which roughly corresponds spatially with our research area, during the MRP. Nonetheless, the SDM presented in this paper might benefit from a more detailed chronological analysis of the settlement data per ABR (sub-) period. This might increase the chronological resolution of the dataset and as such positively contribute to the reconstruction of demographic trends.

Our quantitative method has allowed us to determine the relative influence of (low-level) urbanization on

demographic fluctuations in the study area, which appears to have been rather limited (Tab. 6). Increases in rural population and large settlements appear to have occurred synchronously during the Roman and early medieval periods. We did not find any evidence of large settlements extracting people from the countryside. During the MRP, 11.1% of the total population lived in large settlements (Tab. 6; Fig. 5). If we take into account that only the settlement at Nijmegen (Ulpia Noviomagus Batavorum) was officially designated as a Roman town (*Municipium*) and the other large settlements were characterised by a few urban features only (e.g. monumental buildings, stone works), we could argue that this percentage might even be lower (5.9%). The percentage is then in line with urbanization levels during the EMPB and EPMD (Tab. 6). A major 'urbanised' exception is the EMPC, during which an astonishing 26.5% of the population appears to have lived in large settlements (of which 86.8% inhabited the *emporium* of Dorestad; Tabs. 5 and 6). If we, however, assume that these extremely high percentages may reflect an overestimation by Van Es and Verwers (2015), and recalculate the urbanisation percentages using older demographic estimations for Dorestad (i.e. around 2,500–4,000 inhabitants; Van Es, 1990), results show that 10.4% of the total population still lived in an urbanised context. This is twice the percentage of the urban population during other early medieval periods. It should be stressed that the effects of these urbanised regions on rural settlements or the landscape in general probably differed greatly during each individual ABR sub-period and deserves further investigation.

Military presence was limited to the Roman period and fluctuated greatly (Fig. 5; Tab. 4). During the transition from the ERP to MRP the relative contribution of Roman military numbers to the total population was highest (24.9%). In contrast, during the heyday of Roman occupation, the MRP, the relative contribution of the Roman military was lowest. This is best explained by the significant increase of rural population numbers and by the political stability during this period. The contrary holds true for the LRP, when Roman military numbers decreased compared to the previous MRP, but the relative contribution of the military presence rose to 14.0%. This was mainly due to a strongly decreasing rural population.

Although many parts of the first millennium are characterised by a lack of data, population numbers during the EMPD are especially difficult to reconstruct. This is mainly due to changes in settlement type and instability caused by Viking raids during this period. Compared to preceding periods, EMPD settlements generally became larger, more fixed in space, and more nucleated, and therefore contained an average of 5 houses (e.g. Hamerow 2002; Van der Velde 2011; Van Beek et al. 2015; Tab. 3). As noted, it has been suggested that because

of these changes in settlement size, the total number of archaeologically traceable settlement sites dating from this period decreased significantly (Van Beek et al. 2015). However, this reduction in settlement numbers has also been explained by social unrest caused by increasingly frequent Viking raids (Henderikx 1986). Additionally, Bartels et al. (1997) state that it is highly likely that the EMPD is under-represented in the archaeological datasets, because until recently material from this period has been hard to identify. A more detailed analysis of settlement development during the transition period from the Early to High Middle Ages is needed to increase our understanding of EMPD palaeodemographics.

One of the main assumptions in our SDM calculations was that around 50% of the Roman and early medieval rural settlements in the study are as yet undiscovered (Section 3.1). However, the 'visibility' of settlements in the archaeological record varies per period. The density, layout, quantity, and recognisability of archaeological finds and features are crucial for the chronological interpretation, the identification, and visibility of settlements (Groenewoudt, 1994; Groenewoudt – Smit, 2017). Past population estimates could benefit from more-precise settlement-location predictions and from further study of the differences in material manifestations of settlements for each ABR sub-period (e.g. Hey – Lacey, 2001; Tol et al., 2004; Rensink et al., 2017).

Methodological considerations

Some recent studies, focusing specifically on the transition from Roman to post-Roman times, have suggested that the reliability of our demographic reconstructions may be hampered by some methodological limitations (Eerden et al. 2017; Hendriks et al. 2018). Contrary to traditional views, newly evaluated data on the chronology of settlement sites and stray finds showed these to be not quite as rare as previously thought. For example, the abandonment of the well-known Roman-period type site of Wijster can now be dated back to the 6th century, instead of the 5th century as previously thought (Van Es 1967; Hiddink 1999). Additionally, the recent increase of and developments in absolute dating methods have shown that previous hiatuses are most likely due to inadequate or out-of-date typologies. A detailed re-evaluation of (settlement) data from the ARCHIS database may provide numerous new insights and allow for more-accurate reconstructions.

Although it is difficult to pinpoint the exact contribution of (low-level) urbanisation on first-millennium palaeodemographics, its role appears to have been rather limited (Section 4.2; Tab. 6). Further research on the exact influence of specific urbanisation processes, such as people moving from the countryside to urban centres, diseases, fertility, and average mortality, on population sizes might improve our modelling outcomes.

Verhagen et al. (2016) have already used agent-based modelling (ABM) of such processes within population dynamics. However, the accuracy of such modelling requires extremely high-quality data in the study area and is therefore at present less suited for large-scale, evidence-based population reconstructions. In our opinion, past-population size is best reconstructed by combining multiple proxies (archaeological and historical), different (simulation-) modelling techniques and multiple scales allowing for the incorporation of a wide variety of socio-cultural variables, all of which influence historical population development.

Outlook

To a degree we must still agree with Harsema (1980). The calculation of historical population numbers does indeed remain a 'precarious enterprise'. Variables such as archaeological inadequacies, methodological biases, and the lack of data (quality) most definitely hamper these kinds of reconstructions. However, (absolute) dating methods have greatly increased over the last few decades, enabling us to enhance our chronological resolutions significantly, especially for the first millennium. Therefore we believe the reidentifying and redating of 'old' archaeological data is essential and could lead to new insights in historical social, economic, and landscape dynamics. The high level of spatio-temporal variation in past-population development already identified emphasises the necessity of a multi-scale approach for reconstructing these kinds of large-scale cultural processes (Van Lanen 2017). Supra-regional trends may very well mask crucial regional differences, and vice versa. Palaeodemographic data is nevertheless crucial for understanding what exactly happened during the transition from the Roman period to the Early Middle Ages. It requires evidence-based reconstructions and quantification, because only then can we accurately (and objectively) determine the impact of past populations on natural and cultural changes during a particular time period, and use the full potential of new technologies becoming available. Numbers do matter!

7. Conclusion

In this study, we have shown that it is possible to quantify first-millennium population size with a high temporal resolution using an evidence-based approach. Roman and early medieval habitation was reconstructed on an ABR sub-period level for the whole of the fluvial part of the Rhine-Meuse delta. The SDM approach presented proves highly promising since: (1) the results are based on a quantitative and integrated data-driven method, using sizable archaeological datasets; and (2) the modelling outcomes correspond with other (single-

period) reconstructions (Section 5). Additionally, the quantified modelling results allows for the relatively easy comparison with other population reconstructions in north-west Europe, or for the use of these numbers to determine the relative impact of population dynamics on the landscape and test traditional (archaeological or historical) hypotheses (Van Lanen et al. 2018).

In this paper we have investigated the need for more evidence-based and quantitative approaches in population reconstructions. In general, two different approaches to the calculation of population numbers have been discussed: (1) our large-scale, data-driven SDM in the Rhine-Meuse delta; and (2) the more region-based attempts to which we have compared our results (Section 5). The region-based approach involves collecting, interpreting, and validating settlement data from intensively researched (micro-) regions. The resulting numbers and densities (settlements and population numbers) are subsequently extrapolated to larger areas, comparable in landscape and socio-historical setting. However, we have shown that regional variability is rather substantial and extrapolating to larger areas is not without dangers and actually should only be done when detailed (micro-) regional data is present to validate the extrapolated data. Our SDM approach does not differentiate between landscapes and involves analysing larger (digital) datasets – the larger, the better. One of the main advantages of this method is that slight discrepancies in information at the site level (e.g. slightly inaccurate location coordinates) are irrelevant when it comes to tracing general trends and patterns. Source criticism obviously remains essential, not on a site level but of the dataset as a whole. Important variables to take into account are data quality, representativeness, and recovery rate. Our results not only show that it is possible to objectively reconstruct first-millennium population numbers, but it also underlines the magnitude of the post-Roman decline and the need for more evidence-based reconstructions in future archaeological research endeavours.

Acknowledgements

We owe a debt of gratitude to Frode Iversen (Museum of Cultural History, University of Oslo, Norway), Frank Vermeulen (Department of Archaeology Ghent University, Belgium), Jesper Hansen (Odense Bys Museer, Denmark), Stijn Heeren (Vrije Universiteit, Amsterdam), Harry van Enckevort (Municipality of Nijmegen), Jan van Doesburg, Tessa de Groot, and Cees van Rooijen (all Cultural Heritage Agency of the Netherlands) for their invaluable help with the demographic reconstructions for the Roman and early medieval periods in north-west Europe.

References

- Agache, R. 1978:*
La Somme pré-romaine et romaine d'après les prospections aériennes à basse altitude. Amiens.
- Alföldi, A. 1967:*
Studien zur Geschichte der Weltkrise des 3. Jahrhunderts. Darmstadt.
- Arnoldussen, S. 2008:*
A Living Landscape: Bronze Age settlements in the Dutch river area (ca. 2000-800 BC). PhD thesis, Rijksuniversiteit Groningen. Groningen.
- Bartels, M., – Oudhof, J.W. – Dijkstra, J. 1997:*
Duisburgse waar uit Ottoons Tiel. Een keramisch gidsfossiel voor de tiende eeuw? *Westerheem* 46/3, 2-15.
- Bloemers, J.H.F. 1978:*
Rijswijk (ZH), 'De Bult'. Eine Siedlung der Cananefaten. PhD thesis, University of Amsterdam. Nederlandse Oudheden 8. Amersfoort.
- Bechert, T. – Willems, W.J.H. 1995:*
De Romeinse rijksgrens tussen Moezel en Noordzeekust. Utrecht.
- Blom, E. – Vos, W.K. 2007:*
Woerden-Hoochwoert. De opgravingen 2002-2004 in het Romeinse castellum Laurium, de vicus en van het schip de 'Woerden 7'. ADC rapport 910. Amersfoort/Leiden, 72-88.
- Brulet, R. 2017:*
The Roman army and military defence in Northern Gaul and the Germanic provinces during the Late Empire, in: Roymans, N.G.A.M. – Heeren, S. – De Clercq, W. (eds), *Social Dynamics in the Northwest Frontiers of the Late Roman Empire*. Amsterdam, 39-56.
- Brunsting, H. 1937:*
Het grafveld onder Hees bij Nijmegen. Een bijdrage tot de kennis van Ulpia Noviomagus. PhD thesis, University of Amsterdam. Amsterdam.
- Bult, E.J. 1983:*
Midden-Delfland, een archeologische kartering, inventarisatie, waarderings- en bewoningsgeschiedenis. Nederlandse Archeologische Rapporten (NAR) 2. Amersfoort.
- Chamberlain, A.T. 2006:*
Demography in archaeology. Cambridge.
- Cheyette, F.L. 2008:*
The disappearance of the ancient landscape and the climatic anomaly of the early middle ages: a question to be pursued, *Early Medieval Europe* 16(2), 127-65.
- Cunliffe, B. 2004:*
Facing the ocean: The Atlantic and its peoples. Oxford.
- Daugherty, H.G. – Kammeyer, K.C.W. 1995:*
An introduction to population. New York.
- Deeben, J.H.C. – Groenewoudt, B.J. – Hallewas, D.P. – Van Rooijen, C.A.M. – Zoetbrood, P.A.M. 2006:*
In Search of the Archaeological Resource. Berichten van de Rijksdienst voor Oudheidkundig Bodemonderzoek (BROB) 46. Amersfoort, 113-26.
- De Moor, T. 2016:*
Dare to dig! More history is needed to take historical demography a few steps further..., in: Matthijs, K. – Hin, S. – Kok, J. – Matsuo, H. (eds), *The future of historical demography upside down and inside out*. Leuven/Den Haag, 16-18.
- Den Braven, J.A. 2014:*
Karolingisch Nijmegen: de palts en zijn omgeving, *Jaarboek Numaga* 61, 20-39.
- Dijkstra, M. 2011:*
Rondom de mondingen van Rijn & Maas: Landschap en bewoning tussen de 3^e en 9^e eeuw in Zuid-Holland, in het bijzonder de Oude Rijnstreek. PhD thesis, University of Amsterdam. Amsterdam.
- Driessens, M. 2007:*
Bouwen om te blijven: de topografie, bewoningscontinuïteit en monumentaliteit van Romeins Nijmegen. PhD thesis, University of Amsterdam. Amersfoort.
- Eerden, M.C. – Groenewoudt, B.J. – De Groot, T. – Theunissen, E.M. – Feiken, R. 2017:*
Synthesising data from development-led archaeological research, in: Lauwerier, R.C.G.M. – Eerden, M.C. – Groenewoudt, B.J. – Lascaris, M.A. – Rensink, E. – Smit, B.I. – Speleers, B.P. – Van Doesburg, J. (eds.), *Knowledge for informed choices. Tools for decision making in archaeological heritage management in the Netherlands*. Nederlandse Archeologische Rapporten 55. Amersfoort, 195-209.
- Frier, B.W. 2000:*
Demography, in: Bowman, A.K. – Garnsey, P. – Rathbone, D. (eds), *The Cambridge Ancient History XI: the High Empire A.D. 70-192*. Cambridge, 27-54.
- Gibbon, E. 1776-1788:*
The history of the decline and fall of the Roman Empire I-VI. London.
- Groenewoudt, B.J. 1994:*
Prospectie, waardering en selectie van archeologische vindplaatsen: een beleidsgerichte verkenning van middelen en mogelijkheden. PhD thesis, University of Amsterdam. Nederlandse Archeologische Rapporten (NAR) 17. Amersfoort.
- Groenewoudt, B. – Van Haaster, H. – Van Beek, R. – Brinkkemper, O. 2007:*
Towards a reverse image. Botanical research into the landscape history of the eastern Netherlands,

- Landscape History 27, 17-33. doi:10.1080/01433768.2007.10594587.
- Groenewoudt, B.J. – Smit, B.I. 2017:*
Four-period system of archaeology, in: Lauwerier, R.C.G.M. – Eerden, M.C. – Groenewoudt, B.J. – Lascaris, M.A. – Rensink, E. – Smit, B.I. – Speleers, B.P. – Van Doesburg, J. (eds), Knowledge for informed choices. Tools for decision making in archaeological heritage management in the Netherlands. Nederlandse Archeologische Rapporten 55. Amersfoort, 25-31.
- Groenewoudt, B.J. – Van Lanen, R.J. 2018:*
Diverging decline. Reconstructing and validating (post-) roman population trends (AD 0-1000) in the Rhine-Meuse delta (the Netherlands). European Journal for Post-Classical Archaeologies (PCA) 8, 188-218.
- Halsall, P. 1996:*
Medieval Sourcebook: Tables on population in medieval Europe (<http://sourcebooks.fordham.edu/halsall/source/pop-in-eur.asp>).
- Hamerow, H.F. 2002:*
Early medieval settlements. The archaeology of rural communities in Northwest Europe 400-900. Oxford.
- Hanel, N. 2007:*
Military Camps, Canabae, and Vici. The archaeological evidence, in: Erdkamp, P. (ed.), A companion to the Roman Army. Maldon USA/Oxford UK/Carlton Aus., 395-416.
- Harmsen, C. – Den Braven, J.A. – Hendriks, J. 2012:*
Archeologisch onderzoek in de Lentse Schoolstraat in Nijmegen-Lent. Nederzettingssporen uit de Vroege en Volle Middeleeuwen. Archeologische Berichten Nijmegen – Rapport 33. Nijmegen.
- Harsema, O.H. 1980:*
Het Drents plateau. De latere prehistorische bewoning, in: Chamalaun, M. – Waterbolk, H.T. (eds), Voltooid verleden tijd. Een hedendaagse kijk op de prehistorie. Amsterdam, 83-102.
- Haselgrove, C. – Scull, C. 1995:*
The changing structure of rural settlement in Southern Picardy during the first millennium AD, in: Hamerow, H.F. – Bintliff, J.L. (eds), Europe between Late Antiquity and the Middle Ages. Recent archaeological and historical research in Western and Southern Europe. BAR International Series 617. Oxford, 58-70.
- Hassan, F.A. 1981:*
Demographic archaeology. New York.
- Hazenberg, T. 2000:*
Leiden-Roomburg 1995-1997: Archeologisch onderzoek naar het kanaal van Corbulo en de vicus van het castellum Matilo. Rapportage Archeologische Monumentenzorg (RAM) 77. Amersfoort.
- Heeren, S. 2009:*
Romanisering van rurale gemeenschappen in de civitas Batavorum. De casus Tiel-Passewaaij. PhD thesis, Free University Amsterdam. Amsterdam.
- Heeren, S. 2015:*
The depopulation of the Lower Rhine region in the 3rd century. An archaeological perspective, in: Roymans, N.G.A.M. – Derks, A.M.J. – Hiddink, H.A. (eds), The Roman Villa of Hoogeloon and the archaeology of the periphery. Amsterdam Archaeological Studies 22. Amsterdam, 269-292.
- Heidinga, H.A. 1987:*
Medieval settlement and economy north of the Lower Rhine. Archaeology and history of Kootwijk and the Veluwe (the Netherlands). Cingula 9. Amsterdam.
- Henderikx, P.A. 1983:*
De beneden-delta van de Rijn en Maas: Landschap en bewoning van de Romeinse tijd tot ca. 1000. PhD thesis, University of Amsterdam. Amsterdam.
- Hendriks, J. – Den Braven, J.A. – Van Enkevort, H. – Thijssen, J. 2014:*
Een noordelijk steunpunt. Vroegmiddeleeuws Nijmegen vanuit archeologisch perspectief, in: Peterse, H. – Verhoeven, D. – Camps, R. et al. (eds), Het Valkhof. 2000 jaar geschiedenis. Nijmegen, 43-69.
- Hendriks, J. – Van Enkevort, H. – Nicasië, M.J. 2018:*
Nieuw licht op de donkere eeuwen. De overgang van de laat-Romeinse tijd naar de vroege middeleeuwen in Zuid-Nederland. Nederlandse Archeologische Rapporten (NAR) 58. Amersfoort.
- Henderikx, P.A. 1986:*
The lower delta of the Rhine and the Maas: Landscape and habitation from the Roman period to ca.1000, Berichten ROB 36, 447-599.
- Hey, G. – Lacey, M. 2001:*
Evaluation of archaeological decision-making processes and sampling strategies. Oxford.
- Hiddink, H.A. 1991:*
Rural centres in the Roman settlement system of Northern Gallia Belgica and Germania Inferior, in: Roymans, N.G.A.M. – Theuvs, F. (eds.), Images of the past. Studies on ancient societies in northwestern Europe, Studies in pre-en protohistorie 7, 201-234.
- Hiddink, H.A. 1999:*
Germaanse samenlevingen tussen Rijn en Weser, 1st eeuw voor – 4^{de} eeuw na Chr.. PhD thesis, University of Amsterdam. Amsterdam.
- Iversen F. 2016:*
Estate division: Social cohesion in the aftermath of AD 536-7, in: Iversen, F. – Pettersson, H. (eds), The agrarian life of the north 2000 BC-AD 1000. Studies in rural settlement and farming in Norway. Kristiansand, 39-73.

- Jansma, E. – Gouw-Bouman, M. – Van Lanen, R. – Pierik, H.J. – Cohen, K.M. – Groenewoudt, B. – Hoek, W.Z. – Stouthamer, E. – Middelkoop, H. 2014:*
The Dark Age of the lowlands in an interdisciplinary light: People, landscape and climate in the Netherlands between AD 300 and 1000, *Journal for Post-Classical Archaeologies (PCA)* 4, 473-478.
- Kalis, A.J. – Karg, S. – Meurers-Balke, J. – Teunissen-Van Oorschot, H. 2008:*
Mensch und Vegetation am Unteren Niederrhein während der Eisen- und Römerzeit, in: Müller, M. – Schalles, H.-J. – Zieling, N. (eds.), *Colonia Ulpia Traiana, Xanten und sein Umland in römischer Zeit, Xantener Berichte, Geschichte der Stadt Xanten* 1, 31-48.
- Kaplan, J.O. – Krumbardt, K.M. – Zimmerman, Z. 2009:*
The prehistoric and preindustrial deforestation of Europe, *Quaternary Science Reviews* 28, 3016-3034.
- Klein-Goldewijk, K. – Beusen, A. – Janssen, P. 2010:*
Long-term dynamic modeling of global population and built-up area in a spatially explicit way: HYDE 3.1, *The Holocene* 20.4, 565-573.
- Kuys, J. – Bots, H. – Brabers, J. 2005:*
Nijmegen, *Geschiedenis van de oudste stad van Nederland, Middeleeuwen en nieuwe tijd*. Wormer.
- Louwe Kooijmans, L.P. 1974:*
The Rhine/Meuse Delta; four studies on its prehistoric occupation and Holocene geology, *Analecta Praehistorica Leidensia* 7, Leiden.
- Louwe Kooijmans L.P. 1995:*
Prehistory or paradise? Prehistory as a reference for modern nature development, the Dutch case, *Mededelingen Rijksgeologische Dienst* 52, 415-424.
- Louwe Kooijmans L.P. – Van den Broeke, P.W. – Fokkens, H. – Van Gijn, A. 2005:*
The prehistory of the Netherlands. Amsterdam.
Lower Germanic Limes World Heritage Database (LGL) 2010:
der Deutschen Limeskommission and the Cultural Heritage Agency of the Netherlands (RCE).
- McCormick, M. 2007:*
Origins of the European economy. Communications and commerce AD 300-900. Cambridge.
- McEvedy, C. – Jones, R. 1978:*
Atlas of world population history. Harmondsworth.
- Oudhof, J.W. – Verhoeven, A.A.A. – Schuuring, I. 2013:*
Tiel rond 1000 : analyse van vier opgravingen in de Tielse binnenstad. Amsterdam.
- Ouzoulias, P. – Van Ossel, P. 2001:*
Dynamiques du peuplement et formes de l'habitat tardif: le cas de L'Île-De-France, in: Ouzoulias, P. – Pellecier, C. – Raynaud, C. – Van Ossel, P. – Garmy, P. (eds), *Les campagnes de la Gaule à la fin de l'Antiquité*. Actes du colloque Montpellier, 11-14 mars 1998 (Ive colloque de l'association AGER). Antibes, 147-172.
- Pierik, H.J. – Van Lanen, R.J. 2017:*
Roman and early-medieval habitation patterns in a delta landscape: The link between settlement elevation and landscape dynamics. *Quaternary International*. <https://doi.org/10.1016/j.quaint.2017.03.010>
- Ploegaert, P.H.J.I. 2006:*
Zwammerdam 'De Hooge Burch' en 'De Bruggen'. ADC-rapport 540. Amersfoort.
- Polak, M. 2009:*
The Roman military presence in the Rhine Delta in the period c. AD 40-140, in: Morillo, A. – Hanel, N. – Martín, E. (eds), *LIMES XX. Roman Frontier Studies* 13. Madrid, 945-953.
- Renes, H. 2005:*
Historische atlas van de stad Utrecht. Amsterdam.
- Rensink, E. – De Kort, J.W. – Van Doesburg, J. – Theunissen, E.M. – Bouwmeester, H.M.P. 2017:*
Prospection made-to-measure. A digital information system for prospection methods, in: Lauwier, R.C.G.M. – Eerden, J.M. – Groenewoudt, B.J. – Lascaris, M.A. – Rensink, E. – Smit, B.I. – Speleers, B.P. – Van Doesburg, J. (eds), *Knowledge for informed choices. Tools for a more effective and efficient selection of valuable archaeology in the Netherlands. Nederlandse Archeologische Rapporten (NAR)* 55. Amersfoort, 165-175.
- Roorda, I.M. – Wiemer, R. 1992:*
The ARCHIS Project: Towards a new national archaeological record in the Netherlands, in: Larsen, C. (ed.), *Sites and Monuments: National Archaeological Records*. Copenhagen, 117-122.
- Roymans, N.G.A.M. – Gerritsen, F. 2002:*
Landscape, ecology and mentalities: a long-term perspective on developments in the Meuse-Demer-Scheldt region. *Proceedings of the Prehistoric Society* 68, 257-287.
- Russel, J.C. 1972:*
Population in Europe, in: Carlo, M. – Cipolla, M. (eds), *The Fontana Economic History of Europe, Vol. I: The Middle Ages*. Glasgow, 25-71.
- Shennan, S. 1998:*
Population and demography. *World Archaeology* 3-2. London.
- Solberg, B. 2000:*
Jernalderen i Norge 500 for Kristus till 1030 etter Kristus. Oslo.
- Sommer, C.S. 1984:*
The military vici in Roman Britain: Aspects of their origins, their location and layout, administration, function and end. *BAR International Series* 129. Oxford.

- Sommer, C.S. 1991:*
Life beyond the ditches: Housing and planning of the military vici in Upper Germany and Raetia, in: Maxfield, V.A. – Dobson, M.J. (eds), Roman frontier studies 1989, Proceedings of the XVth International Congress of Roman Frontier Studies. Exeter, 472-476.
- Teunissen, D. 1990:*
Palynologisch onderzoek in het oostelijk rivierengebied: een overzicht, Mededelingen van de Afdeling Biogeologie van de Sectie Biologie van de Katholieke Universiteit van Nijmegen 16, 161.
- Theuvs, F.C.W.J. 1988:*
De archeologie van de periferie: studies naar de ontwikkeling van bewoning en samenleving in het Maas-Demer-Schelde gebied in de vroege middeleeuwen. PhD thesis, University of Amsterdam. Amsterdam.
- Tol, A.J. – Verhagen, J.W.H.P. – Borsboom, A. – Verbruggen, M. 2004:*
Prospectief boren; een studie naar de betrouwbaarheid en toepasbaarheid van booronderzoek in de prospectiearcheologie. RAAP-rapport 1000. Amsterdam.
- Van Beek, R. – Gouw-Bouman, M.T.I.J. – Bos, J.A.A. 2015:*
Mapping regional vegetation developments in Twente (the Netherlands) since the Late Glacial and evaluating contemporary settlement patterns. Netherlands Journal of Geosciences 94, 229-255. doi:10.1017/njg.2014.40
- Van Daele, B. 2003:*
Het Romeinse leger. Leuven
- Van der Velde, H.M. 2011:*
Wonen in een grensgebied. PhD thesis, Vrije Universiteit Amsterdam. Nederlandse Archeologische Rapporten (NAR) 40. Amersfoort.
- Van Dinter, M. 2013:*
The Roman Limes in the Netherlands: How a delta landscape determined the location of the military structures, Geol. en Mijnbouw/ Netherlands J. Geosci. 92, 11-32. doi:10.1017/S0016774600000251
- Van Dinter, M. – Kooistra, L.I. – Dütting, M.K. – Van Rijn, P. – Cavallo, C. 2014:*
Could the local population of the Lower Rhine delta supply the Roman Army? Part 2: Modelling the carrying capacity using archaeological, palaeo-ecological and geomorphological data. Journal of Archaeology in the Low Countries (JALC) 5, 5-50.
- Van Dinter, M. – Cohen, K.M. – Hoek, W. – Stouthamer, E. – Jansma, E. – Middelkoop, H. 2017:*
Late Holocene lowland fluvial archives and geoarchaeology: Utrecht's case study of Rhine river abandonment under Roman and Medieval settlement. Quaternary Science Reviews 166, 227-65.
- Van Doesburg, J. in prep:*
Torenhoge ambitie; ontginning, elitevorming en kastelenbouw in het Kromme Rijngebied in de middeleeuwen. PhD thesis, Vrije Universiteit Amsterdam. Amsterdam.
- Van Enckevort, H.L.H. – Thijssen, J. 2002:*
Cuijk. Een regionaal centrum in de Romeinse tijd. Utrecht.
- Van Es, W.A. 1967:*
Wijster, a native settlement beyond the imperial frontier, 125-425 AD. Palaeohistoria 11. Groningen.
- Van Es, W.A. 1981:*
De Romeinen in Nederland, Bussum.
- Van Es, W.A. 1990:*
Dorestad centred, in: Besteman, J.C. – Bos, J.M. – Heidinga, H.A. (eds), Medieval archaeology in the Netherlands. Assen, 151-182.
- Van Es, W.A. – Verwers, W.J.H. 2010:*
Early Medieval settlements along the Rhine: precursors and contemporaries of Dorestad, Journal of Archaeology in the Low Countries 2/1, 5-39.
- Van Es, W.A. – Verwers, W.J.H. 2015:*
Excavations at Dorestad 4: The settlement area at the harbour. Nederlandse Oudheden 18. Amersfoort.
- Van Lanen, R.J. 2017:*
Changing ways. Patterns of habitation, connectivity and persistence in Northwest European lowlands during the first millennium AD. PhD thesis, Utrecht University. Utrecht Studies in Earth Sciences (USES) 137. Utrecht.
- Van Lanen, R.J. – Pierik, H.J. 2017:*
Calculating connectivity patterns in delta landscapes: modelling Roman and early-medieval route networks and their stability in dynamic lowlands, Quaternary International.
- Van Lanen, R.J. – De Kleijn, M.T.M. – Pierik, H.J. – Gouw-Bouman, M.T.I.J. 2018:*
Exploring Roman and early-medieval habitation of the Rhine-Meuse delta: modelling large-scale demographic changes and corresponding land-use impact, Netherlands journal of Geosciences 97/1-2, 45-68.
- Van Munster, B. 2012:*
Landscape changes in the Netherlands during the Late Roman period and the Early Middle Ages (A.D. 270-525). A multi-disciplinary approach combining changes in demography, physical landscape and climate. Unpublished MSc thesis, Utrecht University. Utrecht/Amersfoort.
- Van Rooijen, C. 2010:*
Utrecht in the early medieval period. An archaeological analysis of its topography and a

- discussion of the location of the Stathe vicus, *Medieval and Modern Matters* 1, 155-196.
- Verhagen, J.W.H.P. – Joyce, J.A. – Groenhuijzen, M.R. 2016:*
Modelling the dynamics of demography in the Dutch Roman Limes zone. *Landscape Archaeology Conference (LAC2014) proceedings*, 1-13. doi 10.5463/lac.2014.62
- Vetrbus, M. 2017:*
Nedgangstid eller samfunnsendring? En undersøkelse av endringene i det arkeologiske materialet i overgangen fra eldre til yngre jernalder i Rogaland. MA thesis, University of Bergen. Bergen.
- Verwers, W.J.H. 1998:*
North Brabant in Roman and Early Medieval Times: Habitation History. PhD thesis, VU University Amsterdam. Amersfoort.
- Vos, W.K. 2009:*
Bataafs platteland. Het Romeinse nederzittingslandschap in het Nederlandse Kromme- Rijngebied. PhD thesis Vrije Universiteit Amsterdam. Nederlandse Archeologische Rapporten (NAR) 35. Amsterdam/Amersfoort.
- Vos, P.C. – De Vries, S. 2013:*
2e generatie palaeogeografische kaarten van Nederland (versie 2.0). Utrecht.
- Vos, W.K. – Van der Linden, E. – Voormolen, B. 2012:*
Rondom Romeinse Rijtjeshuizen Reconstructie van een woonwijk op grond van een vergeten opgraving in Valkenburg (ZH). Hazenberg Archeologische Series 2. Leiden.
- Vossen, I.M.J. 2003:*
The possibilities and limitations of demographic calculations in the Batavian area, in: Grünewald, Th. – Seibel, S. (eds), *Kontinuität und Diskontinuität. Germania inferior am Beginn und am Ende der römischen Herrschaft. Reallexikon der Germanischen Altertumskunde Ergänzungsband* 35. Berlin/New York, 414-435.
- Waasdorp, J.A. – Van Zoolingen, R.J. 2015:*
Den Haag Ockenburgh II. Een Romeinse militaire vicus vlak bij de kust. *Haagse Oudheidkundige Publicaties* 18. Den Haag.
- Wickham, C. 2005:*
Framing the Early Middle Ages: Europe and the Mediterranean. Oxford.
- Wickham, C. 2008:*
Rethinking the structure of the early medieval economy, in: Davis, J.R. – McCormick, M. (eds), *The long morning of Medieval Europe*. Aldershot, 19-31.
- Wickham, C. 2009:*
The inheritance of Rome: a history of Europe from 400 to 1000. London.
- Wiemer, R. 2002:*
Standardisation: the key to archaeological data quality, in: García Sanjuan, L. – Wheatley, D.W. (eds), *Mapping the Future of the Past, Managing the Spatial Dimension of the European Archaeological resource*. Sevilla, 103-108.
- Willems, W.J.H. 1986:*
Romans and Batavians. A regional study in the Dutch Eastern River Area. PhD thesis, University of Amsterdam. Amsterdam.
- Willems, W.J.H. – Van Enckevort, H.L.H. – Haalebos, J.K. – Thijssen, J. 2005:*
Nijmegen. Geschiedenis van de oudste stad van Nederland. Prehistorie en oudheid. Wormer.
- Willems, W.J.H. – Van Enckevort, H.L.H. 2009:*
Ulpia Noviomagus Roman Nijmegen. The Batavian capital at the imperial frontier. *Journal of Roman archaeology supplementary series* 73. Portsmouth.

Part Two

**Foundation and
desertion: Causes
and effects**

Rural settlement in later medieval Ireland through the lens of deserted settlements

Niall Brady*

Summary

Deserted settlements in Ireland draw comparisons with the phenomenon observed across medieval Europe. Two case studies are presented: one from the well-colonised south-east region; the other from the north-west, where Anglo-Norman inroads were slower. Rather than describing the details of each settlement, the paper focuses on questions that deal with the foundation of settlements and on their demise. Such questions, though acknowledged, are rarely investigated.

Keywords: *Deserted medieval village, deserted settlement, geophysical survey, later medieval Ireland.*

Résumé

L'habitat rural du second Moyen Âge en Irlande à partir des habitats désertes

Les habitats désertés en Irlande sont comparables au phénomène observé à travers toute l'Europe médiévale. Deux études de cas sont présentées: l'une provenant de la région du sud-est, bien colonisée, l'autre issue du Nord-Ouest, où les incursions anglo-normandes étaient plus lentes. Plutôt que de décrire en détail chaque habitat, l'article se concentre sur les questions de la création des habitats désertés et sur celle de leur disparition. Ces aspects, bien que connus, sont rarement étudiés de manière approfondie.

Mots clés: *Village médiéval déserté, habitat déserté, relevé géophysique, Irlande au second Moyen Âge.*

Zusammenfassung

Ländliche Siedlungen im spätmittelalterlichen Irland mit Blick auf Wüstungen

Wüstungen sind wie überall in Europa auch in Irland gut bekannt und können komparativ untersucht werden. In diesem Beitrag werden zwei Fallstudien vorgestellt. Zum einen eine Wüstung aus dem gut kolonialisierten Südosten Irlands, zum anderen eine Wüstung aus dem Nordwesten, wo das anglo-normannische Vordringen langsamer von statten ging. Die Siedlungen und deren Entwicklung werden nicht im Detail beschrieben, sondern der Beitrag konzentriert sich auf Fragen, die sich mit den Ursachen der Gründung und dem

* The Archaeological Diving
Company Ltd
Beverley Studios
Church Terrace
Bray
Ireland
niallbrady100@gmail.com

Untergang der Siedlungen befassen. Diese Fragestellungen werden zwar vielfach als relevante Aspekte angesprochen, jedoch selten detailliert untersucht.

Schlagwörter: *Mittelalterliche Wüstung, geophysikalische Prospektion, spätmittelalterliches Irland.*

Achoimre

Lonnaíocht tuaithe in Éirinn mheánaoiseach dhéanach trí lionsaí lonnaíochtaí tréigthe

Déantar comparáid idir lonnaíochtaí tréigthe in Éirinn leis an bhfeiniméan a fheictear trasna na

Archaeological research in Ireland has focussed on sociopolitical shifts to describe the changes that occur across society during the Middle Ages and it remains a common theme when studies might consider the topic. The nuance of current approaches is to point to the blurring of defined edges, and to celebrate smaller detail that shows the complex nature of society and the pressures exerted on and by it throughout the period. There also remain large gaps in our knowledge base, both spatially and topically, which means that the potential remains high for ongoing and future research to reveal new insight that challenges accepted narratives. This paper introduces two case studies where geophysical survey has been employed to map rural settlement areas in locations that are today either deserted or contracted settlements. In one study, the paper considers the factors that led to the settlement's inception, while in the other case study the paper highlights factors that might have led to its shrinkage.

Castlemore, Co. Carlow, an Anglo-Norman manor

The upstanding earthen motte castle at Castlemore, Co. Carlow (Sites and Monuments Record number CW008-033001) in the east of Ireland is typical of many former manor centres, or rural boroughs, where very little survives above ground today (in contrast to the deserted settlement at Newtown Jerpoint, Co. Kilkenny, featured in this volume) (Fig. 1). The wider county is renowned for its arable agriculture, and centuries of ploughing have removed all but the most obvious features from view. The motte is a substantial structure, rising 8 m in height above the base of a 5-6 m wide ditch to create an elevated surface between 25 m and 30 m in diameter. It was built with a D-shaped enclosure, or bailey, on its north side that measures 44 m across and is quite degraded today, being just visible at ground level. A diminutive graveyard

hEorpa meánaoisí. Cuirtear dhá chás-staidéar i láthair: ceann amháin ó cheantar coilínithe an oir-dheiscirt; an ceann eile ón iarthuaisceart, áit a raibh dul chun cinn na nAngla-Normannach níos moille. In ionad sonraí gach lonnaíochta a thabhairt, díríonn an páipéar seo ar cheisteanna a bhaineann le bunú na lonnaíochtaí agus lena gcuid meatha. Cé go dtugtar aitheantas do cheisteanna mar sin, is annamh a fhiosraítear iad.

Eochairfhocail: *Baile Meánaoiseach Tréigthe, Lonnaíocht thréigthe, Suirbhé Geoifsiceach, Éire mheánaoiseach dhéanach.*

some 180 m to the south is the only other indicator of former usage, and that site lacks a clearly defined church structure. All in all, there is little to inform the visitor about the manor of Forth that once existed here, and whose annual accounts reveal a healthy income of some £50 annually during the late 1200s.

In 2004, the author led a research team to the site to discover whether it was possible to reveal further insight. A programme of field walking was very successful, collecting some 2,000 potsherds in the fields either side of the motte over 2 short seasons when the fields were recently ploughed. The sherds followed a linear distribution that was clearly relevant. A programme of geophysical survey was then commissioned and revealed the wider footprint of the manor's settlement area (Fig. 2). The manor is laid out in a linear plan aligned north-west – south-east, extending over an area that reaches some 500 m long by 350 m wide, and with the northern limit defined by a broad curvilinear termination. There is a principal street within the settlement aligned north-west – south-east, and property plots extend from it at right angles, populated by individual house plots and outbuildings that generally have their gable or narrow ends facing the roadway. The motte and its bailey are more or less centrally located within the settlement. Two lesser road features are evident reaching

Fig. 1 (opposite page, above): The motte castle at Castlemore, Co. Carlow, viewed from the east and showing the ploughed field that retains ceramics and related artefacts that lie on the surface and above the geophysical anomalies that reveal a deserted settlement (photograph by Niall Brady, © The Discovery Programme).

Fig. 2 (opposite page, below): Gradiometry survey at Castlemore, Co. Carlow, showing the sequence of geophysical anomalies as a greyscale image, overlaid onto the Ordnance Survey 6-inch-to-the-mile base map, Carlow Sheet 8. None of the geophysical survey features are visible above ground. Surveys acquired by Paul Gibson, NUI Maynooth and by John Nicholls, Target Archaeological Geophysics (image prepared by Niall Brady, © The Discovery Programme).



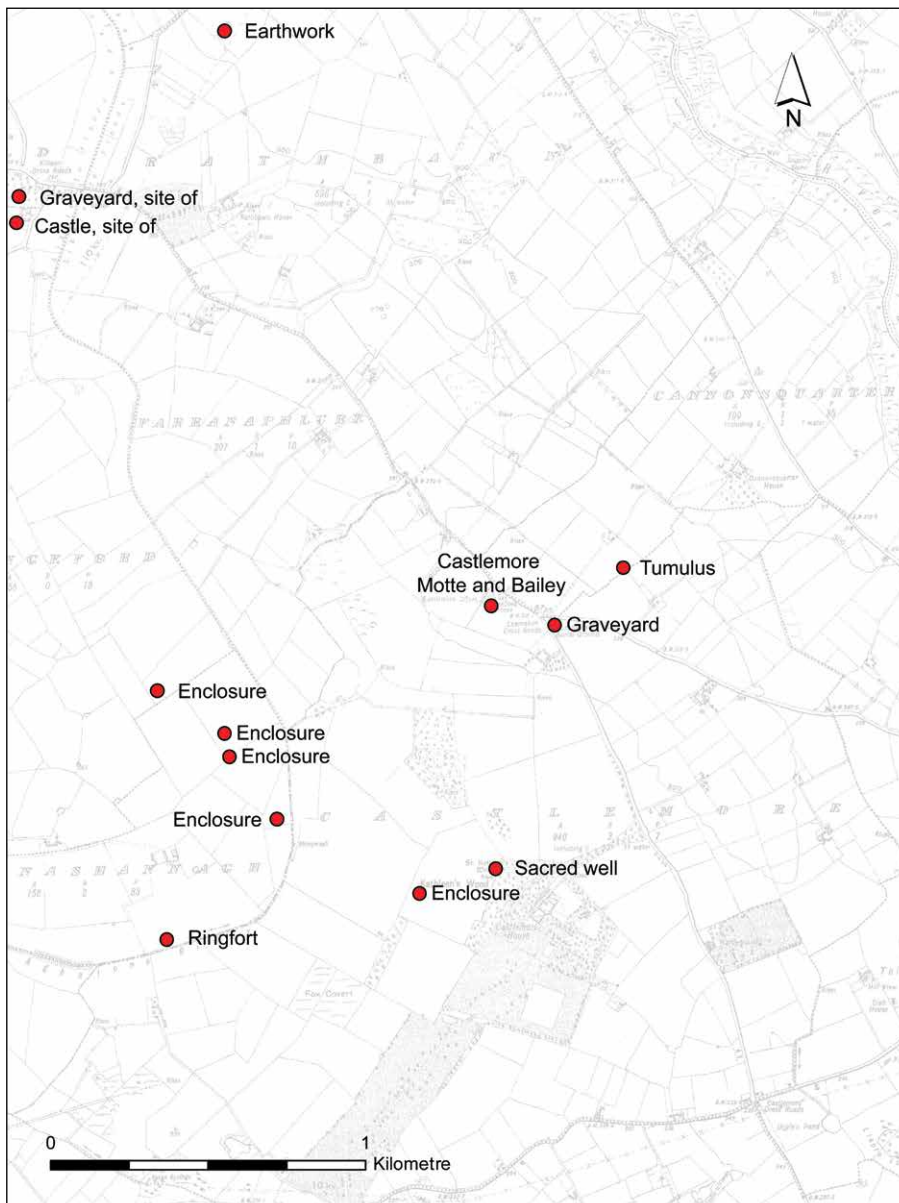


Fig. 3: Distribution map based on Ordnance Survey 6-inch map, showing overlay of recorded archaeological monuments (SMR) in the vicinity of Castlemore motte-and-bailey (image prepared by Niall Brady, © The Discovery Programme).

west and south from the bailey. The ceramic scatters can be associated with the principal settlement features near the main roadway and highlight these as houses.

The ceramics help us to chart the floruit of the settlement in the 13th-14th centuries and its contraction during the 14th century, after which the early modern period ceramics reveal a reduced settlement area and a refocus of activity away from the central detail of the motte castle. This pattern is what can be expected from what we know about the economic boom of the 'long thirteenth century' and the subsequent collapse that marks the 'calamitous fourteenth century'. The boom saw a shift to arable agriculture and the associated establishment of such villages, while a new economic base developed after the collapse that favoured a return to less-intensive land

use and a mixed-farming model in which livestock played a greater role.

Within the context of the present paper, I wish to explore the origins of the manor rather than its floruit and collapse. The Anglo-Norman colonization that underpins the emergence of these settlements in Ireland is generally considered as a major transformative event that shifted the path of social and economic development within Ireland, accelerating change and creating the model of manorial exploitation that was seen across Europe at this time (and reflected in many papers in this volume). Contemporary commentators narrate a process of conquest, and the string of earthen castles that populate the countryside fill in the spaces between larger masonry castles and help to create the sense of a militarised landscape of lordship.

The detail recorded at Castlemore allows further insight and might serve as an example to show how the Anglo-Norman lords managed to assert their authority on the landscape. In doing so, Castlemore opens wider questions concerning the nature of the transformation that occurred and may help to qualify the process of colonisation.

In 1174 Strongbow, earl of Pembroke, granted the barony of Forth (referred to as Forthered) to Raymond le Gros, on the occasion of Raymond's marriage to Basilia, the earl's sister (*Orpen 2005*, 320; *Murphy 2007*, 131; *Empey 2008*, 161). In doing so, the Gaelic territory of the Fortharta Uí Nuairín (O'Nolans) passed into Anglo-Norman hands. The manor as recorded in the geophysical survey data and as charted by the ceramics may date to the 13th century, when the manor passed by inheritance from the Marshal earls of Pembroke to the Bigod earls of Norfolk in 1248, as one of several Irish holdings that were to become the Liberty of Carlow (*Nugent 1955*, 62; *Murphy 2007*, 75-77). The site of the manor and its motte is located on some of the most fertile land in the wider area. Written accounts of pre-existing landholding are not detailed enough to be entirely clear about who owned or occupied the land on which the manor's demesne and its associated village came to be sited, but a sense can be ascertained from the distribution of recorded archaeological sites in the vicinity (Fig. 3). There is a scatter of sites associated with secular settlement (ringforts and enclosures), but the closest earthen enclosure is ca. 1 km southwest, in Rathnashannagh townland (Site and Monuments Record number CW008-041) where it forms one of a three-site cluster, while other such sites lie 2-3 km away from the later motte. In contrast, a series of early church remains help to fill the space that surrounds the later motte and bailey, while a tumulus 400 m to the east of the motte adds a prehistoric ritual element (CW008-034). A sacred well, St Kathleen's Well, lies ca. 700 m south of Castlemore. North-west of Castlemore, the site of Grangeford rath and burial ground stands out, while a 'bullau stone', or wishing stone, at Friarstown suggests the origins of the earthwork and subsequent moated site and tower house that are found here. The inference to take from such archaeological remains suggests that the lands upon which the later motte-and-bailey castle were built in the late 12th century at Castlemore to serve as the manorial caput were located in a very rich arable landscape where pre-existing ecclesiastical interests were to the fore.¹ The wrestling of lands from the Church rather than from

1 It is the case as well that these lands came into church ownership during the later medieval period more generally: the Cistercians at Baltinglass, Co. Wicklow, managed a grange at Grangeford to the north-west of Castlemore; the Augustinians in Dublin were given Cannonsquarter immediately to the east; and various other ecclesiastical holdings are noted in the area.

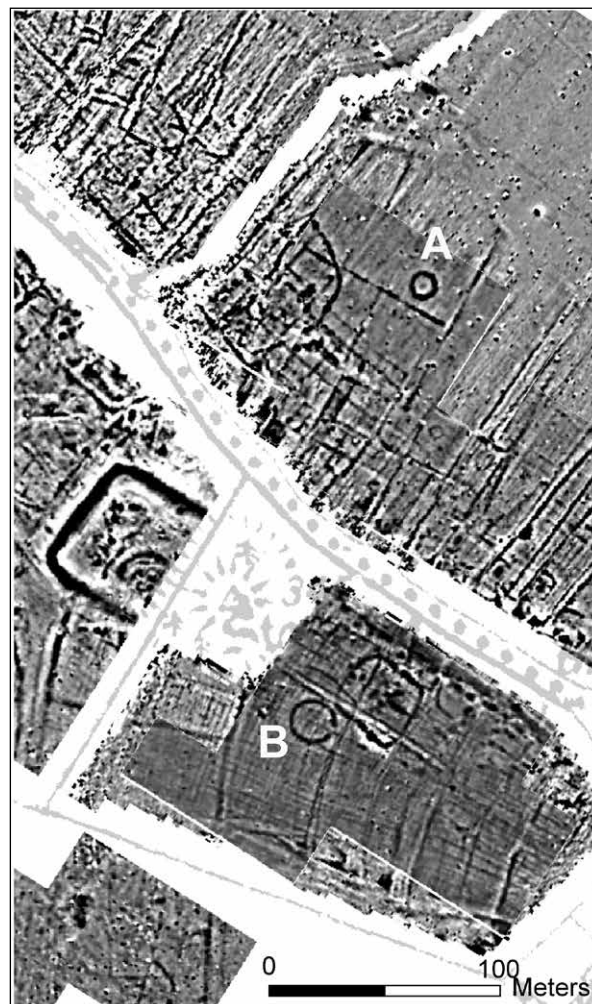


Fig. 4: Detail of gradiometry survey at Castlemore, Co. Carlow, showing area close to the motte castle, and highlighting two circular anomalies, A and B, that are indicative of prehistoric barrow features (image prepared by Niall Brady, © The Discovery Programme).

secular interests may explain how Raymond le Gros managed to assert his authority in Castlemore without causing undue turmoil locally.

The geophysical survey data add further insight. The dataset that reveals the High Medieval street village also records an underlying layer of features that predate the village (Fig. 4). One of two small circular anomalies lies on the north side of the road that runs past the motte-and-bailey (Fig. 4, A). A strong magnetometry reading forms a discrete circle measuring 13.3 m in diameter. An outer encircling element appears to be related, extending the diameter of the site to 32 m. The outer circle shows up as a thin line and it is not entirely centred in relation to the main anomaly. A central variation occurs, suggesting a principal feature at its core. The second circular feature occurs to the east of the motte (Fig. 4, B). It is penannular in plan with a 3 m wide opening to the east and measures

19 m in diameter. Two localized and small-scale anomalies occur side by side within the interior on its north side, but there is little to suggest clearly defined internal features. Later features cut across it. Both anomalies call to mind a prehistoric ring ditch, as was identified close by in Baunogephluire, Co. Carlow, beneath later levels and measuring 9.25 m x 10.75 m in diameter, offering a local comparison (*Stafford 2005*). They also amplify the narrative for the presence of a prehistoric burial landscape indicated by the tumulus that lies 400 m east of Castlemore motte.

Prior to the establishment of the medieval manor at Castlemore, the land appears to have been under ecclesiastical control, and it may not have been intensively settled because the land itself appears to have been a prehistoric burial ground. The early medieval Church may have retained memory and respect for the pre-Christian sacred landscape, but the situation changed dramatically in the 12th century. Indeed, this was a time of ecclesiastical reform and the old Church was being replaced by the continental orders who arrived in Ireland slightly before their Anglo-Norman secular counterparts (see Lynch on Tintern Abbey in this volume). Castlemore, arguably, captures the transformation that occurred across much of Ireland at this time, and it does so in a way that explains the largely peaceful appropriation of secular power. Whether the Uí Nualláin reflected on the loss of church lands is not recorded, but what better way to appropriate authority and establish a new order than by building on sacred lands so that any connections with ancestral legacy are obliterated.

Ballintober, Co. Roscommon, a frontier manor taken over by Gaelic authority

When one travels west of the Shannon in Ireland the strength of the Anglo-Norman presence is less, and indeed the colonisation process took place almost a century later. This was in part because of the distance from Dublin and from Norman power bases, and in part because of the presence of strong Gaelic kingships who maintained a relationship with the English kings, no matter how tenuous those relationships could be. Anglo-Norman interests were satisfied to impose their authority by controlling the major communication routes. The English king established castles along the River Shannon, Ireland's principal river, which divides its western province, Connacht, from those in the east and south. To control Limerick in the south-west was to control the estuary of the Shannon, and the Plantagenet King John was quick to assert his authority there. By 1200 he was busy building a magnificent castle. Subsequent decades saw castle building extend upriver. When the opportunity arose – principally when Irish kingship was weak – English authority moved

in. By 1210, Athlone was taken for the king, midway along the Shannon and at a major crossroads across the country; in 1214 he had a castle built at Clonmacnoise to the south of Athlone, directly next to the ancient monastic town (*O'Conor – Manning 2003*). In 1227, Henry III, John's eldest son, began works to the north of Athlone at Rindown, or Rinn Duinn – 'fort of the promontory' – which lies at the north end of Lough Ree, a large lake within the river system. As its Gaelic name suggests, the king took over a site that had been an important place. He built a castle there and established a planned town alongside it. In 1245 the king had the Irish King Felim O'Conor pay for the building of a castle in Sligo, at the northern end of the Shannon and another port town onto the Atlantic. These works curtailed Gaelic interests along the Shannon, and the authority of Ireland's principal river system passed from O'Conor control to the Anglo-Normans.

The English king was ably assisted by his barons and, in the context of the progressive erosion of O'Conor power, the de Burgh barons were to the fore. The de Burgh served to fill out the footprint of Anglo-Norman authority and made progressive inroads across Connacht and into Ulster. By the early 1300s, de Burgh influence was being asserted on the edges of the ancient O'Conor lands in Magh nAí – the Plain of Aí – and one such location was that of Ballintober.

Ballintober, Baile an Tobair – the place of the Well – lay within the lordship of the Ó Floinn, who were tributary lords to the O'Conor kings of Connacht. The sources do not survive that document the construction of a castle in Ballintober, but a large masonry castle had been built there by the early 1300s and it is similar in design to the royal castle of Roscommon 15 km to the south, built from 1269, and the de Burgh castle of Ballymote 20 km to the north, built at the start of the 14th century. Ballintober Castle is a large site. It is defined by a perimeter wall that contains 4 corner towers and a double-bastioned entrance facing east. The interior space, measuring 85 m across, has no surviving buildings above ground, and this has prompted archaeologists to refer to it as a keepless castle, but geophysical survey has revealed a sequence of masonry buildings within the interior that are arranged around an internal courtyard. The chronological relationship of the buried buildings to the standing remains is not yet known, but it is clear that the site represents a substantial Anglo-Norman presence (*O'Conor Don 1889; O'Conor Don – O'Donovan 1891, 166-167; Brady et al. 2018*).

The castle lies adjacent to the village of the same name, highlighting the presence of a pre-existing settlement here. An *inquisitions post mortem* of 1333 outlines the holdings of the de Burgh estate, and Ballintober (referred to as Toberbride – 'Bridget's well') is one of many manors listed across Connacht and Ulster (*Knox 1902, 59-60*). It comprised a demesne, two watermills, and a Hundred



Fig. 5: Gradiometry survey at Ballintober, Co. Roscommon, showing the sequence of geophysical anomalies as a greyscale image, overlaid onto the Ordnance Survey Orthoimages. Surveys acquired by the Castles in Communities research field school (image prepared by Daniel Cearley, © CICASS).

Court, with free tenants who held lands in various locations outside the demesne. The demesne had 300 medieval acres of arable land, and a much smaller area set aside for pasture, woodland pasture, and meadow. The manor was valued at £84 1s 10d before the calamities of the 14th century; so that by 1333 it was worth only £10. Later sources do not describe the castle or its associated assets in any detail, but do distinguish the castle, its bawn, and the town of Ballintober. The de Burghs quickly lost ownership to the O'Conors, who are mentioned there in 1362 and who more or less remained there until the castle was abandoned in the early 1700s.

The archaeological narrative of the castle and of the wider settlement has benefited from the presence of a research field school, Castles in Communities, which has been studying Ballintober since 2015 (Brady *et al.* 2018). Where before the medieval narrative was defined almost exclusively by the castle, new survey around the castle and to its east has revealed the footprint of the former associated settlement. In the same way that geophysical survey at Castlemore has revealed a 'street village' in Co. Carlow, similar work is exposing a street village in Ballintober (Fig. 5).

The settlement extends east and south from the castle until it reaches a turlough, or seasonal lake, where

a series of wetland features are located around it. The main elements of the settlement comprise a central road, property plots extending at right angles from the road, and houses defined by perimeter walls and central hearths, along with pits and stone heaps. The western extent of the settlement is not clearly defined because the present-day village is located here, as are the known early elements of Ballintober, including the graveyard and the site of a market cross. A large quarry cuts across the central area of the settlement, confusing the picture somewhat.

The observation of villages of the medieval period in Connacht is something of a novelty; this was a landscape where Gaelic lifeways are considered to have remained strong throughout the period, and the accepted narrative has not recognised the focus on arable husbandry. Yet it is clear that even in north Roscommon, where the soils and environment are naturally more favourable to livestock management, the 'long thirteenth century' predilection for arable agriculture was pursued. Indeed, it was not particular to Anglo-Norman colonists, and we are beginning to see indications that Gaelic lords were equally keen to maximise the profit of their lands (Brady 2009; Brady *et al.* 2011).

Excavation is under way within the deserted settlement at Ballintober to refine the insights, and further survey

Date	Places Mentioned	Event
1311	Ballintober	Seonac Mac Uidilin, the leader of a mercenary band working for de Burgh and who had killed Aedh Brefnech O'Conor in 1310, slew a <i>gruelach</i> at Ballintober, and was himself killed a short time later.
1315-1316	Castle	Rory O'Conor attacked the great castles of Connacht, including Ballintober, which he burned.
1333	Castle, demesne, watermill	<i>Inquisitions post mortem</i> of William de Burgh describes a typical manorial structure, comprising a demesne of 300 medieval acres that was exploited directly by the lord, with significant income accruing from 2 watermills and a Hundred Court, and free tenants who held lands in various locations outside the demesne.
1362	Ballintober	Cathal Og and the son of Felim O'Conor, Aedh, king of Connacht seized Ballintober and went on to make a great hosting into Meath.
1375	Ballintober	Turlogh Roe O'Conor (ancestor of O'Conor Roe) gave Roscommon Castle to Rory O'Conor, king of Connacht from the O'Conor Don line, in exchange for Ballintober and other concessions.
1381	Ballintober	Rory O'Conor, king of Connacht belonging to a proto-O'Conor Don line, plundered O'Conor Roe and took back Ballintober.
1385	Ballintober	David, son of Edmund de Burgo, was captured by Aodh O'Conor Don and died as a captive in Ballintober.
1409	Ballintober	The place where those who were helping to provision the besieged castle of Roscommon met Mac William Burke.
1426	Ballintober	Aedh O'Kelly, king of Uí Maine (a territory in south Roscommon), raided Ballintober and took many cows.
1434/35	Bawn and town	Attack and burn Ballintober.
1570/71	Castle	Sir Edward Fyton attacked Ballintober Castle as O'Conor's chief castle and desired a ward be put into it.
1581	Ballintober	Ballintober, which was still in the hands of the English, was given to Dubhaltach, son of Tuathal O'Conor.
1585	The castle and its adjoining lands	O'Conor Don died at Ballintober and was buried at Roscommon. The castle and its adjoining lands were surrendered to Queen Elizabeth by his son and heir Hugh O'Conor Don, who received them back under patent from the Queen, with the lands amounting to 120 acres.
1591	Ballintober	Ballintober is highlighted as a principal place in John Browne's 'Map of Connacht, 1591'.
1596	Castle	Ballintober Castle is recorded in a list of castles, forts, abbeys, and houses taken by the rebels (the Irish) and is described as 'burnt and defaced'.
1598	Castle	Following the defeat of English forces at the Curlews, O'Donnell sought to drive home his victory, and attacked Ballintober, placing a large gun on high ground to the south and battered down the castle, forcing O'Conor Don to surrender.
1617	Castle, bawn, and town	Under James I, High O'Conor Don surrendered his lands and was regranted them in 1617.
1634	Castle	Sir Hugh's son Charles became the next O'Conor Don and he also resided at Ballintober, but his reign was short (died 1634).
1636	House and castle	<i>Books of Survey and Distribution</i> record that Charles O'Conor Don had in Rosmeane and Ballintober townlands a house and castle and 177 acres of arable and pasture.
1642	Castle	The castle was the backdrop for an incident during the Civil War, when parliamentary forces intent on tackling the Catholic forces stopped short of attacking the castle for fear of being overwhelmed.
1652	Castle	Ownership was taken back by the Crown.
1657	Castle and lands	Charles O'Conor Don's widow, Mary O'Conor, was given 5 townlands close to Ballintober amounting to 700 acres, and the castle was given to Lord Kilmallock.
c. 1659	Ballintober	A total of 56 Irish are recorded as being in Ballintober townland as part of a nationwide survey known as the 'Census of Ireland' (1659), and gathered by Sir William Petty as a component to a larger assessment of properties and their boundaries across Ireland.
1677	Castle, bawn and lands	The lands were restored to the O'Conors through Colonel Hugh O'Conor, who sought recognition of the restoration under Charles II.
1790	Castle	Castle and lands sold to the Mahons of Strokestown House.

Table 1: Short timeline, highlighting mention of Ballintober between ca. 1300 and 1790. Sources: O'Conor Don 1899; Knox 1903, 59-60; Pendar 1939, 580; Simington 1949, 11; Anne Connon, personal communication 2014.

will help to fill in the gaps so that we can develop a still more comprehensive view of the settlement's ground plan, but the subject of this essay is to think about the desertion of the settlement or perhaps, more accurately, its contraction.

The de Burgh may have left Ballintober by 1362, but the castle he had built and the associated settlement continued in use, largely under O'Conor control, as recorded in the contemporary sources. In its own right, this is an interesting narrative that we

can associate with these strong and able Gaelic lords who make Ballintober their caput. The majority of the references are either to the castle or to Ballintober as a single entity, with fewer references to the associated settlement. The references tend to assert the sense of habitation and occupation continuing, but do not convey much further insight (Tab. 1).

Perhaps the most descriptive reference to the wider settlement is the account of an attack in 1434 or 1435 when O'Kelly and his allies burned Ballintober (*Annals*



Fig. 6: Scanned detail of Ordnance Survey First Edition 6-inch-to-the-mile map, Roscommon Sheet 27, showing extent of Ballintober village as recorded in 1838 (image prepared by Niall Brady, © CICASS).

of the Four Masters 1434.13; *Annals of Connacht* 1435.2). O’Kelly, Mac Dermot, and Teige, son of O’Conor Roe, attacked Ballintober (Baile an Topair): a battle was fought in which many were wounded, both within and without the town (baile). One of the attackers took a chip from the end of a wattle and set fire to it, casting the wattle into the bawn (badhb-dún). It stuck in the side of a house that was then burned, as was the adjoining house, and finally the greater part of the town. The bawn was also burned, and a vast deal of every kind of property in the town was destroyed. But the town survived and is mentioned again throughout the late 1400s and into the 1500s. There is also an entry in the 1659 ‘census’ that records 56 individuals in Ballintober, listed as Irish, but it does not reveal where the people lived (*Pendar* 1939, 580).

Another and later perspective is provided by the Ordnance Survey in 1838, when it mapped the village and its surrounding landscape (Fig. 6). The settlement footprint is much reduced. Indeed, the map suggests a great separation has taken place within the village. A single principal road extends NW-SE through the village, linking the castle with the graveyard at the upper end of the village, and then with a small cluster of 12 or so houses in the south end that concentrate around the crossroads. There is no indication of the more easterly road recorded in the geophysical survey, or of the associated houses and properties. There is hardly a sense of cohesion. In the years since 1838, the village has grown again and today the houses run up much of the same main road recorded in 1838, and there is small development extending along the roads to the south of the crossroads. It is as if the village

is rediscovering itself, but the factors that lie behind the contraction since the 1600s have yet to be understood. The fortunes of the O’Conors waned during the later 17th and 18th centuries, and a new house built some 10 km away at Clonalis, Castlerea, becomes the family seat from the early 1700s. The departure of the family from the village must have had a negative effect, but whether its impact was so great as to play a significant role in the village’s contraction is not clear. The later medieval settlement at Ballintober is entirely a result of the construction of the castle in the early 1300s; whether its fortunes were still inexorably linked to the castle in the early 18th century remains a question for the Castles in Communities project to explore.

The deserted medieval village is a well-known phenomenon, championed in large part by the careful study of such sites in England, and more cautiously considered today as deserted settlements. Their study in Ireland is younger, but there is a solid base of work achieved (*Glasscock* 1970, 171; *O’Conor* 1998, 46-48; *Murphy – Potterton* 2010, 192-202; *Gardiner – O’Conor* 2017, 135-136), and these sites are attracting renewed attention as featured in this volume (see also *Bolger* 2017). The reasons for settlement creation and desertion or contraction remain less well-considered (see also Schreg and Lewis in this volume). Inevitably within Ireland, such processes are considered within the context of a failing or inhibited community but, as Van Doesburg in this volume considers in his study of ‘settlement drift’ in the Netherlands, we might also begin to consider the processes in Ireland within the context of a dynamic.

What this short essay has attempted to show are some of the forces that may have guided the development of later medieval rural settlement in Ireland, and how our own thinking can diversify when we consider Ireland within a wider comparative context.

Acknowledgements

I wish to thank Paul Gibson and John Nicholls for their geophysical surveys of Castlemore, started by Paul and completed by John, and my former colleagues and team members of the Medieval Rural Settlement project within the Discovery Programme, 2002-2010. The same team first drew me to Ballintober in the early 2000s, and more recently my colleagues within the Castles in Communities project have achieved the detailed survey of the deserted settlement there, and with whom I continue to enjoy spending the summer months exploring the large questions that are associated with Ballintober. I wish to warmly acknowledge my co-directors Siobhan Boyd, Daniel Cearley, Samuel Connell, Chad Gifford, Ana Lucía González and Kathryn Maurer, and project supervisors Andrew Bair, Rachel Brody, Brian Kranzler and Colin Jaramillo, who make Castles in Communities so worthwhile. We are also indebted to Marguerite and Pyers O'Connor Nash of Clonalis House and the Ballintubber Tidy Towns Committee for their constant support.

References

- Annals of Connacht (AD 1224-1544):*
Freeman, M.A. (ed.), Dublin 1944, reprinted 1996.
Annals of the Four Masters: <http://research.ucc.ie/celt/document/T100005D> (27-03-2019).
- Bolger, T. 2017:*
Colonising a royal landscape – the history and archaeology of a medieval village at Mullamast, county Kildare. Dublin.
- Brady, N. 2009:*
Just how far can you go with a pebble? Taking another look at ploughing in medieval Ireland, in: Fenwick, J. (ed.), *Lost and Found II*. Bray, 61-70.
- Brady, N. – Shanahan, B. – McNeary, R. – Shaw, R. 2011:*
Unravelling landscapes from the air: new approaches to Rathcroghan, *Peritia* 22-23, 295-316.
- Brady, N. – Connell, S. – Maurer, K. – Cearley, D. – Gifford, C. – González, A. 2018:*
Castles in Communities, *Archaeology Ireland* 32:4, 17-22.
- Empey, A. 2008:*
The Liberty and counties of Carlow in the High Middle Ages, in: McGrath, T. (ed.), *Carlow history and society*. Dublin, 153-171.
- Gardiner, M. – O'Connor, K. 2017:*
The later medieval countryside lying beneath, in: Stanley, M. – Swan, R. – O'Sullivan, A. (eds), *Stories of Ireland past. Knowledge gained from NRA roads archaeology*. Dublin, 133-152, 165-201.
- Glasscock, R. 1970:*
Moated sites and deserted boroughs and villages: two neglected aspects of Anglo-Norman settlement in Ireland, in: Stephens, N. – Glasscock, R. (eds), *Irish geographical studies in honour of E. Estyn Evans*. Belfast, 162-177.
- Knox, H. T. 1902:*
Occupation of Connaught by the Anglo-Normans after A.D. 1237. Part 1, *Journal of the Royal Society of Antiquaries of Ireland* 32, 132-138.
- Knox, H. T. 1903:*
Occupation of Connaught by the Anglo-Normans after A.D. 1237, *Journal of the Royal Society of Antiquaries of Ireland* 33, 58-74.
- Murphy, M. 2007:*
The profits of lordship: Roger Bigod, early of Norfolk, and the lordship of Carlow, 1270-1306, in: Doran, L. – Lyttleton, J. (eds), *Lordship in medieval Ireland. Image and reality*. Dublin, 75-98.
- Murphy, M. – Potterton, M. 2010:*
The Dublin region in the middle ages. Settlement, land-use and economy. Dublin.
- Nugent, W. F. 1955:*
Carlow in the Middle Ages, *Journal of the Royal Society of Antiquaries of Ireland* 85, 62-76.
- O'Connor Don, C. 1899:*
Ballintubber Castle, County Roscommon, *Journal of the Royal Society of Antiquaries of Ireland* 9, 24-30.
- O'Connor Don, C. – O'Donovan, J. 1891:*
The O'Conors of Connaght, an historical memoir. Dublin.
- O'Connor, K. 1998:*
The archaeology of medieval rural settlement in Ireland. Dublin.
- O'Connor, K. – Manning, C. 2003:*
Clonmacnoise castle, in: King, H. (ed.), *Clonmacnoise Studies 2*. Dublin, 137-165.
- Orpen, G. 2005:*
Ireland under the Normans 1169-1333. reprinted Dublin.
- Pendar, S. 1939:*
A census of Ireland, circa 1659. Dublin.
- Simington, R. (ed.) 1949:*
Books of survey and distribution. Volume 1 county of Roscommon. Dublin.
- Stafford, E. 2005:*
Baunogephluire, Carlow, licence 05E0452. excavations. report/2005/Carlow/0013072/ (19-03-2019).

New evidence for the transformative impact of depopulation on currently inhabited medieval rural settlements from archaeological test-pit excavation in England

*Carenza Lewis**

Summary

This paper reviews the difficulties of reconstructing the development of rural settlement in places where more recent habitation has overlaid suspected medieval settlements, and presents the outcomes of a new approach that is producing promising data from currently occupied rural settlements in the UK. This involves the siting of numerous 1 m square 'test pit' excavations within currently occupied rural settlements (CORS) wherever space allows, and then mapping the distribution of pottery of different dates. The resulting data are showing which parts of settlements were inhabited at different dates, settlement by settlement, at a range of scales from individual plot to regional pays and, when aggregated, enable the impact of phenomena such as the Black Death to be reconstructed. More widely, the data show many contemporary settlement plans to be relatively recent and in particular highlight the dynamic volatility of many rural settlements in the medieval period, in which transformation is revealed as a near-universal experience. The paper concludes by noting that this technique could easily be used effectively elsewhere in Europe.

Keywords: *Test pit, excavation, village, settlement plan, mapping, pottery.*

Resúme

Nouveaux évidences pour l'impact transformateur de la dépopulation sur les villages médiévaux actuellement occupées dérivé des petites sondages archéologiques en Angleterre

Cet article examine les difficultés de reconstruire le développement des villages dans des endroits où des habitations plus récentes ont recouvert l'activité présumée médiévale, et présente les résultats d'une nouvelle approche de recherche qui produit des données prometteuses au Royaume-Uni. Cette méthode utilise la mise en place de nombreuses petites sondages archéologiques d'un mètre carré à travers des villages ruraux actuellement habités, ainsi que la cartographie précise de la distribution des céramiques de différentes

* University of Lincoln
Brayford Pool
Lincoln
Lincolnshire LN6 7TS
UK
clewis@lincoln.ac.uk

époques y recueillies. Cette méthode permet de démontrer, d'une parcelle à une autre, quelle a été habitée à quelle période et à quelle échelle. Les résultats révèlent l'impact des événements sur la population comme la Peste, et montrent en outre que les plans de nombreux villages sont assez récents en mettant en évidence la volatilité dynamique des habitats ruraux à l'époque médiévale, dont la transformation peut être considérée comme une expérience quasi universelle. L'article conclut en notant que cette technique pourrait être facilement et très efficacement utilisée ailleurs en Europe.

Mots-clés: sondages archéologiques systématiques, fouilles archéologiques, villages rurales, cartographie, la poterie.

Zusammenfassung

Neue Belege für die transformative Bedeutung des Bevölkerungsrückgangs in derzeit bewohnten mittelalterlichen ländlichen Siedlungen durch archäologische Testgrabungen in England

Dieser Beitrag gibt einen Überblick über die Möglichkeiten und Grenzen der Erfassung von Siedlungsentwicklungen in ländlichen Bereichen, wo neuere bestehende Ortschaften

Introduction

Depopulation is a phenomenon that might be expected to play a major part in transforming rural medieval settlements. In medieval England, there are two eras in which the number of inhabited settlements drops nationwide and significant depopulation is suspected to have occurred. The first is the 4th-6th centuries AD, the second the 14th century. This paper focusses on the latter period. It reviews the difficulties of reconstructing the impact of severe depopulation in places where more recent habitation has overlaid suspected medieval settlements, and presents the outcomes of a new approach that is producing promising data from currently occupied rural settlements.

The 14th century was a historical watershed across Europe, during which a centuries-long period of demographic growth was thrown into reverse across the continent by successive environmental, economic, and epidemiological vicissitudes (Campbell 2016). These culminated in the Black Death plague epidemic of AD 1346-1351, vividly documented by contemporary eyewitnesses in places such as Florence (McWilliam 2003) as it swept across Europe and Asia, with suspected mortality rates averaging between 40% and 60% (Aberth 2001). In England, recurrent epidemics and attendant social changes meant the population took more than 200 years to begin a sustained recovery (Hatcher 1994; Nightingale 2005). However, although England is relatively well-

documented, historians lack comprehensive, consistent, reliable, scalable documentary population data (Benedictow 2004, 245-272), which makes it difficult to establish the overall demographic impact, and it is even more difficult to establish how individual settlements fared. Even in the small minority of manors for which detailed accounts survive that record numbers of peasants and mortalities (e.g. Dyer 1980; Razi 1980), these rarely identify precisely where people lived (e.g. Aldred – Dyer 1991). Archaeology, with its ability to provide datable physical evidence from known locations, should be better equipped to answer these questions, and some progress has been made using interdisciplinary approaches (e.g. Lagerås 2016).

vermutete mittelalterliche Siedlungen überlagert haben. Zudem werden die Ergebnisse eines neuen Ansatzes vorgestellt, der vielversprechende Daten aus derzeit besiedelten Dörfern in Großbritannien liefert. Dabei werden, wo immer es in den besiedelten Flächen (CORS) möglich ist, zahlreiche ein x ein Meter große, quadratische "Testgruben" ausgegraben und anschließend die Verteilung der Keramik aus verschiedenen Zeitphasen kartiert. Die daraus resultierenden Daten werden kartiert. So kann veranschaulicht werden, welche Teile der Ortschaften zu unterschiedlichen Zeitpunkten besiedelt waren. Durch die Methode ist es möglich, die Auswirkungen von Epidemien wie der Pest zu rekonstruieren. Im weiteren Sinne zeigen die Daten, dass viele zeitgenössische Siedlungspläne relativ neu sind, dadurch kann die dynamischen Gefährdungen vieler ländlicher Siedlungen im Mittelalter veranschaulicht werden; Transformationen zeigen sich als nahezu universelle Erfahrung. Der Aufsatz schließt mit der Feststellung, dass diese Methode problemlos auch in anderen Teilen Europas eingesetzt werden könnte.

Schlagwörter: Testgrabung, Dorf, Siedlungsplan, Kartierung, Töpferei.

In England, while archaeological survey and excavation has advanced knowledge of the process and timing of depopulation in some deserted settlements, until recently the impact of the demographic turbulence on non-deserted settlements has been explored less often. Rural settlement has long been an important area of research for medieval archaeologists (Gerrard 2003; Dyer – Everson 2012) and excavations of deserted sites have taken place in all parts of the country (e.g. Thompson 1960; Musty – Algar 1986; Austin 1989; Ivens et al. 1995; Wrathmell 2012). Other techniques have included field walking (e.g. Davison 1990; Foard 1978; Parry 2006; Cambridge Archaeological Field Group 2015) and topographical surveys (e.g. RCHME 1975-85; Everson et al. 1991). Such work has informed and advanced understanding of the

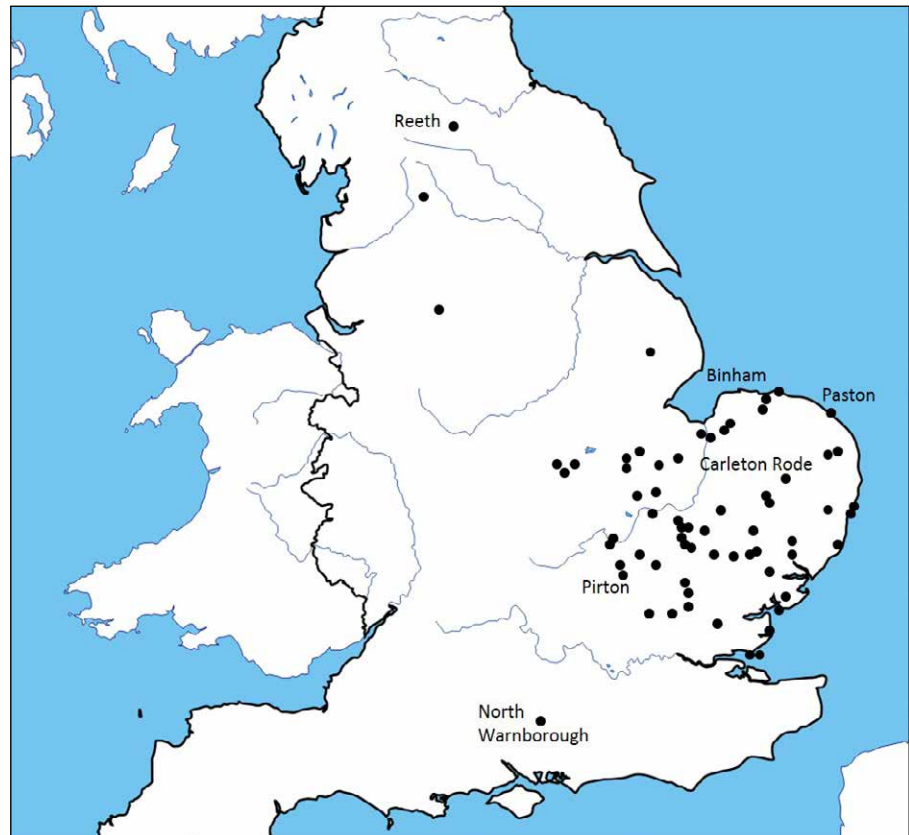


Fig. 1: Eastern England showing the location of parishes investigated by test pit excavation within CORS as of May 2017 (© Carenza Lewis).

origins and transformation of medieval settlement (e.g. Taylor 1983; Hooke 1985; Aston – Austin – Dyer 1989; Lewis – Mitchell-Fox – Dyer 1997; Jones – Page 2008; Rippon 2008).

However, most of this work has explored settlements that are today deserted or severely contracted (commonly known as deserted medieval villages or DMVs), while those that are still inhabited today have been somewhat overlooked. But relying on evidence from deserted sites alone to inform our understanding of how settlements developed in the medieval period is problematic, because DMVs are an atypical minority: only around 10% of medieval settlements became permanently deserted. Deserted settlements are atypical in other ways, being on average smaller than non-deserted settlements, recorded later in documents, paying less tax, and being sited in less-favourable locations (Lewis – Mitchell-Fox – Dyer 1997, 143-155). They are also very unevenly distributed, much more common in central England and rare in the south-east and north-west (Beresford – Hurst 1971). We cannot, therefore, be confident that reconstructing the trajectory of DMVs can inform our understanding of the development of the majority of settlements in the UK.

This demonstrates the need to focus greater archaeological attention on non-deserted settlements, but this is not straightforward, as the built-up character

of these currently occupied rural settlements (CORS) can be difficult for the archaeologist to access for excavation. Techniques such as field walking, earthwork survey, and aerial photography cannot be used at all, while geophysical survey is rarely effective, due to high levels of interference from modern features (upstanding and buried). Recently, however, a newly adapted technique, ‘test pit’ excavation, has been used to source new archaeological data from within CORS. This paper reviews the outcomes of test pit excavations in more than 60 CORS in England (Fig. 1). The data presented here are from England, but the implications are of wider significance, as the archaeological technique used is one that could potentially be deployed in any European country to explore how medieval rural settlements across the continent developed over time.

Method

The method used to collect the data reviewed in this paper involves the excavation of numerous test pits (1 m square hand-dug archaeological trenches) in as many different locations as possible within each CORS. Test pit excavation has been used on open landscapes since the 1970s (Coles 1972, 138-140; Barker 1986, 69-70; Hodges 1991; Hayes 1985) but was not used within CORS until 1995, when Chris Gerrard, Mick Aston, Michael

Costen, and Teresa Hall excavated 81 pits in the village of Shapwick in Somerset and mapped the pottery finds to reconstruct the historic development of the village (Gerrard – Aston 2007, 248-261). The method was used similarly effectively in several settlements in Whittlewood Forest in the early 2000s (Jones – Page 2008). With the proof of concept established, the English CORS project has since 2005 used the same method, excavating more than 2,000 1 m square test pits to explore the long-term development of more than 60 CORS in England (Lewis 2005; 2006; 2007; 2008; 2009; 2011; 2012; 2013; 2014a; 2014b; 2015; 2016a, 2017).

The process used to excavate all pits in the CORS project is standardised to allow comparison between different pits. Each test pit measures 1 m square (Fig. 2) and its location is recorded using GPS combined with taped survey. Any turf is removed and excavation then proceeds in a series of 10 cm horizontal spits. Before each spit is excavated, its surface is photographed, drawn at 1:10 scale in a custom-designed recording booklet, and its colour recorded with reference to a standardised colour chart included in the written handbook. All spoil is screened for artefacts using a 10 mm mesh, unless the spoil cannot pass through the sieve, in which case it is hand searched. Excavation continues to a depth of 1.2 m unless natural is encountered or a feature (ancient or modern) is uncovered, the removal of which is inappropriate or impossible. When excavation ceases, all four sections are drawn at 1:10 scale in the recording booklet, after which the pit is then backfilled and the turf (if present) is replaced. Dating and mapping pottery finds indicates which parts of the settlements appear likely to have been inhabited at different times (e.g. Lewis – Baillie 2014; Lewis – Pryor 2014a, 2014b, 2014c, 2014d; Lewis – Ranson – GBAHG 2014). Potters in the medieval period produced a wide range of wares, with most remaining in production for a century or more (McCarthy – Brooks 1988). In England, the mid-14th century is a watershed dividing production of most high medieval (early 12th – early 14th century) wares from subsequent late medieval (late 14th – late 16th century) ones. Given the long productive lifespan of most wares, short-term quickly corrected perturbations in settlement and demography are unlikely to register in pottery assemblages, but sustained long-term change will do so. Changes in pottery distributions from test pits in CORS are therefore likely to signify profound, enduring transformation of settlement.

Analysis aims to identify the number of sites likely to have been inhabited. Excavation and field walking data indicate that for the Roman period (1st – 4th century AD) and since the late 9th century, 2 sherds within a 1 m square is more than would be expected from low-intensity use, such as manuring of arable fields (Davison 1990; Parker Pearson – Schadla-Hall 1994; Haselgrove et al. 1985; Jones



Fig. 2: A test pit under excavation in Pirton, Hertfordshire (© Catherine Ranson and Carezza Lewis).

2005). Thus 2 or more sherds per pit can be used as a threshold for inferring the possibility of habitation nearby. Greater numbers of sherds enable this inference to be made with greater confidence. Negative evidence (i.e. the absence of pottery) is used with caution, with inferences based on several pits in different properties considered more reliable than those based on single pits.

Example: Pirton

The potential of the test pit methodology for reconstructing the development of settlements over time is explored in this paper, using the data from Pirton in Hertfordshire. More test pits (114 in total) have been excavated in this village than in any other CORS to date, and so it provides a useful demonstration of what this technique can reveal. The parish of Pirton in Hertfordshire had a population of 1,274 in the most recent census (conducted in 2011). The settlement is today a nucleated village with a little over 500 houses mostly sited east, west, and (mainly) north of the 12th-century church (*Herts Historic Environment Record 4315*) that lies adjacent to earthwork remains of a motte-and-bailey castle (*SAM Herts 13612*). Earthworks south and east of the motte (*HHER 746*) are likely to represent the remains of manorial features, possibly within

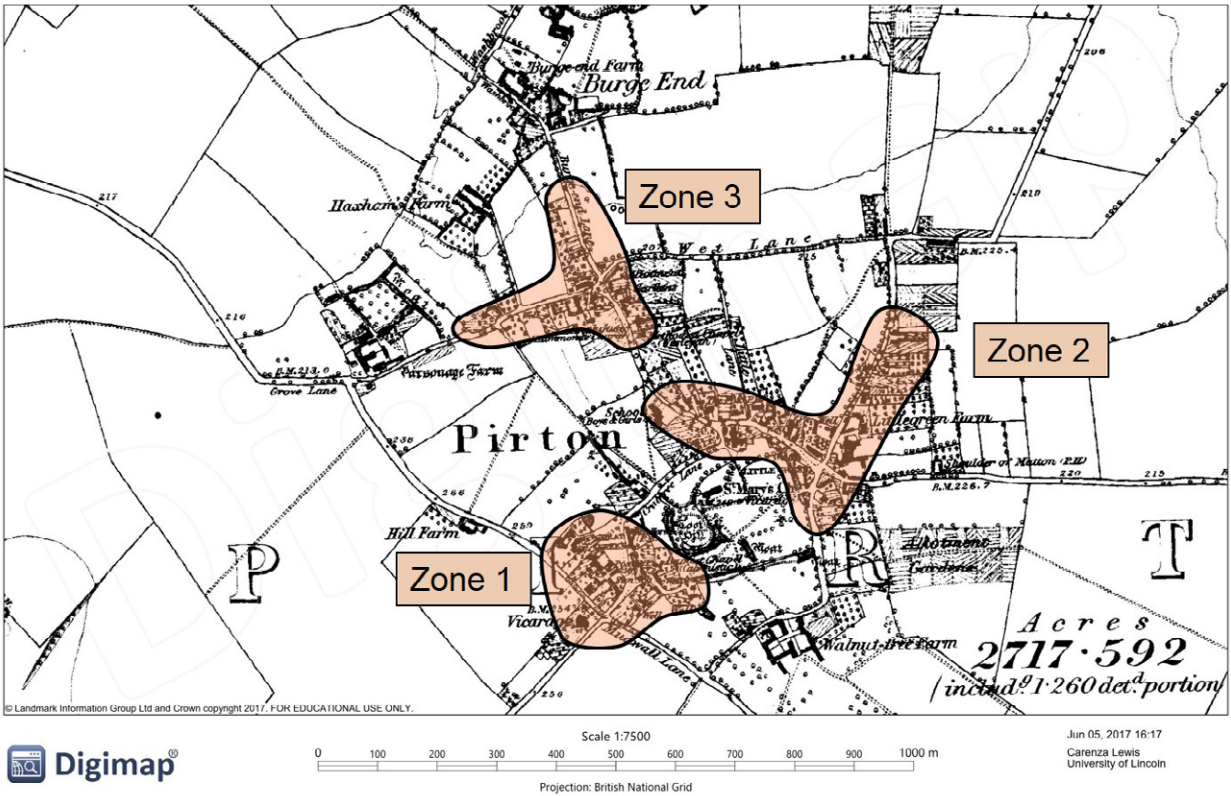


Fig. 3: Ordnance Survey map in Pirton showing the 3 main zones of habitation ca. 1850 (basemap © Edina Digimap, annotations © Carenza Lewis).

a large castle bailey. In the 19th century, before extensive 20th-century expansion on the north-east and south-west, the settlement comprised three discrete zones (Fig. 3). The small first zone clustered south-west of the church around Great Green and Bury End; the larger second zone lay in the centre of the present settlement, arranged mainly along the High Street and Royal Oak Lane; and the third zone comprised two smaller rows of houses somewhat intermittently spaced along the north end of High Street and along Shillington Road and Burge End Lane. Additionally, 3 detached farms lay c. 200 m to the north and west of zone 3, 2 of which have moats around them: fragmentary remains of one at Burge End Farm lie c. 0.3 km to the north of the present village, while a second, better-preserved moat lies 500 m to the south-west at Parsonage/Rectory Farm. A further detached farm lies beyond the southern fringes of the settlement c. 300 m south of zone 2.

Six maps (Fig. 4) show the approximate locations of the test pits (white squares, not shown to scale), with test pits producing pottery for each featured period shown as circles, overlain over the footprint of the present built-up area. For the Roman period (late 1st – early 4th centuries AD) (Fig. 4 top left), the pottery data indicate the presence of a large, apparently linear streamside

settlement to have been in existence to the north-west of the current settlement between Rectory Farm and Burge End Farm. This area appears to have been uninhabited throughout the early 5th-early 9th centuries (Fig. 4 top right), when a single sherd of handmade pottery from one pit to the south-east of the present settlement hints at limited, short-lived activity in this area, itself replaced by activity of 7th-9th-century date 400 m to the north along the present High Street, evidence of which was found during excavations in advance of development at the Fox Inn (Fenton 1993). In the 9th-11th centuries (Fig. 4 centre left), a much larger area of settlement is present in the centre of the present settlement and on its southern side, with a more restricted amount of activity on the site of the former Roman settlement. This central settlement appears to have been a newly founded nucleated village, perhaps developing from a pre-village nucleus near the Fox Inn. The settlement expanded in size until the 14th century (Fig. 4 centre right), after which date it contracted severely (Fig. 4 bottom left), not recovering its pre-Black Death size and density as late as the 16th-18th centuries (Fig. 4 bottom right). In summary, the archaeological data at Pirton reveal a considerable degree of dynamic developmental volatility under the footprint of the CORS, for which there is no other record. The

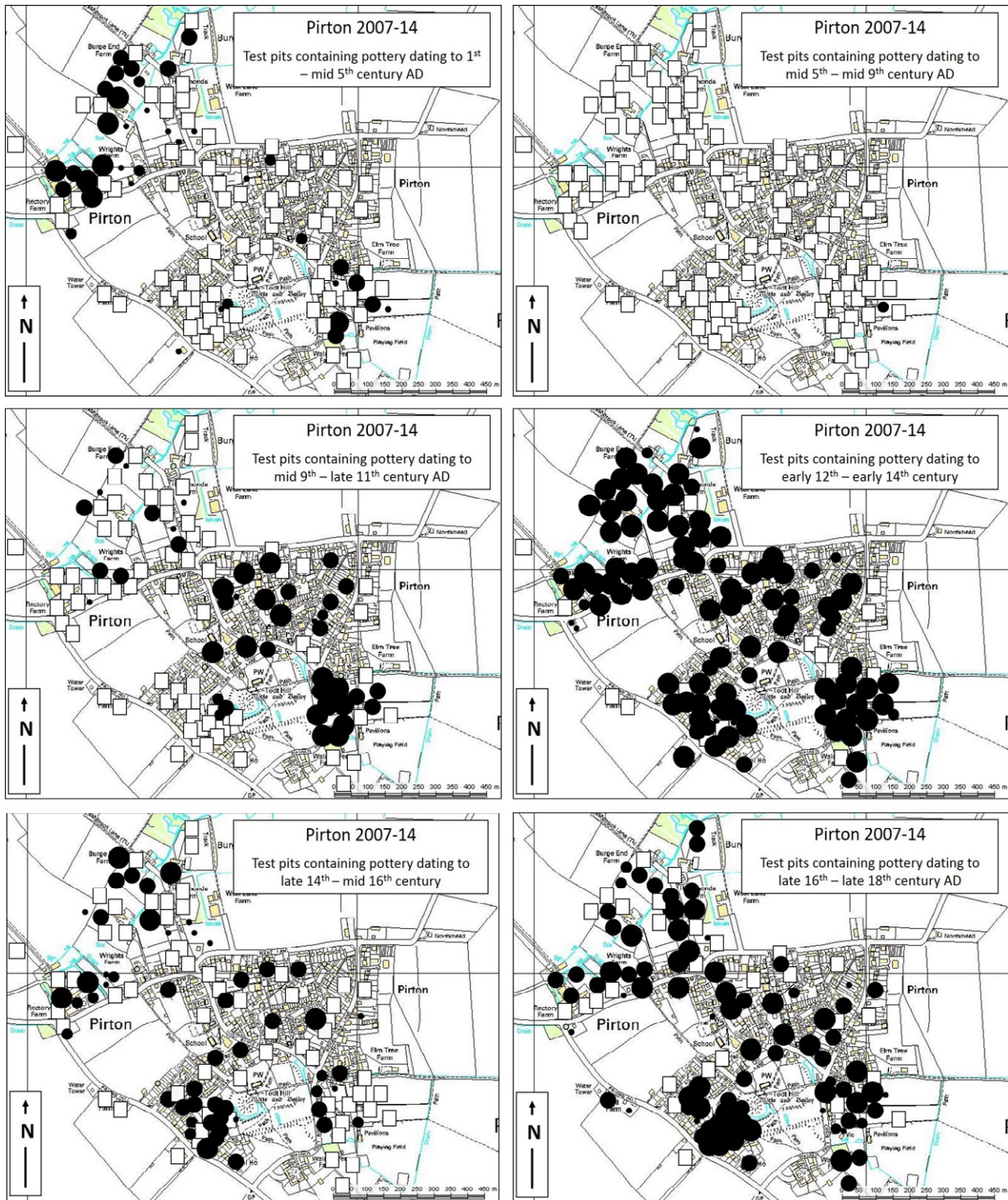


Fig. 4: The distribution of pottery from test pit excavations in Pirton by period from the 1st-18th centuries AD – 4a: 1st-4th centuries; 4b: early 5th-early 9th centuries; 4c: late 9th-late 11th centuries; 4d: early 12th-early 14th centuries; 4e: late 14th-mid-16th centuries; 4f: late 16th-late 18th centuries (basemaps © Edina Digimap, annotations © Catherine Ranson and Carena Lewis).

excavations at the Fox Inn covered a larger area than any individual test pit, but only provided information about the small area the excavations covered. The test pits, in

contrast, provide data from across the whole CORS, as well as granulated context for the Fox Inn excavation evidence of middle Anglo-Saxon of uncertain function

succeeded by buildings and a Christian cemetery, which indicates the presence of a now-lost church nearby.

Looking more closely at the Pirton test pit data from the periods before and after the 14th century shows how these can reveal the transformational impact of the 14th-century demographic collapse. Pirton in the 12th-14th centuries (Fig. 4 centre right) can be seen to be a densely inhabited place, in which the number of inhabited sites tripled from 33 to 91 between the 11th and 14th centuries. The distribution of test pits producing 12th-14th-century pottery shows that all parts of today's village were densely populated. These included areas that produced little or no evidence for habitation in the preceding 9th-11th centuries and can therefore be inferred to have been new extensions to the settlement in the 12th-13th centuries. These include ribbon development along High Street; new row settlements along Burge End Lane and Shillington Road, which merged the formerly separate farmsteads between Rectory Farm and Burge End Farm with settlement along High Street; and the addition of a new settlement around a small green at Great Green. Great Green lies close to the motte-and-bailey castle and present church, both of which are likely to be of 12th-century date (*HHER 32; 4315*), suggesting that castle, church, and settlement extension are all the result of substantial seigneurial construction and re-planning in the late 11th and 12th centuries. By the 13th century, Pirton had become a large, densely inhabited polyfocal agglomerated nucleated village measuring ca. 800 m by 600 m. The only areas which did not produce pottery of this date are those around Little Green and on the east side of Royal Oak Lane itself, which may have been the site of a large village green near the village pond, with Royal Oak Lane marking the eastern limit of the high medieval village.

The post-14th-century pattern of pottery distribution (Fig. 4 bottom left) shows the settlement at Pirton to have been utterly transformed. Overall, the number of pits producing habitative volumes of pottery plummets from 91 to 32: the settlement was reduced to barely a third of its former size. No part of Pirton was unaffected, but some distinct patterns are apparent. Royal Oak Lane and Burge End Lane appear to have been almost completely abandoned and the areas along Shillington Road and east of Walnut Tree Road fared little better. The formerly densely populated area along, and east of, High Street was reduced to an intermittent scatter of inhabited plots, which appear to have been separated by others that can be inferred to have been either entirely vacated or combined with those of former neighbours to provide a smaller number of surviving households with more space. The area around Great Green fared better, although even here the margins of the inhabited area appear to have been abandoned. Likewise, in the north of the village the areas producing pottery appear to have contracted from a

continuous spread to include just the areas immediately adjacent to Rectory Farm, Wrights Farm, Hammonds Farm, and Burge End Farm. The formerly teeming large nucleated village appears to have been reduced to a handful of farmsteads and a sparsely dispersed interrupted row. Not until the late 16th century, at the earliest, did the settlement begin to grow again, and even when this did occur, the margins of the 12th-14th-century settlement (including the west end of Shillington Lane and the areas south of West Lane and north-west of Little Green) remained largely unoccupied, with pottery of late 16th – late 18th-century date coming predominantly from the 3 zones shown as inhabited in the 19th-century Ordnance Survey map (Fig. 3). The test pit data indicate that settlement at Pirton did not recover its pre-Black Death size and density until the 20th century.

Discussion: Reconstructing transformation in late medieval rural settlements

Pirton is by no means unique in the evidence it provides for dynamic settlement volatility including dramatic post-14th-century contraction. Analysis of test pit data from more than 2,000 test pits in 60 settlements (Tab. 1) shows transformation of settlement size, form, and layout to be commonplace, even universal. The dominant pattern in the later medieval period is the vividly apparent impact of the 14th-century demographic crisis: overall, across 60 CORS, 90% show contraction sufficiently sustained and widespread to be evident in the test pit data. Overall, the number of inhabited sites drops by around 45% in the period after the Black Death (*Lewis 2016b*). This can be compared with estimates for English Black Death mortality rates, which have varied over the half-century of scholarship from 30%-40% (*Ziegler 1969, 185*) to 62.5% (*Benedictow 2004, 377*). The test pit data are showing the level at which the population ultimately settled, rather than instant Black Death mortality, of course, and as such it is sobering to see that at places such as Gaywood and Paston in Norfolk, the drop in the number of inhabited sites is around 85%.

These data help us add precision to our understanding of the transformative impact of the 14th-century demographic contraction on medieval settlements. It is clear, for example, that it was not only nucleated villages that were affected. This is significant, as nucleated villages are commonly supposed to have been particularly vulnerable to depopulation, not least because DMVs are most common in areas dominated by nucleated settlement (*Roberts – Wrathmell 2000*). DMVs are also, as noted above, where most archaeological work has previously focussed, and therefore much of our understanding is based on these. However, test pit data from the dispersed parishes of Clavering in north Essex (Fig. 5a) and Carleton Rode (Fig. 5b) in central Norfolk also show

Parish name	Late 9th – late 11th century			Early 12th – early 14th century			Late 14th – mid 16th century			Late 16th – late 18th century		
	Total n. pits dug to May 2017	n. pits with 2+ sherds	% of pits with 2+ sherds	n. pits with 2+ sherds	% of pits with 2+ sherds	n. change since previous period	n. pits with 2+ sherds	% of pits with 2+ sherds	n. change since previous period	n. pits with 2+ sherds	% of pits with 2+ sherds	n. change since previous period
Acle	45	4	9	21	47	17	12	27	-9	37	82	25
Ashwell	50	0	0	17	34	17	11	22	-6	31	62	20
Bures	7	0	0	2	29	2	0	0	-2	4	57	4
Binham	60	7	12	24	40	17	7	12	-17	26	43	19
Blo' Norton	14	0	0	3	21	3	3	21	0	10	71	7
Bramford	9	1	11	3	33	2	2	22	-1	7	78	5
Brundall	32	1	3	3	9	2	0	0	-3	20	63	20
Carleton Rode	57	7	12	21	37	14	8	14	-13	38	67	30
Castor	23	7	30	11	48	4	4	17	-7	9	39	5
Chediston	47	2	4	16	34	14	22	47	6	34	72	12
Clare	33	8	24	14	42	6	7	21	-7	25	76	18
Clavering	40	0	0	14	35	14	8	20	-6	30	75	22
Coddenham	59	10	17	20	34	10	8	14	-12	39	66	31
Cottenham	34	5	15	14	41	9	3	9	-11	24	71	21
Daws Heath	24	0	0	1	4	1	1	4	0	9	38	8
Garboldisham	44	5	11	8	18	3	3	7	-5	27	61	24
Gaywood	39	7	18	21	54	14	3	8	-18	17	44	14
Girton	10	2	20	3	30	1	0	0	-3	2	20	2
Great Amwell	35	0	0	4	11	4	3	9	-1	12	34	9
Great Shelford	41	5	12	22	54	17	9	22	-13	30	73	21
Hessett	36	5	14	15	42	10	7	19	-8	22	61	15
Hillington	26	15	58	12	46	3	0	0	-12	6	23	6
Hindringham	33	9	27	15	45	6	3	9	-12	21	64	18
Houghton	37	5	14	23	62	18	9	24	-14	21	57	12
Isleham	24	0	0	7	29	7	3	13	-4	19	79	16
Little Hallingbury	54	0	0	7	13	7	3	6	-4	31	57	28
Long Melford	74	5	7	12	16	7	23	31	11	44	59	21
Manuden	40	4	10	9	23	5	5	13	-4	26	65	21
Meldreth	32	10	31	23	72	13	15	47	-8	15	47	0
Mount Bures	7	2	29	6	86	4	2	29	-4	5	71	3
Nayland	50	2	4	29	58	27	34	68	5	42	84	8
Paston	24	2	8	7	29	5	1	4	-6	11	46	10
Peakirk	36	10	28	11	31	1	6	17	-5	11	31	5
Pirton	114	33	29	91	80	58	32	28	-59	67	59	35
Potton	26	0	0	3	12	3	1	4	-2	6	23	5
Rampton	31	1	3	15	48	14	5	16	-10	19	61	14
Ramsey	10	0	0	7	70	7	4	40	-3	4	40	0
Riseley	31	1	3	16	52	15	20	65	4	18	58	-2
Sawtry	35	3	9	9	26	6	5	14	-4	19	54	14
Sharnbrook	68	4	6	27	40	23	16	24	-11	32	47	16
Shefford	19	0	0	4	21	4	1	5	-3	12	63	11
Shillington	23	4	17	14	61	10	4	17	-10	14	61	10
Snape	15	0	0	6	40	6	3	20	-3	3	20	0
Southwold/Reydon	16	0	0	6	38	6	6	38	0	11	69	5
Southminster	32	0	0	7	22	7	7	22	0	26	81	19
Stapleford	27	2	7	8	30	6	5	19	-3	11	41	6
Sudbury	31	6	19	20	65	14	15	48	-5	28	90	13
Swaffham Bulbeck	24	6	25	12	50	6	8	33	-4	19	79	11
Terrington St C	24	4	17	13	54	9	7	29	-6	16	67	9
Thorney	33	1	3	6	18	5	20	61	14	25	76	5
Thorrington	18	0	0	4	22	4	2	11	-2	12	67	10
Ufford	23	2	9	2	9	0	1	4	-1	10	43	9
Walberswick	42	4	10	22	52	18	29	69	7	34	81	5
West Mersea	58	0	0	12	21	12	6	10	-6	21	36	15
West Wickham	18	0	0	9	50	9	2	11	-7	12	67	10
Willingham	34	0	0	13	38	13	7	21	-6	14	41	7
Wisbech St Mary	14	0	0	2	14	2	3	21	1	6	43	3
Wiveton	23	1	4	11	48	10	4	17	-7	19	83	15
Writtle	57	0	0	24	42	24	22	39	-2	44	77	22
Total	2022	212	10.5	781	38.6	569	460	22.7	-321	1207	59.7	747

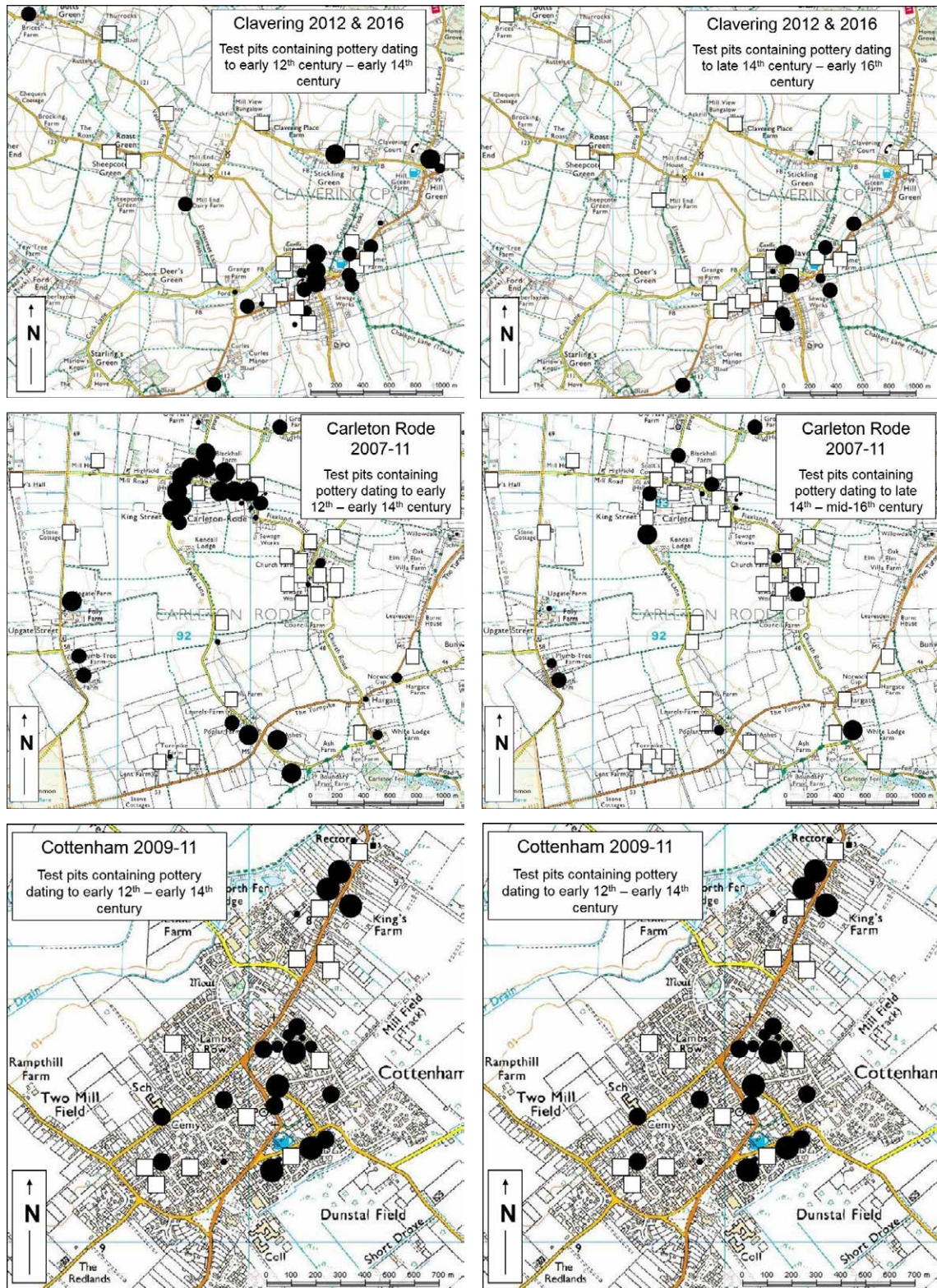


Fig. 5: Pre- and post-14th-century pottery distributions in Clavering (Fig. 5a), Carleton Rode (Fig. 5b), and Cottenham (Fig. 5c) (basemaps © Edina Digimap, annotations © Catherine Ranson and Carena Lewis).

Tab. 1 (opposite page): Pottery yields from test pits excavated in CORS in eastern England as of May 2017.

high post-14th-century declines of 38% and 62% in the number of pottery-producing test pits. The test pit data also counter the argument that smaller, poorer settlements were particularly liable to post-14th-century contraction (*Beresford – Hurst 1971; Jones 2010*): many larger and higher-status CORS contracted as badly as smaller ones. Cottenham, for example, is noted as ‘among the largest villages in Cambridgeshire since the 11th century’ (*Wright–Lewis 1989, 48–54*), but suffered a late medieval decline of nearly 80% in the number of test pits producing 2 or more sherds (Fig. 5c). Many urban or quasi-urban settlements (*Beresford – Finberg 1973; Letters 2005*) also fared badly. Clare (Suffolk) had borough status from at least 1086, yet saw a late medieval pottery decline of 50%. Binham in Norfolk benefitted from the right to hold a market by the 13th century and also from being home to a Benedictine priory and located near to the major pilgrimage centre of Walsingham – but the extent of habitation here was reduced by 71% in the 14th–16th centuries.

While the majority of the test pit excavations in the present research have taken place in eastern England (Fig. 1), similar patterns of dynamic transformation epitomised by severe late medieval contraction are apparent in sites up and down the country. At North Warnborough in Hampshire, for example, 27% of all excavated pits produced habitative amounts of 12th–14th-century pottery, but only 6% did so for 14th–16th-century pottery, a drop of nearly 80%. At Reeth in North Yorkshire the number of habitative sites halves, from 33% of all excavated sites to just 14% (*Denison–Edson – Mills 2014*). At the grid-planned Norman town of Castleton in Derbyshire, which had 43 burgages by 1255 (*PDNPA 2010*), no pottery of post-Black Death date was found from any test pits, and it is interesting to note that the adjacent Peverel Castle was also falling out of use at this time (*PDNPA 2010*). The settlement did not recover until the nearby road between Sheffield and Manchester was turnpiked in 1758.

Conclusion

Four main points can be made in conclusion. Firstly, the experience of carrying out the test pit excavations and analysing the data from them demonstrates that this technique offers an effective strategy for reconstructing the development of the vast majority of medieval settlements that did not become permanently deserted. Furthermore, it shows the conservative and nimble technique of test pit excavation can be scaled up for widespread use, opening up the prospect that the development of any settlement can be reconstructed, liberating scholarly enquiry into past settlement development and demography from the confines of a finite (or indeed absent) documentary record (*e.g. Fernández Mier et al. 2014; Fernández Fdez (ed.) in*

prep.). The inference must be that the potential for similar work elsewhere in Europe is very high.

Secondly, the test pit excavations have provided new data for the impact on settlements of the 14th-century demographic collapse, showing contraction sufficiently sustained to be visible in pottery assemblages, which refutes conventional views that most settlements recovered quickly from the effects of the 14th-century demographic downturn. They show instead that sustained contraction was a near-universal phenomenon experienced by perhaps 90% of all settlements. This suggests that when looking for explanations for settlement desertion, we should not focus on explaining why settlements contracted, as nearly all did, but instead asking why some proved more resilient than others.

Thirdly, the data show that the plans of many of our villages, hamlets, and small towns are of comparatively recent origin. Settlements such as Pirton have compactly nucleated plans in the high medieval and modern periods, but show a very different form in the intervening centuries. Its nucleated plan may have a medieval antecedent, but this is not the date at which the current plan originated. Even within the same settlement, the ‘origins’ of the nucleated village may lie in more than one era.

Fourthly, and perhaps most pertinently in a volume exploring transformation and transition, the data show how universal the phenomenon of transformation generally was to rural settlements, dispelling the notion of rural settlements as sedate, stable, and unchanging, epitomising comfortable conservatism. Instead, we see material evidence of the resourceful, responsive character of medieval people repeatedly adapting to transformed circumstances in ways that transformed the settlements they inhabited.

Acknowledgements

The excavations discussed here have been funded by Aimhigher, HEFCE, English Heritage, the University of Cambridge, the Heritage Lottery Fund (HLF), Arts and Humanities Research Council (AHRC), Arts Council England, and several smaller groups: their support is gratefully acknowledged. Literally thousands of people have had an essential involvement and for reasons of space thanks must be given to them anonymously, remembering especially those who took part in test pit excavations or permitted these on their property. Special thanks are due to Catherine Ranson, Clemency Cooper, and Paul Blinkhorn, and to the management committee of the McDonald Institute for Archaeological Research for their valuable support. The interpretations offered in this paper have benefited from discussion with many people, and I am immensely grateful to them for their helpful, illuminating and supportive comments. Any errors remain, of course, entirely my responsibility.

References

- Aberth, J. 2001:*
On the brink of the apocalypse. New York.
- Aldred, C. – Dyer, C. 1991:*
A medieval Cotswold village: Roel, Gloucestershire, Transactions of the Bristol and Gloucestershire Archaeological Society 109, 139-170.
- Aston, M. – Austin, D. – Dyer, C. C. (eds) 1989:*
The rural settlements of medieval England. Oxford.
- Austin, D. 1989:*
The deserted medieval village of Thrislington, County Durham: Excavations 1973-1974 Society for Medieval Archaeology Monograph Series 12. Lincoln.
- Barker, P. 1986:*
Understanding archaeological excavation. London.
- Benedictow, O. 2004:*
The Black Death: the complete history. Woodbridge.
- Beresford, M. – Hurst, J. 1971:*
Deserted medieval villages. Leicester.
- Beresford, M. – Finberg, H. P. R. 1973:*
English medieval boroughs: A handlist. Newton Abbot.
- Cambridge Archaeology Field Group 2015:*
Change in a South Cambridgeshire parish: Understanding the Bronze Age to late medieval settlement within Haslingfield, Proceedings of the Cambridge Antiquarian Society 104, 71-87.
- Campbell, B. M. S. 2016:*
The great transition: Climate, disease and society in the late medieval world. Cambridge.
- Coles, J. 1972:*
Field archaeology in Britain. London.
- Davison, A. 1990:*
The Evolution of settlement in three parishes. East Anglian Archaeology Report no. 49. Gressenhall.
- Denison-Edson, P. – Mills, A. 2014:*
The Swaledale Big Dig. The Forum Yorkshire Journal (new series) 3. York, 65-76.
- Dyer, C. C. 1980:*
Lords and peasants in a changing society: The estates of the bishopric of Worcester 680-1540. Cambridge.
- Dyer, C. C. – Everson, P. L. 2012:*
The development of the study of medieval settlements, in: Christie, N. – Stamper, P. (eds), Medieval rural settlement: Britain and Ireland, AD 800-1600. Oxford.
- Everson, P. L. – Taylor, C. C. – Dunn, C. J. 1991:*
Change and continuity: Rural settlement in north-west Lincolnshire. London.
- Fenton, P. 1993:*
An archaeological evaluation of land to the rear of The Fox public house, Pirton, Hertfordshire. Unpublished excavation report RNO 109. SHT3576.
- Fernandez Fdez, J. (ed.) in prep:*
Archaeology of medieval villages currently inhabited in Europe. Proceedings of a colloquium at the University of Oxford.
- Fernández Mier, M. – Fernández Fernández, J. – Alonso González, P. – López Sáez, J. A. – Pérez Díaz, S. – Hernández Beloqui, B. 2014:*
The investigation of currently inhabited villages of medieval origin: agrarian archaeology in Asturias (Spain). Quaternary International 346, 41-55.
- Foard, G. 1978:*
Systematic fieldwalking and the investigation of Saxon settlement in Northamptonshire, World Archaeology 9, 357-374.
- Gerrard, C. 2003:*
Medieval archaeology: Understanding traditions and contemporary approaches. London.
- Gerrard, C. – Aston, M. 2007:*
The Shapwick Project, Somerset: A rural randscape explored. Leeds.
- Haselgrove, C. – Millett, M. – Smith, I. 1985:*
Studies in the collection and interpretation of field survey data. Sheffield.
- Hatcher, J. 1994:*
England in the aftermath of the Black Death, Past & Present 144, 3-35.
- Hayes, P. 1985:*
The San Vincenzo Survey, in: Macready, S. – Thompson, F. H. (eds), Archaeological field survey in Britain and abroad. London.
- Hodges, R. 1991:*
Wall-to-wall history: the story of Roystone Grange. London.
- Hooke, D. (ed.) 1985:*
Medieval villages. Oxford University Committee for Archaeology Monograph 5. Oxford.
- Ivens, R. – Busby, P. – Shepherd, N. 1995:*
Tattenhoe and Westbury: Two deserted medieval settlements in Milton Keynes. Buckinghamshire Archaeological Society Monograph Series 8. Aylesbury.
- Jones, R. 2005:*
Signatures in the soil: The use of pottery in manure scatters in the identification of medieval arable farming regimes, Archaeological Journal 161, 159-188.
- Jones, R. 2010:*
Contrasting patterns of village and hamlet desertion in England, in: Dyer, C. – Jones, R. (eds), Deserted villages revisited. Hertford, 8-27.
- Jones, R. – Page, M. 2008:*
Medieval villages in an English landscape: Beginnings and ends. Macclesfield.

- Lagerås, P. 2016:*
Environment, society and the Black Death: An interdisciplinary approach to the late-medieval crisis in Sweden. Oxford.
- Letters, S. 2005:*
Gazetteer of markets and fairs in England and Wales to 1516. London.
- Lewis, C. 2005:*
Test pit excavation within occupied settlements in East Anglia in 2005, Medieval Settlement Research Group Annual Report 20, 9-16.
- Lewis, C. 2006:*
Test pit excavation within currently occupied settlements in East Anglia in 2006, Medieval Settlement Research Group Annual Report 21, 37-44.
- Lewis, C. 2007:*
New avenues for the investigation of Currently Occupied Rural Settlement: Preliminary observations from the Higher Education Field Academy, Medieval Archaeology 51, 133-164.
- Lewis, C. 2008:*
Test pit excavation within occupied settlements in East Anglia in 2008, Medieval Settlement Research Group Annual Report 23, 60-68.
- Lewis, C. 2009:*
Test pit excavation within currently occupied settlements in East Anglia in 2009, Medieval Settlement Research Group Annual Report 24, 43-58.
- Lewis, C. 2011:*
Test pit excavation within occupied settlements in East Anglia in 2010, Medieval Settlement Research 26, 48-59.
- Lewis, C. 2012:*
Test pit excavation within occupied settlements in East Anglia in 2011, Medieval Settlement Research 27, 42-56.
- Lewis, C. 2013:*
Test pit excavation within occupied settlements in East Anglia in 2012, Medieval Settlement Research 28, 77-89.
- Lewis, C. 2014a:*
The Power of pits: Archaeology, outreach and research in living landscapes, in: Boyle, K. – Rabett, R. – Hunt, C. (eds), Living in the landscape. McDonald Institute for Archaeological Research Monograph. Cambridge, 321-338.
- Lewis, C. 2014b:*
Test pit excavation within occupied settlements in East Anglia in 2012, Medieval Settlement Research 29, 66-81.
- Lewis, C. 2015:*
Test pit excavation within occupied settlements in East Anglia in 2014, Medieval Settlement Research 30, 39-49.
- Lewis, C. 2016a:*
Test pit excavation within occupied settlements in East Anglia in 2015, Medieval Settlement Research 31, 53-62.
- Lewis, C. 2016b:*
Disaster recovery? – New archaeological evidence from eastern England for the impact of the ‘calamitous’ 14th century, Antiquity 90:351, 777-797.
- Lewis, C. 2017:*
Test pit excavation within occupied settlements in East Anglia in 2016, Medieval Settlement Research 32, 70-78.
- Lewis, C. – Baillie, B. 2014:*
Archaeological test pit excavations in West Wickham, Cambridgeshire 2013. Cambridge. <http://www.access.arch.cam.ac.uk/>.
- Lewis, C. – Pryor, A. 2014a:*
Archaeological test pit excavations in Meldreth, Cambridgeshire 2013. Cambridge. <http://www.access.arch.cam.ac.uk/>.
- Lewis, C. – Pryor, A. 2014b:*
Archaeological investigations on the earthwork in Castle Close, Sharnbrook, Bedfordshire 2013. Cambridge. <http://www.access.arch.cam.ac.uk/>.
- Lewis, C. – Pryor, A. 2014c:*
Archaeological test pit excavations in Shillington, Bedfordshire 2013. Cambridge. <http://www.access.arch.cam.ac.uk/>.
- Lewis, C. – Pryor, A. 2014d:*
Archaeological test pit excavations in Toft, Cambridgeshire 2013. Cambridge. <http://www.access.arch.cam.ac.uk/>.
- Lewis, C. – Mitchell-Fox, P. – Dyer, C. 1997:*
Village hamlet and field: Changing medieval settlements in Central England. Manchester.
- Lewis, C. – Ranson, C. – GBAHG 2014:*
Archaeological test pit excavations in Great Bowden, Leicestershire, 2014. Cambridge. <http://www.access.arch.cam.ac.uk/>.
- McCarthy, M. – Brooks, C. 1988:*
Medieval pottery in Britain AD 900-1600. Leicester.
- McWilliam, G. H. (ed.) 2003:*
Penguin classics introduction to the Decameron by Giovanni Boccaccio. London.
- Musty, J. – Algar, D. 1986:*
Excavations at the deserted medieval village of Gomeldon, near Salisbury. The Wiltshire Archaeological and Natural History Magazine 80, 127-169.
- Nightingale, P. 2005:*
New evidence of crises and trends of mortality in late medieval England, Past & Present 187, 33-68.

- Parker Pearson, M. – Schadla-Hall, R. T. 1994:*
Looking at the land: Archaeological landscapes in Eastern England. Leicester.
- Parry, S. 2006:*
Raunds area survey. Oxford.
- Razi, Z. 1980:*
Life, marriage and death in a medieval parish: Economy, society and demography in Halesowen, 1270-1400. Cambridge.
- Rippon, S. 2008:*
Beyond the medieval village: The diversity of landscape character in Southern Britain. Oxford.
- Royal Commission on the Historical Monuments of England (RCHME) 1975-1985:*
Northamptonshire (6 vols). London.
- Roberts, B. K. – Wrathmell, S. 2000:*
An atlas of rural settlement. London.
- Taylor, C. C. 1983:*
Village and farmstead. London.
- Thompson, F. H. 1960:*
The deserted village of Riseholme near Lincoln, *Medieval Archaeology* IV, 95-108.
- Wrathmell, S. (ed.) 2012:*
A history of Wharram Percy and its neighbours. York University Archaeological Publications 15. York.
- Wright, A. P. M. – Lewis, C. P. 1989:*
A history of the county of Cambridge and the Isle of Ely. Volume 9: Chesterton, Northstowe, and Papworth Hundreds. London.
- Ziegler, P. 1969:*
The Black Death. Stroud.

Late medieval deserted settlements in southern Germany as a consequence of long-term landscape transformations

*Rainer Schreg**

Abstract

The huge number of deserted late medieval settlements in southern Germany has been explained by the consequences of epidemics, feuds, and economic crisis. However, based on an ecological perspective, we need to ask how the late medieval crisis was embedded in long-term landscape transformations. Looking back to the early medieval settlement landscape, we recognize fundamental changes in land-use practices, which were hardly visible in the written record. It can be considered a fact that the formation of the medieval village and the related introduction of an open-field system had a major impact on the medieval landscape and the interaction between men and nature. This paper demonstrates the possible lines between high medieval village formation and the late medieval crisis several generations later. Even if the resulting interpretation is necessarily very hypothetical in many points, it refers to some fundamental issues in the understanding of long-term transformations of rural landscapes and challenges the current practice of rescue excavations in Germany.

Keywords: *Deserted settlements, human ecology, open-field system, village formation, Black Death.*

Resumé

Villages désertés en Allemagne du Sud comme conséquence des transformations du paysage à long-terme

Le grand nombre des villages du Bas Moyen âge désertés en Allemagne méridionale a souvent été justifié par l'histoire, par exemple au travers d'événements tels épidémies, guerres ou crises économiques. Mais d'un point de vue écologique, nous pouvons nous demander si et en quoi ce phénomène a pu être le résultat d'une transformation à long-terme du paysage. Depuis le Haut Moyen Âge, on constate des changements fondamentaux dans les pratiques agricoles qui ne sont pas forcément cités clairement dans les sources manuscrites. On est alors en droit de penser que la genèse des villages

* Otto-Friedrich-Universität
Bamberg
Archäologie des Mittelalters und
der Neuzeit
Am Kranen 14
96047 Bamberg
Deutschland
rainer.schreg@uni-bamberg.de

médiévaux et l'établissement de la rotation triennale des cultures qui y est lié ont fortement changé le paysage et les relations entre l'homme et l'environnement.

Cet article vise à montrer les liens possibles entre la genèse des villages du Haut Moyen Âge et la crise du Bas Moyen Âge. Même si l'interprétation qui en résulte est sur de nombreux points très hypothétique, elle renvoie à des questions fondamentales pour la compréhension des transformations à long terme des paysages ruraux et confronte la pratique des fouilles de sauvetage en Allemagne à de nouveaux et urgents défis.

Mots clés: *Villages désertés, écologie, assolement triennal, morphogenèse du village, peste noire.*

Zusammenfassung

Spätmittelalterliche Wüstungen in Süddeutschland als Folge eines langfristigen Wandels der Kulturlandschaft

Die große Zahl an Wüstungen in Süddeutschland wurde meist historisch, das heißt aus Einzelereignissen wie Epidemien, Kriegen oder auch wirtschaftlichen

Deserted medieval settlements in southern Germany

As in other European landscapes, there are a huge number of deserted late medieval settlements in southern Germany (Fig. 1). They attracted scientific interest in the 19th century, but even today, the state of research is unsatisfactory. There is a lack of adequate inventories and many sites lack archaeological data. Consequently, it is hard to understand the process of desertion and its chronological dynamics.

The state of research: Excavations and surveys

Whereas for some regions in the northern periphery of the German Middle Range Mountains there are modern studies on deserted settlements (*Stephan 1979; Bergmann 1989; 2015; Gerking 1995*), comparable studies are missing for vast parts of southern Germany. In Württemberg for example, the baseline study dates back to the 1920s (*Weber 1927*), only having been updated by an unpublished doctoral thesis in the 1950s (*Veith 1957*). Ever since, there have been overviews for some small regions (*e.g. Grees 1982; Hildebrandt 1997*). Even the inventory of archaeological and historical monuments of the State Department of Cultural Heritage in Baden-Württemberg (Listenerfassung/ADAB) is far from being complete, and for reasons of data privacy and site protection it is not available publicly. The registration,

Konjunkturen erklärt. Aus einer ökologischen Perspektive stellt sich aber die Frage, inwiefern das Wüstungsphänomen nicht auch Folge langfristigen Landschaftswandels sein kann. Seit dem frühen Mittelalter lässt sich ein grundlegender Wandel erschließen, wenn dieser auch in den schriftlichen Quellen nicht immer klar zutage tritt. Es muss davon ausgegangen werden, dass die Genese des mittelalterlichen Dorfes und die mit ihr verbundene Etablierung der Dreizelgenwirtschaft die Kulturlandschaft und die Mensch-Umwelt-Interaktion stark verändert hat.

Der Beitrag skizziert mögliche Verbindungen zwischen der hochmittelalterlichen Dorfgenese und der Krise des späten Mittelalters. Wenn hier auch Vieles hypothetisch bleiben muss, so lassen sich doch einige grundlegende Themen identifizieren, die für das Verständnis des Kulturlandschaftswandels von zentraler Bedeutung sind – und die die aktuelle Praxis der denkmalpflegerischen Notgrabungen vor dringende Herausforderungen stellen.

Schlagwörter: *Wüstungen, Humanökologie, Dreizelgenwirtschaft, Dorfgenese, Krise des 14. Jahrhunderts.*

which originally did not list medieval sites, does not include field surveys or in-depth archival research, being based only on previous published sources. In Bavaria the situation is quite similar, as there is also a more recent inventory of abandoned settlements in only a few regions (*e.g. Jakob 1984; Becker – Ericsson 2004*). The online database (Bayerischer Denkmalatlas) does not have sufficient information to be of scientific use.

Some research progress comes from cultural heritage management, due to an increasing number of rescue excavations. The archaeological record is therefore biased. Excavations during the development of new settlement and industrial areas mainly revealed settlement remains related to earlier phases of still-existing villages. Early and high medieval sites in the periphery of existing villages represent a process of settlement concentration of the 12th/13th centuries (*Schreg 2006; 2009b*). These settlements were characterized by houses constructed with posts dug into the earth and pit houses that lack substantial stone architecture (*Schreg 2012a*).

In general, late medieval sites are situated at larger distances from modern villages and are rarely affected by construction sites. Sometimes late medieval abandoned settlements have been affected by linear projects such as pipelines, railways, or motorways. In the past, most of these projects were related to infrastructure projects after the German reunification, which is why more deserted medieval settlements have been carried out in the last decades, for example in Sachsen-Anhalt or Brandenburg

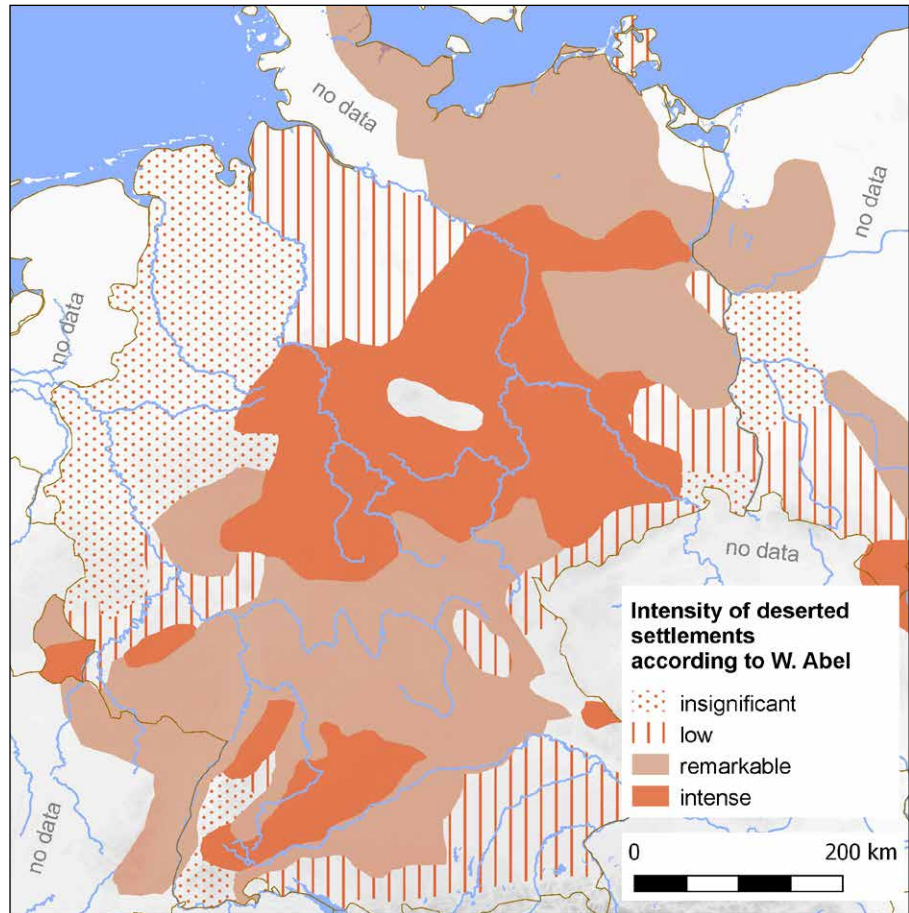


Fig. 1: Deserted settlements in Germany (© Rainer Schreg, redrawn after Abel 1976).

(Grothe – Kobbe 2006; Meller 2006; Eickhoff 2006; Biermann 2010). In southern Germany, there have been some rescue excavations since the 1970s, with the results of most only being published in preliminary reports (comp. Schreg 2009c). With the exception of churches, only very few buildings were constructed in stone. At most sites, pit houses and postholes predominate, but rural architecture as it is manifest in still-existing villages is missing. Due to a lack of excavations and buildings archaeology in rural villages, we only have very few insights into this change (Uhl 2001; Schreg 2002).

Outside of the intensively cultivated agrarian and rather forested landscapes, there has been little need for preventive archaeology. Important information comes from research projects, such as Hohenrode in the Harz Mountains (Grimm 1939), Pfaffenschlag in Moravia (Nekuda 1975), or Hard in Lower Austria (Felgenhauer-Schmiedt 2008). Intensive work has also been conducted in Lower Saxony and Westphalia (e.g. Hesse 2003; Janssen 1965; Stephan – Tönsmeier 2010), but again, there is little comparable work in southern Germany. Recent research has mainly used non-invasive methods and small-scale excavations, as at Lindelach (Michl 2017) or Oberwürzbach in the northern Black Forest (Schreg 2009a; 2013; Thode 2014).

As a result of archaeological research during the last decades, it has become clear that rural settlement changes have been more intensive and more complex than previously thought. Many ideas and opinions held dear for quite a long time have been challenged, as, for example, the idea of constant settlement locations going back to the migration period, or the medieval colonisation of an unsettled wilderness and the overestimated role of the aristocracy and monasteries (Schreg 2006; 2014; 2018a; 2018b).

Previous hypotheses on desertion

Thinking about the reasons behind late medieval settlement desertion, we also need to be aware of some little reflected paradigms that affected previous hypotheses. The dominating narrative about the Middle Ages is still that of continuity. As do many other national states, Germany traces its origins back to the Early Middle Ages, but also at a local level many villages are proud of their histories going back to the so-called Germanic *landnam* ('Landnahme'). Moreover, there is the idea that peasants did not have a history (Spengler 1923, 668), except for some progress in agrarian techniques and land expansion by clearance and

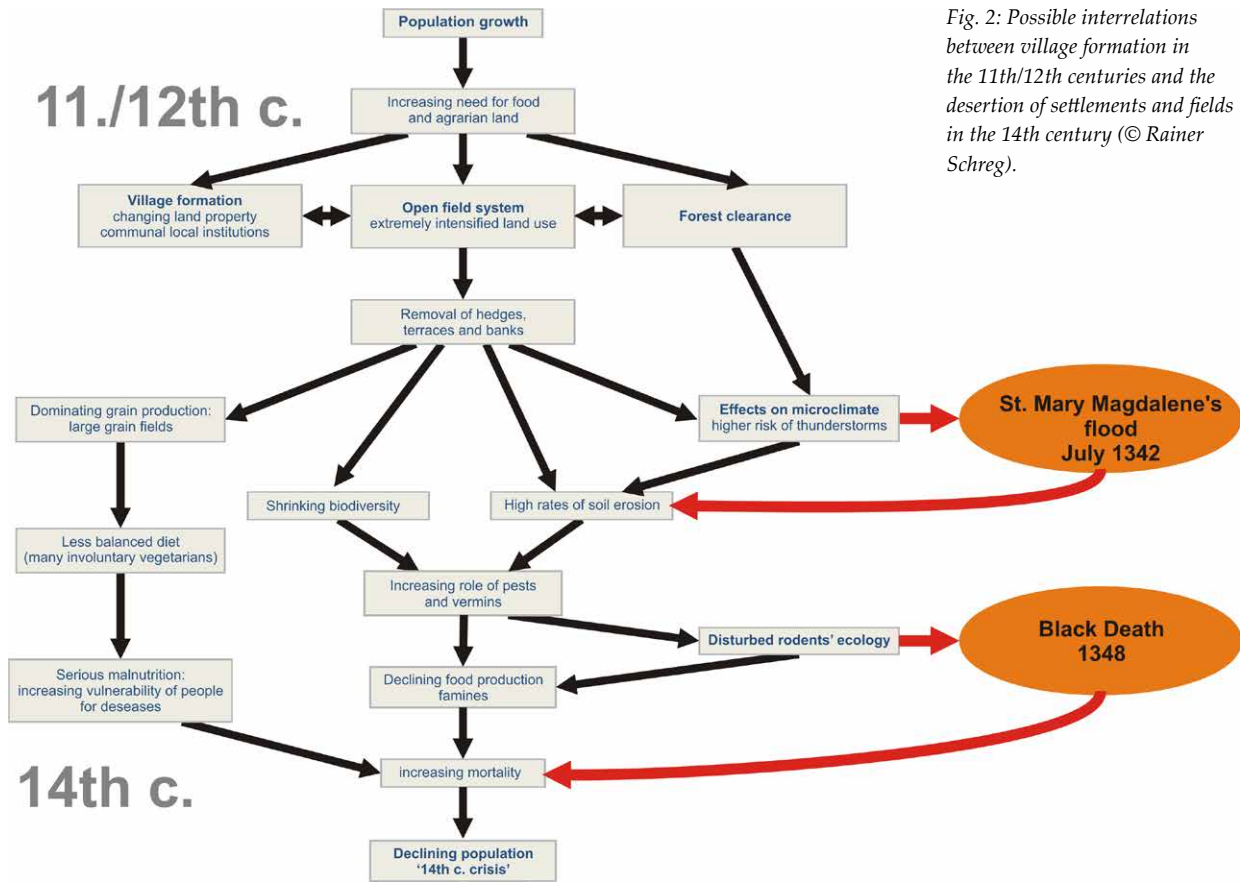


Fig. 2: Possible interrelations between village formation in the 11th/12th centuries and the desertion of settlements and fields in the 14th century (© Rainer Schreg).

colonisation. Because deserted settlements did not fit into this picture, they have been explained by extraordinary historical reasons, as the Black Death in the 14th century, the 30 Years' War in the 17th century, or some regional wars and feuds. Also, there is the idea of mistaken settlement locations – *this Fehlsiedlungstheorie* did not recognise settlement abandonment as a phenomenon of structural changes, but takes them rather as an exceptional aberration within an ongoing settlement expansion (Abel 1976, 98). Geographer Otto Schlüter, well aware of deserted settlement, talked about 'negative settlement development' (Schlüter 1903, 202), but neglected them when he created a map of settlement history in Germany (Schlüter 1952).

In contrast, the theory of a late medieval agrarian crisis by economic historian Wilhelm Abel, developed in the 1930s and 40s, explained settlement desertion by a long-term economic process (Abel 1976, 103-119). He suggested that after a period of increasing demand for grain, declining yields during the 14th century caused poverty and a higher vulnerability against diseases. As a consequence, various plagues including the Black Death hit the population, the demand for agrarian products declined, and prices for agrarian products fell and made farming unviable. Peasants closed down their farms and migrated into the towns.

It is only recently that environmental factors have been taken into account. There are some oral traditions of settlements abandoned due to heavy weather events or floods, not only at the Northern Sea but also in southern Germany (e.g. Bollenweiler close to Hofstett-Emerbuch [Alb-Donau-Kreis] destroyed by a thunderstorm: Schaal et al. ca 1920, 62 or Weil am Bach near Tübingen destroyed by fire and hail: Königlich Statistisches Landesamt 1867, 390). Whereas earlier research understood these events as occasional natural events ('Zufallsereignisse': Weber 1927, 202) today they raise the question of possible ecological settings. Recent research has investigated the role of climate change (Rösener 2010) and the meaning of soil erosion (Bork et al. 1998). The modern interest in human-environment interaction has resulted in a perspective focussing much more on long-term processes, complex relations between causes and effects, and the specific role of various factors and agents.

A long-term scenario of human-environment interaction

In the framework of this article, it is not possible to start with huge data series, which still need to be compiled according to modern scientific standards and methods.

Instead, an empirical argumentation based on previous research will be used, in order to sketch a possible long-term scenario of human-environment interaction causing the late medieval crisis and settlement desertion (Fig. 2). This scenario has to consider a huge variety of factors and agents, should integrate the present state of research, and has to be sceptical of common narratives, as there are many myths, unproven paradigms, and misleading concepts about medieval agrarian history.

The formation of the medieval village and the end of the shifting farmsteads system

Between the 11th and the 13th century remarkable reorganisations of the rural settlement pattern took place. It is possible to trace similar processes in many European landscapes. There were some differences from region to region, but in general it was the most crucial phase of the formation of the late medieval and early modern village. Only then were closed villages established around the most often already existing churches. In many cases it is possible to observe earlier settlement areas on the periphery of the late medieval/early modern village, as it is still visible in preserved architecture, rentals, and maps. However, this formation of the village was not only a clustering of farmsteads around a church, but was connected with changes in the rural communities, the architecture, and land management. The written record refers to the increasing importance of local communities, which form their own institutions, such as village mayors (Schreg 2006).

Of some significance for the long-term development was the fact that settlements became constant in one place. Since then, most of the villages show continuity in terms of their location for around 700 years. The settlement system of the earlier Middle Ages, however, was characterized by the relocations of farmsteads. Even if in some cases settlements stayed in the same spot over a long time period, only showing minor changes within the farmstead itself, there are surprisingly many cases where the whole settlement slowly moved over small distances (Schreg 2012b).

From shifting fields to an open regulated field system

This restructuring was probably not limited to the settlement itself, but was closely connected with a reorganisation of the fields. The introduction of the regulated open field system was strongly connected with the formation of the late medieval village, which clustered the farms at a central location. Historical sources do not distinguish explicitly between a simple three-field crop rotation ('Dreifelderwirtschaft') and the regulated unenclosed three-field system ('Dreizelgenwirtschaft'). This is, however, an important distinction. Crop rotation

with spring grain, winter grain, and a fallow period had been practiced since antiquity. This rotation could be done individually on single fields, given that they were probably enclosed by hedges to prevent crop damage by livestock. These enclosures prevented efficient ploughing, as the hedges were an inconvenient barrier. A regulated open field system in which adjoining fields were subject to coordinated crop and pastoral regimes ('Dreizelgenwirtschaft') reduced the need for enclosures and allowed turning the plough team on neighbouring ground. This relied on organized, compulsory crop rotation ('Flurzwang'). Roughly 10% of land was gained within the densely settled landscapes. This reorganisation had consequences for land property. On the one hand, land had to be reallocated to give all farmsteads equal land in each of the three field complexes. On the other hand, the regulated open field system stimulated distinct land property (Schreg 2016, 358). Several historical studies have argued toward the development of private land property since the 9th/10th centuries (Bois 1999; Rosenwein 1989).

It is remarkable that there are no written documents related to either the formation of the late medieval village or the exchange of fields among local peasants. Obviously, land transfers were agreed upon between non-literate farmers and did not conflict with manorial property rights for feuds or taxes. Despite this lack of written evidence, the archaeological record of settlement relocations clearly shows that shifting settlements and subsequent village nucleation were nothing extraordinary or influenced by authorities, but seemingly embedded in communal socio-economic practice (Schreg 2012b; Romankiewicz et al. in prep.).

In order to understand the meaning of these changes, we need to take a closer look at the agrarian landscape before the village formation. Shifting farmsteads and fields were probably an integral part of the early and high medieval land-use systems, which probably comprised crop rotation on individual fields, but also midterm changes between fields, gardens, farmsteads, and maybe even shrubbery. Excavations in the Netherlands confirm that settlements were ploughed after abandonment (Heidinga 1987). The farm buildings, enriched with nutrients, thus facilitated the turning of houses into fertile fields. There is little evidence of the physical outline of fields in the Early Middle Ages, as there are no systematic studies on preserved fossil fields. Former geographical research, however, has pointed to a development from block-shaped parcels into furlong complexes (Schreg 2016).

More-vulnerable open field landscapes

Although the new open fields system was much more effective in the exploitation of space, the removal of

hedges in the open field system created an open landscape with several ecological consequences. In the short term, the open field system helped to overcome challenges deriving from increasing population by freeing more land for cultivation. In the long term, however, there may have been some negative consequences.

The transition from shifting settlements to permanent villages associated with open fields was a break with the old practice. When settlements and fields became fixed, in the time between the 11th and 13th centuries, this had consequences for manuring practice. Now the fields were permanently used for grain cultivation only, with a fallow period every three years but without the possibility for a longer regeneration period of the soil.

In the shifting settlement system, fields were brought to the nutrients accumulated in the settlements, but now nutrients had to be brought to the fields. However, archaeological field data of pottery scatters on fields suggest that there was a manuring gap between the end of the shifting settlement system in the 11th/13th centuries and the 14th/15th centuries. Only then – at least, in several regions of southwest Germany – can we identify pottery sherds that probably were distributed with the dung. At least in southwest Germany we need to think of a 100-200 years' manuring gap, between 2-6 generations, with probably declining yields.

Hedges are important factors within the microclimate of a region. They mitigate the effects of winds, reduce superficial water runoff, and raise the groundwater level. Furthermore, they create a mosaic of various small plots with different land cover, different heat emission, and evaporation. They prevent heavy winds; create biotopes for many animals and plants.

Removing the hedges brought a higher risk of soil erosion, increased evaporation, heat emission, and changes of groundwater levels. It also brought a higher risk of animal diseases. Germs could spread more easily, because the husbandry formerly held in small herds on different plots formed bigger communal herds in the large fallow spaces of the new open field system. Perhaps the transformation of the cultural landscape also changed the biotopes of small rodents, who now lived closer to humans.

The 14th-century – extreme weather, plague, and desertion

Given this proposed scenario of long-term changes of the cultural landscape, most of the catastrophic events of the 14th century appear in a new light. They were not just occasional natural events – they have a strong anthropogenic moment.

We learn from written sources about several animal diseases in the early 14th century. Zooarchaeological

studies from Britain show that they had important effects on the livestock (*Hamilton – Thomas 2012*). Similar studies from southern Germany are rare (*Paxinos 2017*), because the usual find-oriented analysis of bone assemblages of single excavations has just missed this important question. Maybe also the locust invasion of 1338, present in the Schalkenmehren maar in the Eifel, was favoured by the open landscapes (*Sirocko et al. 2009*).

We also learn from written sources about some heavy weather events during the 14th century (*Bork et al. 2011; Bauch 2014*). The most prominent one was the St Mary Magdalene flood in July 1342. The reconstruction of the track of the weather front refers to a meteorological situation known as Vb-track. In this situation, a low pressure area crosses the Mediterranean and reaches Central Europe from the Adriatic in the southeast, bringing huge amounts of rain. Several floods in recent years, such as the flood of the Elbe and Danube in 2002, also came from this Vb weather situation. In 1342, recorded water levels of the Danube, Main, Weser and Rhine were higher than at any other time. Some of the consequences of this heavy weather are mentioned in written sources, some are present in the geo-archaeological record and others can be assumed by later analogies. First, we learn from the written record that people fled from their homes and that they lost their food supply. As the flood took place just a very short time before the harvest, there were probably severe losses of germinable grain.

Geo-archaeological research shows evidence at various sites for heavy soil erosion in the mid- 14th century. Even if methodologically the accuracy of the dating is insufficient to assign these traces to the St Magdalen flood in the summer of 1342, this is most likely. In the Spessart Mountains big, heavy rocks moved by the water during the 14th century give an impression of the high energy of the water runoff (*Bork et al. 2011*).

The Black Death as a consequence of landscape change?

With the effect of village formation and the changes of the landscape on the one hand, and the reported evidence for epidemics among animals and humans, heavy weather extremes, and soil erosion on the other hand, the idea of a human ecosystem helps to trace some possible relations. Landscape changes increased the vulnerability to extreme weather as well as to epidemics. With the loss of terraces and hedges, soil erosion was not stopped by barriers. Erosion gullies developed due to higher water run-off. But even precipitation could be affected by the clearance of forests and hedges. In general, we may expect higher evaporation, lower groundwater, and drier soils. But at the same time, larger fields probably resulted in an increased tendency for thunder cells to develop.

Eventually the intensity of extreme weather as in 1342 had an anthropogenic component. The outbreak of diseases may also have been triggered by landscape changes. The formation of bigger herds in the open field system increased the risk of infection. The cutting of hedges as well as the weather effects most probably affected the biosphere of rodents. Floods often result in a murine plague in adjacent settlements and heighten the risk for an outbreak of an epidemic.

In 1342, rains and flood affected the landscape in mid-July, when the grain harvest had not started, but the seed was already germinable. For humans, this meant the loss of yields, but for rodents there was plenty of food washed away and distributed over the landscape.

It would not be surprising if the Black Death started in 1342. However, it only reached southern Germany 5 to 7 years later. It spread from the Black Sea over the Mediterranean and reached Germany in a first stroke from the south and via the sea route over the Atlantic and the North Sea from the north. It is interesting to notice that genetic studies from mass graves at London's Smithfield imply that there was a mutation in *Yersinia pestis* only a short time before the Black Death (Bos *et al.* 2011). There is evidence for *Yersinia pestis* in Central Europe since the late Neolithic and especially in 6th-century graves in southern Bavaria (Harbeck *et al.* 2013). It will be interesting to identify the *Yersinia pestis* bacteria from the time immediately before the Black Death in order to see when and where the mutation took place. The possibility that the mutation was related to the floods of 1342 in Central Europe should be taken into account (comp. Campbell 2016).

There is a high probability that the late medieval settlement desertion, at least in southern Germany, has a strong background in environmental history. The ecological consequences of the changes in land-use practices and village formation caused not only an increasing vulnerability in the landscape, but also a high risk for the agricultural economy. The crisis of the 14th century – including deserted settlements and possibly also the Black Death – may have been the result of complex long-term changes to the socio-ecological system involving the peasants' local society, climate and weather, water and soils, and rodents and epidemics (comp. Schreg *in press*). Late medieval deserted settlements in southern Germany may not only be a consequence of long-term landscape transformations but also the result of humans mismanaging their environment, which is not only a phenomenon of modern industrial times.

Conclusions

This sketch of some relations between village formation, the open field system, and the most devastating

epidemics of the Middle Ages is highly speculative. For now, it is nothing more than an hypothesis, which, however, is based on current knowledge about medieval landscape changes. It indicates the possibility that late medieval deserted settlements were to a certain degree the consequences of unsustainable growth and intensification. The narrative behind the scenario is hence a cautionary tale of humans degrading their environment and heading for a collapse.

In order to verify this hypothesis, we need to check the interconnections, such as the effects of the introduction of the open field system on the landscape. This is an interdisciplinary task, but medieval archaeology may play a crucial role, as it has to provide the relevant data. Yet, this is not excavating houses and pots; it is contextualizing bio- and geo-archaeological samples. In fact, archaeological excavations as described in the first part have played only a minor role in the argumentation. We need more excavations in order to gain statistical evidence for the chronological and spatial dynamics of the desertion process. A correlation between landscape changes, soil erosion, epidemics, and desertion cannot be a proof of the hypothesis, but it is crucial to think about the possible interconnections. The often-outdated inventories of deserted settlements have to be updated in a modern GIS database.

We need to have more-detailed models about the interaction of various agents and factors, which can go beyond cause and effect. Current correlations of climate change and cultural history, for example, lack detailed models and are therefore deterministic. What can help is the perspective of human ecology. However, human ecology does not provide hard evidence, but rather helps to create hypotheses and advanced research question beyond the perspectives of traditional archaeological research on medieval rural settlements. It is the perspective of village ecosystems that is needed, because the local scale is the level of daily human practice interacting with the environment. The ecological perspective raises awareness of much data inherent in archaeological sites that are often neglected in current archaeological practice.

Excavations must now address the subtle aspects of a house or farmstead complex. It is time to move beyond a simple record of the structure of buildings and material culture and invest time and resources into the analysis of the soils and ecofacts embedded in these places. Unfortunately, it is the case that rescue excavation has failed to make available the time and monies required for this level of analysis. We currently face losing the opportunity to understand the consequences of the open field system by means of weeds or small animals, which would also be an important source for aDNA studies on plague or animal diseases that occurred in the 14th century.

References

- Abel, W. 1976:*
Die Wüstungen des ausgehenden Mittelalters. Stuttgart.
- Bauch, M. 2014:*
Die Magdalenenflut 1342 – ein unterschätztes Jahrtausendereignis?, Mittelalter 4.2.2014. <http://mittelalter.hypothesen.org/3016>.
- Becker, H. – Ericsson, I. (eds) 2004:*
Mittelalterliche Wüstungen im Steigerwald: Bericht über ein Symposium des Zentrums für Mittelalterstudien der Otto-Friedrich-Universität Bamberg am 3. Februar 2001. Bamberg.
- Bergmann, R. 1989:*
Die Wüstungen des Geseker Hellwegraumes: Studien zur mittelalterlichen Siedlungsgenese einer westfälischen Getreidebaulandschaft. Bodenaltertümer Westfalens 23. Münster.
- Bergmann, R. 2015:*
Die Wüstungen des Hoch- und Ostsauerlandes: Studien zur Kulturlandschaftsentwicklung in Mittelalter und früher Neuzeit. Bodenaltertümer Westfalens 53. Darmstadt.
- Biermann, F. 2010:*
Archäologische Studien zum Dorf der Ostsiedlungszeit. Die Wüstungen Miltendorf und Damsdorf in Brandenburg und das ländliche Siedlungswesen des 12. bis 15. Jahrhunderts in Ostmitteleuropa. Forschungen zur Archäologie im Land Brandenburg 12. Zossen.
- Bois, G. 1999:*
Umbruch im Jahr 1000. Lournand bei Cluny – ein Dorf in Frankreich zwischen Spätantike und Feudalherrschaft. München.
- Bork, H.-R. – Beyer, A. – Kranz, A. 2011:*
Der 1000-jährige Niederschlag des Jahres 1342 und seine Folgen in Mitteleuropa, in: Daim, F. – Gronenborn, D. – Schreg, R. (eds), Strategien zum Überleben: Umweltkrisen und ihre Bewältigung. Mainz, 231-242.
- Bork, H.-R. – Bork, H. – Dalchow, C. – Faust, B. – Pierr, H.-P. – Schatz, T. 1998:*
Landschaftsentwicklung in Mitteleuropa. Darmstadt.
- Bos, K. I. – Schuenemann, V. J. – Golding, G. B. – Waglechner, N. – Coombes, B. K. – McPhee, J. B. – DeWitte, S. N. – Meyer, M. – Schmedes, S. – Wood, J. – Earn, D. J. D. – Herring, D. A. – Bauer, P. – Poinar, H. N. – Krause, J. – Burbano, H. A. 2011:*
A draft genome of *Yersinia pestis* from victims of the Black Death, *Nature* 478/ 7370, 506-510.
- Campbell, B. M. S. 2016:*
The great transition: climate, disease and society in the late-medieval world. Cambridge.
- Eickhoff, S. 2006:*
Zwischenlandung im Mittelalter: Archäologie für den Hauptstadtflughafen BBI; die Ausgrabungen in Diepensee. Wünsdorf.
- Felgenhauer-Schmiedt, S. 2008:*
Hard: Ein Wüstungskomplex bei Thaya im niederösterreichischen Waldviertel. Archäologische Forschungen in Niederösterreich 6. St. Pölten.
- Gerking, W. 1995:*
Die Wüstungen des Kreises Lippe: Eine historisch-archäologische und geographische Studie zum spätmittelalterlichen Wüstungsgeschehen in Lippe. Veröffentlichungen der Altertumskommission für Westfalen 10. Münster.
- Grees, H. 1982:*
Die abgegangenen Siedlungen auf der Münsinger Alb, in Münsingen. Geschichte – Landschaft – Kultur. Sigmaringen, 476-488.
- Grimm, P. 1939:*
Hohenrode, eine mittelalterliche Siedlung im Südharz. Halle.
- Grothe, A. – Kobbe, A. 2006:*
Die Wüstung Alverstede – Verschwunden und wieder gefunden, in: Dresely, V. – Meller, H. (eds), Archäologie auf der Überholspur: Ausgrabungen an der A 38. Halle an der Saale, 210-254.
- Hamilton, J. – Thomas, R. 2012:*
Pannage, pulses and pigs: isotopic and zooarchaeological evidence for changing pig management practices in 14th century England, *Medieval Archaeology* 56, 234-259.
- Harbeck, M. – Seifert, L. – Hänsch, S. – Wagner, D. M. – Birdsell, D. N. – Parise, K. L. – Wiechmann, I. – Grupe, G. – Thomas, A. – Keim, P. – Zöller, L. – Bramanti, B. – Riehm, J. M. – Scholz, H. C. – Besansky, N. J. 2013:*
Yersinia pestis DNA from skeletal remains from the 6th century AD reveals insights into Justinianic Plague, *PLoS Pathogens* 9/5, e1003349.
- Heidinga, H. 1987:*
Medieval settlement and economy north of the lower Rhine: archaeology and history of Kootwijk and the Veluwe the Netherlands. Assen.
- Hesse, S. 2003:*
Die mittelalterliche Siedlung Vriemeensen im Rahmen der südniedersächsischen Wüstungsforschung. Göttinger Schriften zur Vor- und Frühgeschichte 28. Neumünster.
- Hildebrandt, L. H. (ed.) 1997:*
Archäologie und Wüstungsforschung im Kraichgau. Ubstadt-Weiher.
- Jakob, H. 1984:*
Die Wüstungen der Obermain-Regnitz-Furche und ihrer Randhöhen vom Staffelberg bis zur Ehrenbürg, *Zeitschrift für Archäologie des Mittelalters* 12, 73-144.

- Janssen, W. 1965:*
Königshagen, ein archäologisch-historischer Beitrag zur Siedlungsgeschichte des südwestlichen Harzvorlandes. Hildesheim.
- Königlich Statistisches Landesamt 1867:*
Beschreibung des Oberamts Tübingen. Stuttgart.
- Meller, H. (ed.) 2006:*
Archäologie XXL: Archäologie an der B 6n im Landkreis Quedlinburg. Archäologie in Sachsen-Anhalt, Sonderband 4. Halle an der Saale.
- Michl, E. 2017:*
Ausgrabungen in der Wüstung Lindelach: Ein archäologischer Beitrag zur Siedlungsforschung und Sachkultur des Spätmittelalters und der frühen Neuzeit. Bamberger Schriften zur Archäologie des Mittelalters und der Neuzeit 7. Bonn.
- Nekuda, V. 1975:*
Pfaffenschlag, Zaniklá stredoveká ve s u Slavonic. Brno.
- Paxinos, P.D. 2017:*
Die Archäozoologie der Pest. Die Auswirkungen des Schwarzen Todes (1347-1350) auf Tierhaltung und Viehnutzung im Gebiet des heutigen Deutschland. Documenta Archaeobiologiae 12.
- Romankiewicz, T. – Hofmann, D. – Gillis, R. – Amkreutz, L. – Gierpe, L. – Möller, N. – Sharples, N. – Schreg, R. in prep.:*
Moving the house posts: mobility and permanence in prehistoric and early medieval dwelling, farming and resource management.
- Rösener, W. 2010:*
Die Wüstungen des Spätmittelalters und der Einfluss der Klimafaktoren, Zeitschrift des Vereins für Hessische Geschichte und Landeskunde 115, 57-77.
- Rosenwein, B. H. 1989:*
To be the neighbour of Saint Peter. The social meaning of Cluny's property 909-1049. Ithaca.
- Schaal, F. – Schöllkopf, C. – Scharpf, G. (eds) ca. 1920:*
Heimatbilder aus Stadt und Bezirk Geislingen. Geislingen.
- Schlüter, O. 1903:*
Die Siedelungen im nordöstlichen Thüringen. Berlin.
- Schlüter, O. 1952:*
Die Siedlungsräume Mitteleuropas in frühgeschichtlicher Zeit. 1. Einführung in die Methodik der Altlandschaftsforschung. Remagen.
- Schreg, R. in press:*
Plague and desertion – a consequence of anthropogenic landscape change? Archaeological studies in southern Germany, in: Bauch, M. – Schenk, G. J. (eds), The crisis of the 14th century: 'Teleconnections' between environmental and societal change? Berlin.
- Schreg, R. 2002:*
Haus und Hof im Rahmen der Dorfgeneese. Zum Wandel der Bauformen in Südwestdeutschland, in: Klápště, J. (ed.), The rural house from the migration period to the oldest still standing buildings. Ruralia IV. Prague, 111-122.
- Schreg, R. 2006:*
Dorfgeneese in Südwestdeutschland: Das Renninger Becken im Mittelalter. Materialhefte zur Archäologie in Baden-Württemberg 76. Stuttgart.
- Schreg, R. 2009a:*
Development and abandonment of a cultural landscape – archaeology and environmental history of medieval settlements in the northern Black Forest, in Klápště, J. – Sommer, P. (eds) Medieval rural settlement in marginal landscapes. Ruralia VII, Turnhout, 315-333.
- Schreg, R. 2009b:*
Siedlungen in der Peripherie des Dorfes. Ein archäologischer Forschungsbericht zur Frage der Dorfgeneese in Südbayern, Berichte der Bayerischen Bodendenkmalpflege 50, 293-317.
- Schreg, R., 2009c:*
Archäologische Wüstungsforschung und spätmittelalterliche Landnutzung: Hausbau und Landnutzung des Spätmittelalters in Südwestdeutschland aus archäologischer Sicht, in: Rückert, P. – Lorenz, S. (eds), Landnutzung und Landschaftsentwicklung im deutschen Südwesten. Veröffentlichungen der Kommission für Geschichtliche Landeskunde in Baden-Württemberg, Reihe B 173. Stuttgart, 131-163.
- Schreg, R. 2012a:*
Farmsteads in early medieval Germany – architecture and organisation, Arqueología de la Arquitectura 9, 247-265.
- Schreg, R. 2012b:*
Kontinuität und Fluktuation in früh- und hochmittelalterlichen Siedlungen, in: Fey, C. – Krieb, S. (eds), Adel und Bauern in der Gesellschaft des Mittelalters: Internationales Kolloquium zum 65. Geburtstag von Werner Rösener. Korb, 137-164.
- Schreg, R. 2013:*
Würzbach – ein Waldhufendorf im Nordschwarzwald, in: Theune-Vogt, C. – Scharrer-Liška, G. – Huber, E. H. – Kührtreiber, T. (eds), Stadt – Land – Burg: Festschrift für Sabine Felgenhauer-Schmiedt zum 70. Geburtstag. Rahden, 189-202.
- Schreg, R. 2014:*
Uncultivated landscapes or wilderness? Early medieval land use in low mountain ranges and flood plains of Southern Germany, European Journal of Post-Classical Archaeologies 4, 69-98.

Schreg, R. 2016:

Mittelalterliche Feldstrukturen in deutschen Mittelgebirgslandschaften, in: Klápště, J. (ed.), *Agrarian technology in the medieval landscape. Ruralia X*. Turnhout, 351-370.

Schreg, R. 2018a:

Bauern als Akteure – Beobachtungen aus Süddeutschland, in: Drauschke, J. – Kislöcher, E. – Kühnreiter, K. – Kühnreiter, T. – Scharrer-Liška, G. – Vida, T. (eds), *Lebenswelten zwischen Archäologie und Geschichte. Festschrift für Falko Daim zu seinem 65. Geburtstag. Monographien des RGZM 150*. Mainz, 553-563.

Schreg, R. 2018b:

Mönche als Pioniere in der Wildnis? Aspekte des mittelalterlichen Landesausbaus, in: Krätschmer, M. – Thode, K. – Vossler-Wolf, C. (eds), *Klöster und ihre Ressourcen. Räume und Reformen monastischer Gemeinschaften im Mittelalter. RessourcenKulturen 7*. Tübingen, 39-58.

Sirocko, F. – Alt, K. W. – David-Sirocko, K. 2009:

Das nasskalte 14. Jahrhundert – Hunger, Pest und Tod, in: Sirocko, F. (ed.), *Wetter, Klima, Menschheitsentwicklung*. Darmstadt, 165-169.

Spengler, O. 1923:

Der Untergang des Abendlandes. München.

Stephan, H.-G. 1979:

Archäologische Studien zur Wüstungsforschung im südlichen Weserbergland. Münstersche Beiträge zur Ur- u. Frühgeschichte 10-11/2. Hildesheim.

Stephan, H.-G. – Tönsmeier, H. D. 2010:

Der Sölling im Mittelalter: Archäologie – Landschaft – Geschichte im Weser- und Leinebergland. Hallesche Beiträge zur Archäologie des Mittelalters und der Neuzeit 1. Dormagen.

Thode, K. 2014:

Fortsetzung der archäologischen Erforschung der Wüstung Oberwürzbach, *Archäologische Ausgrabungen in Baden-Württemberg*, 335-338.

Uhl, S. 2001:

Zwei neu entdeckte spätmittelalterliche Firstständerbauten. Gärtringen, Kirchstraße 20 und Gomadingen-Dapfen, Oberdorfstraße 46, *Denkmalpflege in Baden-Württemberg 30*, 139-144.

Veith, I. 1957:

Wüstungen im Neckarland und auf der Schwäbischen Alb (Inauguraldissertation). Tübingen.

Weber, D. 1927:

Die Wüstungen in Württemberg: Ein Beitrag zur historischen Siedlungs- und Wirtschaftsgeographie von Württemberg. Stuttgarter geographische Studien 4/5. Stuttgart.

Crisis or transition?

Risk and resilience during the Late Medieval agrarian crisis

*Eva Svensson**

But things like this are never written down (Gregory 1999, 254).

Abstract

During the Viking Age and Early Middle Ages (c. 9th-13th centuries), outland-using peasants in the hilly and forested areas of inner Scandinavia were making a good living by producing commodities for sale in external markets. Some were using the outland intensively, relying on commodity production. Others used the outland extensively in diverse ways and balanced with agrarian activities. Trade networks broke down in the 13th century, and intensive outland-using peasants had to restructure their economy, placing greater emphasis on cereal cultivation and cattle breeding. The extensive outland-using peasants did not restructure their economy in the same way. The Late Medieval Agrarian Crisis with the Black Death brought death and the desertion of farmsteads. However, permanent desertion of settlements was not noticeable in intensive outland-using communities, whereas there are far more deserted settlements in extensive outland-using communities. These communities were less resilient than the intensive outland-using communities, who had built new capacities when restructuring the economy. Many of the deserted settlements appear to have come under the ownership of the vicarages, the only agents of feudalism in the investigated areas. Crisis feudalism appears to have been an important factor in permanent desertion after the Late Medieval Agrarian Crisis.

Keywords: *Late Medieval Agrarian Crisis; risk; resilience; outland use; crisis feudalism.*

Résumé

Crise ou transition ? Risque et résilience pendant la crise agraire du Bas Moyen Âge

À l'époque viking et au début du Moyen-Âge (IXe-XIIIe siècles), les paysans des régions montagneuses et boisées de la Scandinavie intérieure gagnaient bien leur vie en produisant des biens destinés à la vente sur un marché extérieur. Certains utilisaient les terres banales intensivement pour la production de produits de base. D'autres utilisaient celles-ci extensivement pratiquant des cultures plus diversifiées et équilibrées. Les réseaux commerciaux se sont effondrés au XIII^e siècle et les paysans utilisant intensivement les terres banales ont dû repenser leur économie, en mettant davantage l'accent sur la culture de céréales et l'élevage du bétail. Les paysans utilisant les terres banales de manière

* Department of Life and
Environmental Sciences
Karlstad University
SE-651 88 Karlstad
Sweden
Eva.Svensson@kau.se

extensive n'ont pas dû restructurer leur économie de la même manière.

La crise agraire du Bas Moyen Âge, avec la peste noire, a apporté la Mort et la désertion des fermes. Cependant, une désertion définitive des domaines n'est pas perceptible dans les communautés pratiquant une utilisation intensive des terres banales, alors qu'il y a beaucoup plus de fermes abandonnées dans les communautés utilisant une agriculture extensive des terres banales ; Ces communautés étaient donc moins résilientes que les communautés pratiquant l'agriculture intensive des terres banales, qui avaient développée nouvelles capacités lors de la restructuration de leur économie. Un grand nombre de fermes désertées semblent avoir appartenu aux paroisses, seules représentations « féodales » dans les zones étudiées. La crise de la féodalité semble donc avoir été une composante importante de la désertion permanente après la crise agraire du Bas Moyen Âge.

Mots-clés: *Crise agraire du Bas Moyen Âge; Risque; Résilience; Utilisation des terres banales; Crise de la féodalité.*

Zusammenfassung

Krise oder Übergang? Risiko und Resilienz während der spätmittelalterlichen Agrarkrise

Während der Wikingerzeit und des frühen Mittelalters (ca. 9.-13. Jh.) war das Leben der bäuerlichen

In the detective stories by Susanna Gregory on Dr Bartholomew of Cambridge University, the reader encounters an English society fighting the effects of the Black Death, and a landscape filled with physical memories of the terrible catastrophe, such as empty houses and spooky, deserted villages in ruins. In these novels there are also narratives of how people tried to deal with both the disease and its consequences, and the issue of why some were spared and others not – that is, managing risks and reflecting on resilience.

The Late Medieval Agrarian Crisis has always been of central importance in research on the Middle Ages in Europe. But there has been an increased interest in recent years, not least expressed in the Facebook group 'The Black Death Network', probably due both to a stronger societal focus on environmental problems, risks, and disasters in our time, and to new theories, methods, and findings able to shed new light on the historical events.

In this paper, ongoing research on medieval rural settlements in forested and hilly areas in the county of Värmland, western Sweden, will be presented and discussed using the socio-ecological theoretical framework

Gesellschaft in den hügeligen und bewaldeten Gebieten im inneren Skandinavien günstig, dort wurden Waren für einen externen Markt produziert. Einige Siedlungen konzentrierten sich intensiv auf die Rohstoffproduktion. Andere nutzten extensiv die Randgebiete im Rahmen von breit gefächerten und ausbalancierten landwirtschaftlichen Aktivitäten. Im 13. Jahrhundert brachen die Handelsnetze zusammen, und die ländliche Gesellschaft musste ihre Wirtschaftsweise umstrukturieren und Getreideanbau und Viehzucht stärker in den Vordergrund stellen. Die in den Randlagen lebenden Bauern haben jedoch ihre Wirtschaftsform nicht in gleicher Weise umstrukturiert. Die spätmittelalterliche Agrarkrise sowie die Pestepidemien führten zu einem Exodus der Bevölkerung und dem Wüstfallen der Gehöfte. Allerdings war die permanente Verödung von Siedlungen in den intensiv genutzten Regionen nicht spürbar, während es in den extensiven genutzten Gegenden weitaus mehr verlassene Siedlungen gibt. Diese Gemeinschaften waren anfälliger für die Krise. Durch die Umstrukturierung der Wirtschaft in den intensiv genutzten Landschaften hatten die dortigen Gemeinschaften neue Möglichkeiten für eine Lebensgrundlage aufgebaut. Viele der verlassenen Siedlungen scheinen in den Besitz der Pfarrhäuser übergegangen zu sein, die einzigen feudalen Akteure in den Untersuchungsgebieten. Solcher Krisenfeudalismus scheint ein wichtiger Faktor für das Wüstfallen nach der spätmittelalterlichen Agrarkrise gewesen zu sein.

of historical ecology. The main focus will be on the adaptive strategies pursued by different actors in the rural communities, mainly peasants, in relation to the concepts of risk, resilience, and crisis feudalism.

Historical ecology: risk and resilience in relation to the Late Medieval Agrarian Crisis

The Black Death, hitting Europe in the middle of the 14th century, was a disaster with a suggested mortality rate of about 60% (*Benedictow 2004, 382-384*). An immediate outcome of the Black Death must have been both a sharp reduction of members in households and an abandonment of settlements. However, it takes more than a virulent pestilence to cause long-term settlement desertion, and the Black Death featured in a package of social, environmental, health, and technological hazards and restraining processes, often labelled the Late Medieval Agrarian Crisis. The hazards and restraining processes were: climate change with colder weather, floods, and erosion; overpopulation; imbalance between cereal cultivation and

cattle breeding and use of marginal soils for agriculture with inadequate agrarian technology; feudal¹ pressure; war; cattle panzooti; bad harvests, and famine (*Campbell 2016; Kitsikopoulos 2011; Lagerås 2016*).

Still, the impact of the Late Medieval Agrarian Crisis remains surprisingly invisible in both archaeological and historical records in Sweden. In a Nordic project that relied on written documents, historians have come up with high degrees of desertion for Norway but distinctively lower figures, and even an increase in settlements, for other Nordic countries. The high numbers for Norway, 50-70%, are, however, partly due to Norwegian historians working with other methods. For areas adjacent and partly covered in this paper, desertion rates were estimated to have been c. 20% (*Gissel 1981; Österberg 1977*). This very modest figure can be explained by the scarcity of medieval documents concerning peasant holdings, and to the written documents not containing information on partial desertion. Regressive analysis of historic maps has shown that partial desertion was a common feature, meaning that the settlement unit as such would not be regarded as deserted (*Karsvall 2016*).

Studies relying on different source material paint a more complex picture. An interdisciplinary project, combining results from a number of archaeological, osteological, dendrochronological, and palaeobotanical investigations in southern Sweden (part of Denmark in medieval times) showed that there was indeed widespread farm abandonment starting ca. 1350 AD, especially in recently colonised forested areas (*Lagerås 2016*). However, the compilation of results from outlying areas further north in the middle of Scandinavia, western Sweden, and eastern Norway points to a lack of crisis. Here there were no real signs of an economic setback during the Late Medieval Agrarian Crisis, due to a strong flexibility in resource utilisation and a market-adaptive economy (*Berglund et al. 2009*).

Thus, the impact of different risks in the Late Medieval Agrarian Crisis package on rural communities varied at regional, local, and even individual settlement levels. Apparently, there were also counteracting factors and conditions. For example, rural settlements that had households who were involved in commercial activities, and versatile households who could use their knowledge to make changes without too many restraints stand out as less vulnerable (*Curtis 2014*, especially 270-271; *Ersgård 2016*, 97-100; *Lewis 2016*, 793; *Svensson et al. 2013*, 103-104). Recent studies of agrarian, pastoral economies in eastern Africa have pointed to community-building as

another important factor for handling risks (*Petek 2018*). Such counteracting factors and conditions could be characteristics of resilience.

Risk assessment today often departs from varieties of the function $\text{Risk} = T(\text{hreat}) / H(\text{azard}) / P(\text{robability}) \times E(\text{xposure}) \times V(\text{ulnerability})$, whereas resilience can be described as the ability of a system to absorb stress caused by internal as well as external factors (*Svensson et al. 2013*; see also *Gunderson – Holling 2002; Holling 2001* for the resilience theory as a systems theory). The impact of risks is thus dependent on the degree of resilience in relation to the actual risks. But risks are more complex than the function above describes. The function is a product of today's engineering society, where society wants to mitigate risks with technical solutions instead of dealing with the complex problems behind the risks. And the function 'forgets' that risks occur in different societal, chronological, and environmental contexts.

Therefore a socio-ecological approach that considers cumulative effects over time, the historical ecological approach (*e.g. Crumley 2017*), will here be the theoretical framework for understanding the interplay between risk and resilience in peasant communities. Historical ecology addresses not only adaptive strategies and versatile uses of landscape resources, but also the importance of learning and capacity building for the future.

The culture of resource colonisation and outland use – introducing the forest peasants

The long-dominant research narrative of forested and hilly areas with unfavourable conditions for cereal cultivation as being marginal and of marginal importance in medieval rural societies has been challenged by a number of investigations over the last 30 years. Instead of marginalised peasants making do with the peripheral leftovers, archaeology has unearthed histories of market-oriented communities producing a variety of goods for sale. Seemingly gaining both wealth and a strong standing in society, the key to commodity production lay in the resources of the outland (Sw. *Utmark*), and the human practice of harvesting these resources is called outland use (Sw. *utmarksbruk*) (*Andersson 1998; Svensson 1998; 2008*).

Research into the earlier phases of outland-using communities in Scandinavia, in the early half of the first millennium, has pointed out two major characteristics. First, settlement expansion into forested and hilly areas comprised an innovative combination of farmstead, shieling, and agrarian and non-agrarian outland use (*Svensson 2018*). Second, settlement expansion should be understood as resource colonisation, where people moved into seemingly unfavourable environments pursuing special resources. In the initial phases, these appear to have

1 The word 'feudal' will be used in this paper, in spite of the term not being well suited to the study area. The reason for using the word is that it is paired with what is, for this paper, the important theoretical concept of 'crisis feudalism'.



Fig. 1: A bloomery iron production site with the remains of the furnace in the front and the slag heap in the back (© Eva Svensson; after Svensson 2008, Fig. 7).

been mainly commodities for conspicuous consumption by a European elite, such as furs (Lindholm – Ljungkvist 2016). Later, from around the 10th century AD on, a more complex outland use developed that encompassed mass production of everyday goods such as bloomery iron, antler (elk and reindeer), and various stone products such as soapstone items, whetstones, and quernstones. In some areas, rural communities specialised in outland-based commodity production and trade, and decreased agrarian production to a subsistence level, *i.e.* so-called intensive outland use. In other areas, there was a balance between agrarian production and outland use, so-called extensive outland use (*e.g.* Baug 2013; Hansen – Storemyr 2017; Stene 2014; Svensson 1998; 2008).

The agents behind colonisation were in most cases freeholding peasants², not only introducing an innovative combination of farmstead, shieling, and outland use, but also smart ways of organising the complex and work demanding outland use. The keys to successful organisation were versatility, seasonality, communality, and an adapted gendered labour division. Versatility was not only a way of using many different sources for producing commodities and necessities in a landscape with poor soils for agriculture, it was also a way of spreading risks by relying on diversity. Through co-operative work, pooling

2 There are other interpretations of who were the agents behind outland use, such as unfree persons working for chieftains seated in more central, agricultural areas; the sami; anonymous groups of hunter-gatherers, etc. Certainly there were regional and local differences. However, with more detailed studies of the complexity of outland use, and the connection of outland use and settlements, the freeholding peasants stand out by far as the most likely alternative in most areas. See discussions in *e.g.* Stene 2014; Loftsgarden 2017.

different competences, spreading the different chores over the year, and sending women to work far away from the farmsteads on a variety of tasks, the available workforce was used effectively (Svensson 2015, 75-77).

The strategic innovativeness of the outland-using peasants should not be considered unique. On the contrary, the more rural medieval landscapes in Europe are investigated archaeologically, the more peasants in general stand out as strategic and knowledgeable agents (Loveluck 2013). Thanks to landscape approaches, making researchers look beyond houses and fields, a greater variety of land use is detectable. Indeed, sometimes resource utilisation and processing could be on a proto-industrial scale, as in one of the cases examined here.

There were both intensive and extensive outland-using communities in the area we are going to look at more closely (Fig. 2). In the northern part, peasants were heavily involved in bloomery iron production and elk hunting using pitfalls. They also engaged in some agrarian outland use, in the form of shielings for seasonal cattle breeding, outland cereal cultivation, and haymaking on outlying meadows including mires. Outland use in the investigated area, at least during its peak, appears to have been organised hamlet-wise, with all hamlets pursuing several forms of outland exploitation. Further south, there were considerably fewer pitfalls used for the hunting of elk, only a handful of iron-production sites, and fewer and smaller shielings. However, there are also a few tar production sites and stone quarries, indicating both a less-intensive and a more-diversified outland use. Another difference is that the outland use was, at least to some extent, organised by community or parish, with different hamlets specialising in different kinds of outland uses. There was probably an intercommunity exchange

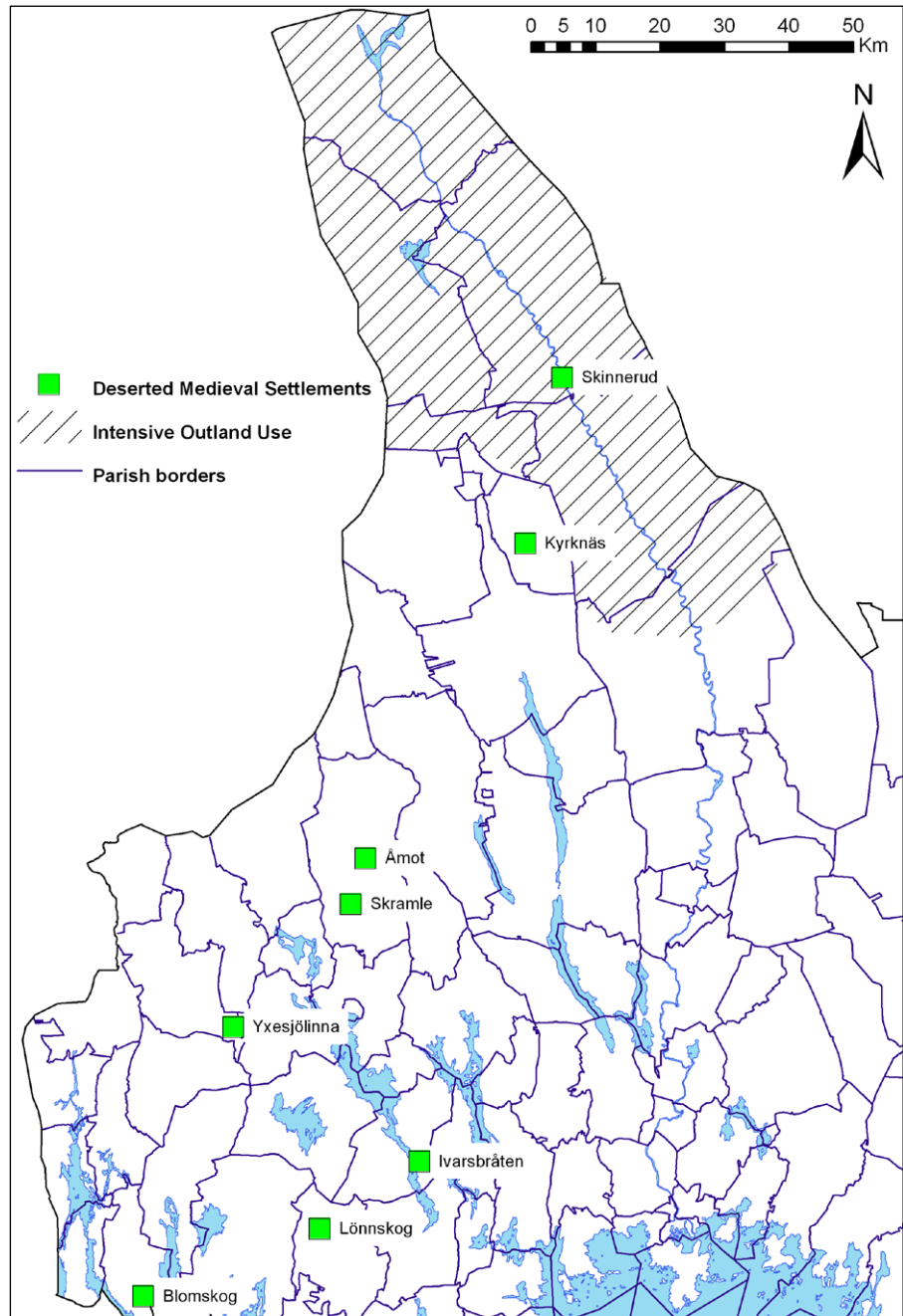


Fig. 2: Map of the study area with sites mentioned in the text. Intensive outland-using areas are hatched (© Stefan Nilsson, *Antikva Geographica*).

of products as well as production for external markets (Emanuelsson *et al.* 2003; Svensson 1998; 2008).

The first crisis – collapse of trade networks

The usage of the outland for commodity production increased dramatically in the 10th century AD (e.g. Indrelid *et al.* 2015; Stene 2014; Svensson 1998). Outland-using peasants had a strong standing in medieval society, controlling waste resources and generating considerable wealth from production and trade. They relied on trade

networks through which products from the outland reached market places and urban centres, and eventually consumers, sometimes far away from the place of production (Ashby *et al.* 2015; Glorstad – Loftsgården 2017; Loftsgården 2017). Through these trade networks, outland-using peasants came to possess goods they needed and wanted for their own consumption.

Due to major societal and technological developments, the conditions for peasants and trade in outland commodities changed. During the 12th and 13th centuries, there was a process of growing royal power,

state formation, the rise of a nobility and ecclesiastical institutions, and urbanisation. Even if most of the manifestations of the process played out in the agrarian plains area, the process included the introduction of top-down control and restrictions. This, together with an increased presence and domination of the Hanseatic League in larger Scandinavian towns, had serious consequences for trade in outland commodities. Due to the invention of the blast furnace and growing production of pig iron in the Swedish Mining District, bloomery iron production in Scandinavia's outland faced fierce



Fig. 3: Heraldic mount from the hamlet Skramle (© Bengt Holter; after Svensson 2008, Fig. 45).

competition. The trade networks appear to have broken down, as there was a steep decrease in outland-produced commodities in the 13th century (Indrelid et al. 2015; Loftsgarden 2017; Stene 2014; Svensson 1998).

The forest peasants did not suffer the changes without a fight. There are examples of improved technology and the introduction of more-efficient work processes in bloomery iron production in western Sweden, probably as a response – albeit in vain – to the competition from the blast furnace (Svensson 1998, 185-186). There are also examples of peasants taking up social competition with the rising nobility. For instance, the forest peasants at Skramle even designed their own coats of arms and wore a heraldic mount (Fig. 3; Svensson 2008, 206-207). The forest peasants appear to have been fighting for preserving the old social structure, in which the *bonde* (Sw. 'peasant') was the dominating social order, with no privileged estates. Throughout the Middle Ages, there were hardly any families in the Swedish outland-using areas seeking to be ennobled, even if several of them must have had the material resources required. The only representative of feudal institutions was the parish vicar.

There were also longer-term responses to the crisis of the collapsed market, especially a change towards more agrarian production in order to achieve a higher degree of self-subsistence. In areas previously involved in the intensive version of outland use, there was an increase in cereal cultivation, both in the infields and in the outland, and in cattle breeding in the 14th century. Cattle breeding especially continued to expand during the Late Middle Ages and early modern times, with an intensified use of shielings and forest grazing (Emanuelsson et al. 2003; Stene 2014).

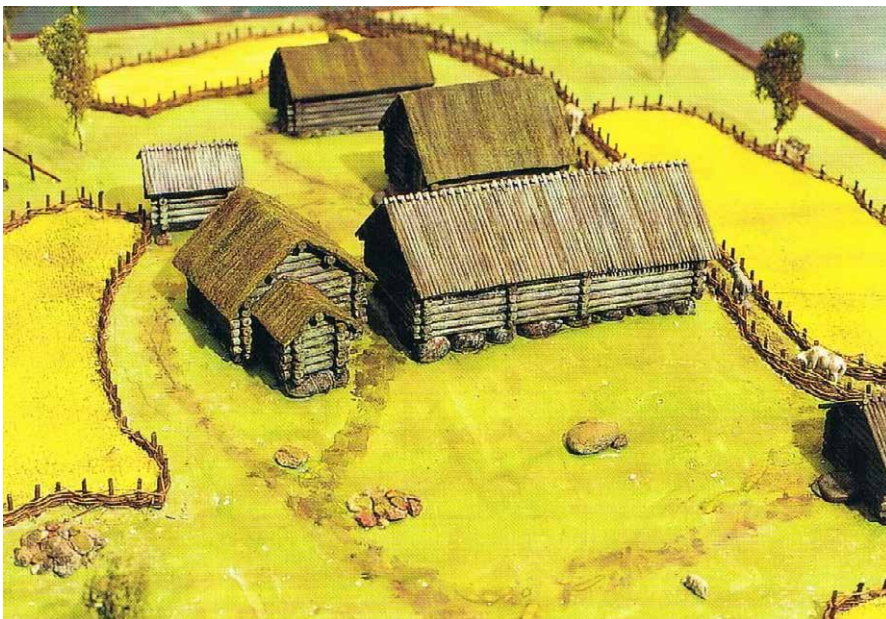


Fig. 4: Reconstruction of Skramle, 13th-century phase with 3 households (© Bengt Holter and Bengt Andersson; after Svensson 2008, Fig. 2).

But not all farmsteads survived, in spite of the successful restructuring of local economies. For instance, the farmstead Skinnerud in western Sweden, established in the 10th century when the boom in outland commodity production took off, was deserted by ca. AD 1250. Skinnerud appears to have specialised in iron and hide production and, having very little agrarian land, was more vulnerable when the market broke down (*Emanuelsson et al. 2003*).

The crisis was also noticeable in communities where extensive outland use involved greater agrarian production and restricted commodity production during the boom. Here, too, there might have been a slight increase in agrarian production as a response to the crisis, although it is not as evident as in areas that were characterised by intensive outland use. In the small hamlet of Skramle, there was probably an increase in infield cultivation. But there was also a reduction of farmsteads, as the number of farms shrinks from 3 to 2 ca. AD 1300 (*Andersson – Svensson 2002*).

Traces of the Late Medieval Agrarian Crisis – local traditions and settlement desertions

Furthermore, after the reduction of households ca. 1300, the peasants at Skramle appear to have continued with business as usual. The small hamlet was fairly well-off, judging from the well-built houses, including an up-to-date smoke oven, and artefacts. The peasants cultivated mostly barley, with some oats and wheat, had a common cow-house, and they would have kept sheep/goats. They also had a part in a small shieling nearby. Apart from cereal cultivation and cattle breeding, the peasants produced soapstone goods of a fairly low quality, hunted fur-bearing animals and processed the furs, and performed small-scale smithing and bronze / brass casting. Smithing and bronze / brass casting was most likely an internal hamlet affair, whereas the soapstone products appear to have been sold to a local market and the furs to an external market. But by ca. AD 1350 Skramle was completely deserted. From the character of the cultural layers and the spatial distribution of artefacts, the desertion appears to have been instant. Instant desertion rhymes well with the local tradition of Skramle being deserted during the Black Death, and never resettled again (*Andersson – Svensson 2002*).

Skramle was not alone. According to tradition another settlement, Åmot, shared the same fate. Åmot has been located about 10 km north of Skramle, but has not been excavated. About 40 km south of Skramle, another local tradition of desertion, due to the Black Death, has led to the discovery of the deserted medieval farmstead of Ivarsbråten, where excavations are currently being carried out (*Svensson 1992*). But it is another kind of tradition

that we are going to look into here, namely traditions of deserted chapels, churches, and monasteries. As the mapping of such sites is under process, this paper is restricted to a couple of examples where some kind of excavation has been carried out. The sites are Blomskog, Kyrknäs, Lönnskog, and Yxsjölinna (Fig. 2).

Blomskog is known in local tradition as ‘the monastery’, but assessed by antiquarians as a prehistoric grave (cairn). This was the case until a minor excavation was performed in 1993, as a result of which the cairn was reinterpreted as an ordinary rural house. Although no artefacts were recovered in the small trench, the remains could be dated by ¹⁴C to the early 13th century (*Andersson – Jansson 1995*).

According to local tradition, Kyrknäs was a chapel in medieval times. However, a regressive analysis of historic maps by the historical geographer Stefan Nilsson gives clear indications of a deserted settlement unit, the land of which had been divided between several other hamlets probably before the earliest tax ledgers from the early 16th century. In 1922, a minor undocumented excavation was carried out, touching the remains of the wall of a timber house that had burned down. Burnt clay was the only reported finds material from the excavation, but iron items, including a locker, had been reported previously as stray finds (*Brodin 1923, 87*).

Lönnskog is reported in local tradition as one of three medieval churches in the sparsely populated parish of Långserud. During the excavation, a minor trench opened in 1959 revealed a possible house foundation, a few nails, an iron mounting, and a few sherds of glass. The glass sherds were probably of recent character, whereas the mount was presumed to be medieval. In the area, a bronze (?) brooch and an arrow had been recovered previously as stray finds. Local inhabitants reported that the site was called Svärtingeby, a name distinctively indicating a hamlet (*ATA; VM Arkiv*).

The last site, Yxsjölinna, is supposed to have been a chapel for pilgrims heading for Nidaros in Norway. The excavations carried out in 1955 unearthed the remains of a hearth and artefacts including a spindle whorl, a couple of whetstones, a bronze mounting, a few nails, and sherds of soapstone vessels. As the results did not match the expectations of a chapel, they were discarded as recent disturbances (*ATA; VM Arkiv*). However, the artefactual assemblage is of distinct medieval character and resembles assemblages from other medieval farmsteads. Also, clearance cairns and fossilised fields have been located (*Nilsson 2000*).

So local traditions can be misleading, though not only because chapels turned out to have been farmsteads. At Skramle, archaeology shows that the site was in fact resettled in the late 15th century, despite the tradition claiming it was never resettled after the Black Death – but



Fig. 5: The excavation at Yxsjölinna, 1955 (© VM Arkiv, neg. 27970:3).

with a significantly poorer, single farmstead. In the early 16th century, Skramle was deserted permanently. This time, the site appears to have been deserted in a more organised way, with people bringing their things with them when leaving (*Andersson – Svensson 2002*).

'Crisis feudalism'?

Can we learn something from the combination of local traditions and archaeology? I argue that there is a reason for chapel traditions being attached to deserted medieval farmsteads. But first, we shall return to the reasons for the permanent desertion of

Skramle. According to the oldest historic maps from the 17th century, Skramle belongs to the vicarage of Stommen, together with 5 other deserted settlements; Töres, Vafferhallen, Dumperud, Lurfallet, and Ladvåndan. The first was probably a deserted farmstead /hamlet, with the others more likely being deserted crofts (*Svensson 2008*, 109 and references therein). My interpretation is that the local vicar was able to incorporate deserted settlements in the vicarage estate after the Black Death. When Skramle was resettled in the 15th century, it was probably by a tenant family under the vicarage. As Skramle and the other 5 settlement units were located close to the vicarage, the

vicar appears later to have decided to evict tenants and farm the land directly under the vicarage (*Andersson – Svensson 2002; Svensson 2008*).

In obtaining the land of Skramle, Töres, Vafferhallen, Dumperud, Lurfallet, and Ladvåndan, the vicar of Gunnarskog turned the vicarage of Stommen from a previously average farmstead into a considerable estate, which was something new in a community where the ability to turn the natural outland resources of the forest into commodities through work had held priority over landholding (*Johansson 1994*, 20-22). The vicar, representing the only feudal institution in the community, the Church, thus seized the opportunity to profit on the victims of the Late Medieval Agrarian Crisis.

A similar phenomenon, labelled ‘disaster feudalism’, has been investigated in Spain in the context of a 14th-century flash flood that destroyed the village of S. Romano and its surrounding lands. Following the disaster, the manorial family appears to have appropriated the land (*Fernández et al. 2017*, especially 47). However, in order not to restrict the phenomenon to acute disasters, I suggest a more encompassing concept; ‘crisis feudalism’.

The vicar of Gunnarskog was probably not the only one to actively enrich the church in the wake of the Black Death, and I suggest that the connection between the deserted medieval farmsteads and the local traditions of chapels, churches, and monasteries should be explained by the active expropriation of land by the representatives of the Church. It was due to the ecclesiastical association that deserted settlements, incorporated into the local vicarage’s estates, were transformed in local traditions into chapels, churches, and monasteries.

Due to the poor, or rather non-existent, body of medieval documents, and to the blurred ownership situation for church estates after the reformation and reduction of Church properties to the Crown in the first half of the 16th century, it is impossible to prove the hypothesis for each of the examples above. But a detailed investigation carried out concerning Yxsjölinna by the historical geographer Stefan Nilsson has shown that Yxsjölinna was most likely part of the church estate of Älgå parish in the later Middle Ages (*Nilsson 2000*). Blomskog can also be clearly associated with the vicarage estate, as the site is located close by and on land belonging to the vicarage, according to historical sources. There are also indications in historical maps and written documents that other deserted settlements in the vicinity were in the possession of the vicarage (*Andersson – Jansson 1995*, 130-131). Thus the situation resembled Skramle and the vicarage estate in Gunnarskog. By contrast, the ownership histories of Lönnskog and Kyrknäs remain to be investigated.

Crisis or transition? Risk and resilience during the Late Medieval Agrarian Crisis

We have by no means located all deserted medieval settlements in the area of investigation. Still, there is a clear trend. There appear to have been far more deserted settlements in areas practising extensive outland use than in areas practising intensive outland use. Certainly, several of the hazards in the Late Medieval Agrarian risk package hit outland-using communities of both kinds, but there appears to have been a greater degree of resilience in the communities previously practising intensive outland use. Considering that the effects of the first crisis of the collapsed trade networks some hundred years prior to the Late Medieval Agrarian Crisis were more disastrous to, and demanded more comprehensive changes of, the economy of the intensive outland-using communities, a higher degree of vulnerability, not resilience, was to be expected. This was exacerbated by the fact that their economic changes involved an increase in agrarian production on unfavourable soils in times when the climate grew colder.

So what made the previously intensive outland-using communities more resilient than those relying on extensive outland use? A very simplified answer is that they managed to avoid crisis feudalism. When Skinnerud was deserted, the land remained with the mother hamlet Backa and was used as an asset in the transition towards a more agrarian economy. If there were other, so far unknown, farmsteads being deserted during the first or the Late Medieval Agrarian Crisis, they were probably used in the same way or resettled. The peasants appear not only to have been able to keep deserted land within their ranks, but also to exercise some control of the parish church and the vicarage estate. They even moved the church on occasion, separating it from the vicarage estate.

However, being able to avoid crisis feudalism demanded skills. Here I would like to point out the importance of learning and capacity building, as stressed by historical ecology. The necessary adjustments to meet the first crisis of the collapsed trade networks had included not only a transition to a more agrarian economy, but also the building of a stronger community. The increased use of shielings and forest grazing demanded extending cooperative work and decision-making from within the hamlets to between hamlets and the wider local community. The process of transition must also have involved a great deal of learning and capacity building – both important aspects of resilience – for handling risks.

Communities who used the outland extensively did not go through a major reform of their economy, thus not learning the same lessons and not building new capacities in the same way as their previously intensive outland-using peers. Keeping up ‘business as usual’ during the first crisis made them more vulnerable to crisis feudalism when they were struck

by the combination of disasters of the Late Medieval Agrarian Crisis.

The more we acknowledge medieval peasants across Europe as strategic and knowledgeable agents (eg. *Loveluck 2013*), the more we have to attribute to them different degrees of resilience in good times as well as bad. It is also clear that we need to know more about both the peasants' complex and versatile land use and the social contexts they operated within to be able to understand risks and resilience in medieval rural communities. In the examples presented here, the promotion of community building and restructuring of the economy from an industrial-oriented basis to an agrarian (but still versatile) profile included capacity building – the key to withstanding crisis feudalism.

That versatile economy and the possibility of staging knowledge-based changes were important resilience factors have been pointed out in studies from other parts of Scandinavia and Europe (*Curtis 2014*, especially 270-271; *Ersgård 2016*, 97-100; *Lewis 2016*, 793; *Svensson et al. 2013*, 103-104). Through this study, the factors of capacity and community building have been added to the understanding of resilience (see also *Petek 2018*). Given the increased focus on medieval peasants as strategic and knowledgeable actors, it is highly likely that there will soon be a number of new studies both confirming and challenging these findings, and that other pieces will be added to the puzzles of risk and resilience in medieval times.

Acknowledgements

I wish to thank the reviewers for their inspiring comments on an earlier draft. I am also very grateful to Eugene Costello, both for pointing out the importance of agrarian commodity production and for revising my English. This paper is produced in connection with two research projects and I want to express my gratitude to the funders of these projects: the project 'Resilience and risk management in the forested and montane medieval countryside', funded by Lennart J Häggglunds stiftelse; and the project 'Contesting marginality: The boreal forest of inland Scandinavia and the worlds outside, AD – 1500 AD', funded by the Swedish Research Council (grant number 2017-01483).

References

ATA:

Antikvarisk-Topografiska Arkivet. Vitterhetsakademien. Stockholm.

Andersson, H. 1998:

Utmark, in: Andersson, H. – Ersgård, L. – Svensson, E. (eds), *Outland use in preindustrial Europe*. Stockholm, 5-8.

Andersson, S. – Jansson, U. 1995:

Gårdar och ödeläggelse i det medeltida Blomskog, in: Aronsson, K-Å. – Insulander, B.-M. (eds), *Ny giv för värmländsk arkeologi*. Karlstad, 121-132.

Andersson, S. – Svensson, E. (eds) 2002:

Skramle – the true story of a deserted medieval farmstead. Stockholm.

Ashby, S. P. – Coutu, A. N. – Sindbæk, S. M. 2015:

Urban networks and Arctic outlands. Craft specialists and reindeer antler in Viking towns, *European Journal of Archaeology* 18:4, 679-704.

Baug, I. 2013:

Quarrying in Western Norway – An archaeological study of production and distribution in the Viking period and the Middle Ages. Unpublished PhD thesis AHKR. University of Bergen.

Benedictow, O. J. 2004:

The Black Death, 1346-1353: the complete history. Woodbridge.

Berglund, B. – Eriksson, K. – Holm, I. – Karlsson, H. – Karlsson, J. – Pettersson, S. – Sundberg, A. – Ulfhielm, B. – Welinder, S. 2009:

The historical archaeology of the medieval crisis in Scandinavia, *Current Swedish Archaeology* vol. 17, 55-78.

Brodin, L. 1923:

Fryksdalens finnsocknar. Filipstad.

Campbell, B. M. S. 2016:

The great transition. Climate, disease and society in the late medieval world. Cambridge.

Crumley, C. L. 2017:

Historical ecology and the study of landscape, *Landscape Research*, Vol. 42: Sup. 1, S65-S73.

Curtis, D. R. 2014:

Coping with crisis: the resilience and vulnerability of pre-industrial settlements. Burlington.

Emanuelsson, M. – Johansson, A. – Nilsson, S. – Pettersson, S. – Svensson, E. 2003:

Settlement, shieling, and landscape. The local history of a forest hamlet. Stockholm.

Ersgård, L. 2016:

Change, desertion, and survival – an archaeology of the late-medieval crisis, in: Lagerås, P. (ed.), *Environment, society and the Black Death. An interdisciplinary approach to the late-medieval crisis in Sweden*. Oxford/Philadelphia, 67-103.

Fernández, J. – Moshenska, G. – Iriarte, E. 2017:

Archaeology and climate change: evidence of a flash-flood during the LIA in Asturias (NW Spain) and its social consequences, *Environmental Archaeology* 24:1, 38-48.

Gissel, S. (ed.) 1981:

Desertion and land colonization in the Nordic countries c. 1300-1600: comparative report from

- the Scandinavian research project on deserted farms and villages. Stockholm.
- Glørstad, Z. T. – Loftsgarden, K. (eds) 2017:*
Viking-age transformations. Trade, craft and resources in western Scandinavia. London/New York.
- Gregory, S. 1999:*
A wicked deed. London.
- Gunderson, L. H. – Holling, C. S. (eds) 2002:*
Panarchy: understanding transformations in human and natural systems. Washington.
- Hansen, G. – Storemyr, P. (eds) 2017:*
Soapstone in the north – from prehistoric vessels to medieval cathedrals. Bergen.
- Holling, C.S. 2001:*
Understanding the complexity of economic, ecological, and social systems, *Ecosystems* 4, 390-405.
- Indrelid, S. – Loe Hjelle, K. – Stene, K. (eds) 2015:*
Exploitation of outfield resources. Joint research at the university museums of Norway. Bergen.
- Johansson, E. 1994:*
Skogarnas fria söner. Maskulinitet och modernitet i norrländskt skogsarbete. Nordiska Muséets Handlingar 118. Stockholm.
- Karsvall, O. 2016:*
Utjordar och ödegårdar En studie i retrogressiv metod. Uppsala.
- Kitsikopoulos, H. (ed.) 2011:*
Agrarian change and crisis in Europe, 1200-1500. London.
- Lagerås, P. 2016:*
Environment, society and the Black Death. An interdisciplinary approach to the late-medieval crisis in Sweden. Oxford/Philadelphia.
- Lewis, C. 2016:*
Disaster recovery: new archaeological evidence for the long-term impact of the 'calamitous' fourteenth century, *Antiquity* 90, 777-797.
- Lindholm, K.-J. – Ljungkvist, J. 2016:*
The bear in the grave – exploitation of top predator and herbivore resources in 1st millennium Sweden – first trends from a long term research project, *European Journal of Archaeology*, 19:1, 3-27.
- Loftsgarden, K. 2017:*
Marknadsplatser omkring Hardangervidda – en arkeologisk och historisk analys av inlandets ekonomi och nätverk i vikingtid och mellomalder. Unpublished PhD thesis, AHKR. University of Bergen.
- Loveluck, C. 2013:*
Northwest Europe in the Early Middle Ages, c. AD 600-1150. A comparative archaeology. 2013. Cambridge.
- Nilsson, S. 2000:*
Yxesjölinna – kapell eller bondgård? Kulturgeografisk studie av en kulturlämning i västra Värmland. Arbetsrapport, Karlstad University.
- Österberg, E. 1977:*
Kolonisation och kriser. Bebyggelse, skattetryck, odling och agrarstruktur i västra Värmland ca 1300-1600. Lund.
- Petek, N. 2018:*
Archaeological perspectives on risk and community resilience in the Baringo Lowlands, Kenya. Uppsala university.
- Stene, K. 2014:*
I randen av taigaen – bosättning og ressursutnyttelse i jernalder og middelalder i Østerdalen. Oslo.
- Svensson, E. 1992:*
"Ivarsbråten" – ett röjningsröseområde med folklig tradition, in: Englund, L.-E. (ed.), Fornminnesinventeringen i Värmland 1991. Arkeologi i Värmland. Stockholm.
- Svensson, E. 1998:*
Människor i utmark. Stockholm.
- Svensson, E. 2008:*
The medieval household. Daily life in castles and farmsteads. Turnhout.
- Svensson, E. 2015:*
Innovations in the rural edge. Inventions and smart organisations in the Scandinavian outland use, in: Gaidukov, P. G. et al. (eds), *Towns and villages in medieval Rus. Archaeology, history, culture. To mark the 60th birthday of the academician Nikolai Makarov*. Moscow.
- Svensson, E. 2018:*
The Scandinavian shieling – between innovation and tradition, in: Costello, E. – Svensson, E. (eds), *Historical archaeologies of transhumance across Europe*. London/New York, 15-27.
- Svensson, E. – Pettersson, S. – Nilsson, S. – Boss, L. – Johansson, A. 2013:*
Resilience and medieval crises at five rural settlements in Sweden and Norway, *Lund Archaeological Review* 18, 89-106.
- The Black Death Network:*
Published online at <https://www.facebook.com/groups/340262089399227/> (accessed 05. 01. 2018)
- VM Arkiv:*
Värmlands Museums Arkiv. Karlstad.

Part Three

**Transformation and
transition through
medieval times**

Assembling in times of transitions

The case of cooking-pit sites

Marie Ødegaard *

Abstract:

Large cooking-pit sites in Norway are discussed as a source to the *thing*-system in the Early Iron Age. The sites represent traces of large-scale gatherings associated with judicial activities, amongst others, and extend as far back as the pre-Roman Iron Age. It is argued that these sites might be the remains of judicial assemblies, in Old Norse called *things*. The sites might also be seen in light of the assemblies (*concilium*) and the warrior bands (*centena*) described by Tacitus in AD 98. Within a few hundred years after the Scandinavian societies encountered the Romans, changes in the social, economic, and political structures can be seen. After c. AD 200, the higher strata in society conducted large-scale restructurings of the landscape to increase surplus production. The ability to do this must have required active leadership and necessitated regular meetings. The cooking-pit sites might have been important in this respect and may also explain why the sites experienced increased usage between AD 200–400. Around the 7th century however, there was a decline in the use of the cooking-pit sites. While some sites show evidence of continued use as *thing* sites, others fell completely out of use.

Keywords: *cooking-pit sites, large-scale gatherings, thing, administrative areas, judicial assemblies (concilium), warrior bands (centena).*

Résumé

Se réunir en période de transition : le cas des sites de foyers en fosse

Dans cet article, le phénomène de larges sites de foyer-fosses en batterie est discuté étant à la base des réunions dites « thing » (grands rassemblements) en Norvège au début de l'âge du fer. En effet, ces sites remontant à l'âge du fer préromain, montrent entre autres, des traces de rassemblements à grande échelle associés à des activités juridiques. Mais il est également possible de les considérer comme les lieux d'assemblée générale (*concilium*) respectivement lieux de rassemblement de guerriers (*centena*) décrites par Tacitus en l'an 98. Néanmoins, ce n'est qu'après quelques centaines d'années de la rencontre entre les Romains et les sociétés scandinaves, qu'on constate des changements profonds dans les structures sociales, économiques et politiques du pays car ce n'est qu'après env. 200 AD que les couches supérieures de la société tentent à imposer des restructurations à grande échelle du paysage pour générer une production excédentaire. Ceci nécessite

* Museum of Cultural History,
University of Oslo
P.O. Box 6762
St. Olavs plass, 0130 Oslo
Norway
marie.odegaard@khm.uio.no

un leadership actif et des réunions régulières. A cet égard, les sites des batteries de foyers en fosse ont peut-être joué un rôle important, ce qui expliquerait pourquoi les sites ont connu une augmentation de fréquentation entre 200 et 400 AD. Néanmoins, on constate un déclin au cours du VIIe siècle, et même si plusieurs sites gardent leur fonction de lieu de rassemblement (*thing*), de nombreux endroits auront été complètement abandonnés.

Mots-clés: *sites de fosse-foyers en batterie, lieux de rassemblement à grande échelle (thing), zones administratives, assemblée juridique (concilium), assemblée des troupes de guerriers (centena), transition entre l'âge du fer précoce et tardif.*

Zusammenfassung

Assamlagen in Übergangszeiten – das Fallbeispiel von Kochstellen

In diesem Beitrag werden große Kochstellen in Norwegen als Quelle für das Thing-System in der frühen Eisenzeit diskutiert. Die seit der vorrömischen Eisenzeit bekannten Stätten weisen Spuren großangelegter Zusammenkünfte auf, die unter anderem eventuell mit richterlichen Aktivitäten verbunden sind. Es wird argumentiert, dass

During the last 20 years, numerous specialised cooking-pit sites have been unearthed in Scandinavia and interpreted as the archaeological traces of large-scale gatherings. However, these sites are not fully understood as assembly sites. A cooking pit is a pit for dry cooking: A hole is dug in the ground, in which stones are heated on a fire and when sealed by a layer of turf it creates a cooker for meat or fish (Fig. 1). The pits are often around 1 m in diameter and experiments show that one could prepare food for 30 to 50 people in such a cooking pit (Pilo 2005, 292; Skre 2007, 403). If the pits were cleaned out after use, the pits and stones could be re-used. The number of pits at one site varies greatly between sites, from 20 to more than 500 pits, and even as numerous as several thousand per site. Cooking pits are common traces of Iron Age settlements; however, a large, specialised site is defined as one containing a minimum of 100 pits – sites of this size are likely to represent the remains of large-scale gatherings. The sites are also without a direct connection to contemporary and nearby settlements (Ødegaard 2015, 302).

While known to occur throughout a large geographical area – encompassing northern Germany, southern Scandinavia, and southern Norway (Fig. 2)–these large sites are relatively rare. They can be divided into three types: 1) linear sites with one row of pits; 2) two or more rows of

diese Stätten Überreste von Gerichtsversammlungen sein können, im Altnordischen Thing genannt. Die Stätten könnten auch im Licht von Versammlungen (*Concilium*) und Kriegerverbänden (*centena*) gesehen werden, die von Tacitus im Jahre 98 n. Chr. beschrieben wurden. Nach Kontakten der skandinavischen Gesellschaften mit den Römern sind in Skandinavien Veränderungen in den sozialen, wirtschaftlichen und politischen Strukturen zu beobachten. Ab ca. 200 n. Chr. konnten höhere Schichten der Gesellschaft umfangreiche Umstrukturierungen des ländlichen Raumes vornehmen und die Überproduktion zu steigern. Dies erfordert eine aktive agierende Herrschaft und regelmäßige Zusammenkünfte. Die Kochstellen könnten in dieser Hinsicht wichtig gewesen sein und auch erklären, warum die Standorte zwischen 200 und 400 n. Chr. verstärkt genutzt wurden. Um das 7. Jahrhundert herum ist ein Rückgang der Nutzung der Kochstellen zu beobachten. Während einige Kochstellen Beweise für die fortgesetzte Nutzung als Thingstätten haben, wurden andere Orte nicht weiterverwendet.

Schlagwörter: *Kochgruben, große Versammlungen, Verwaltungsgebiete, richterliche Versammlungen (Concilium) und Kriegerverbände (Centena).*

pits; and 3) clustered and unstructured groupings of pits. The younger sites tend to be the most unstructured and are often larger (Henriksen 2005, 90-92). The northern German and southern Scandinavian sites are often of the linear type, and usually dated from ca. 1700 to 500 BC, and more rarely from 500 BC to AD 1. The Norwegian sites differ from the others as they are often irregularly structured and later in date, ca. AD 1-600 (Gustafson 2005, 105). It is unknown if there are differences in function between the linear and unstructured sites, but the dates nevertheless indicate that the Norwegian sites belong to a different cultural context (Martens 2005).

The function of these pit sites – apart from being locations for cooking – is disputed and not clear. The low number of specialised sites and the large number of pits indicates that they were in use only at special occasions, when many people gathered and large quantities of food were needed (Ødegaard 2015, 301). Therefore, they are interpreted as traces of large periodic assemblies for larger areas. Some interpret them as evidence of cult practices and sacrifice (e.g. Narmo 1996). Some sites are connected to later judicial assemblies, in Old Norse (ON) called *things*, leading several researchers to interpret the pit sites as having a political and judicial character and being remains of *thing*-meetings from the Early Iron Age (Skre 2007, 385-406; Ødegaard 2015). The *thing* in



Fig. 1: The remains of a cooking pit after the plough layer is removed (© Marie Ødegaard, KHM).



Fig. 2: The distribution of cooking-pit sites in Northern Europe (© Marie Ødegaard, KHM, after Jes Martens 2005).

Scandinavia, known from the 9th century onwards, was an institution for justice: a ‘multi-functional venue for discussion and determination of any matter of communal concern’ (Vogt – Esmark 2013, 152). Food and drink at *thing* sites were banned by the church in Norway in the

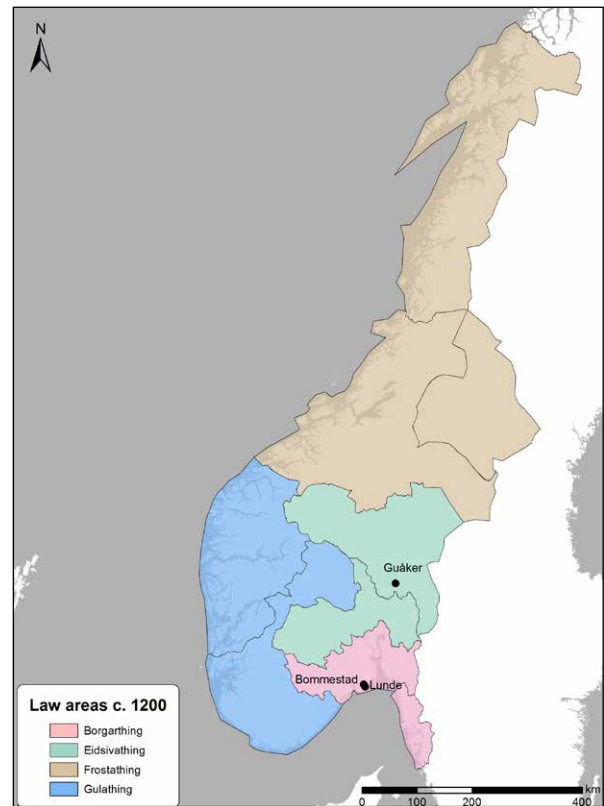


Fig. 3: The sites discussed in the text and their location in the law provinces AD c. 1200 (© Marie Ødegaard, KHM).

13th century (*F I*, 2), indicating that they must have played an important role in society up until then.

The question is, what kind of meetings took place at the pit sites: cultic, legal, or military? To investigate the function of the cooking-pit sites and explore if they can

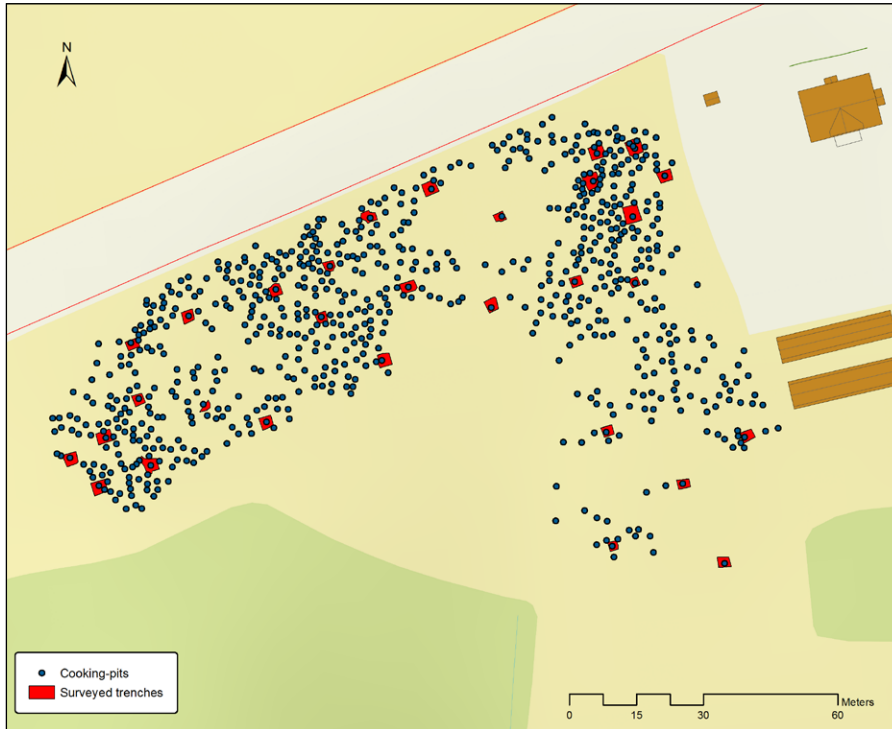


Fig. 4: Excavations were made of 30 pits distributed across the large site with c. 1000 pits (© Marie Ødegaard, KHM).

Tab. 1 (opposite page): The dates from the cooking-pit site at Lunde, calibrated in OxCal 4. Excavations were made of 30 pits, and 38 dating samples were sent for ^{14}C -analysis (© Marie Ødegaard, KHM).

be related to the *thing* institution, this paper will discuss in detail three Norwegian cooking-pit sites, located on the farms of Lunde and Bommestad in Vestfold and Guåker in Hedmark (Fig. 3).

The Scandinavian *thing*

The *thing* was an arena where the elite and the local population met for political and judicial decision-making, at the proper time and place (Sanmark 2017, 1-3).

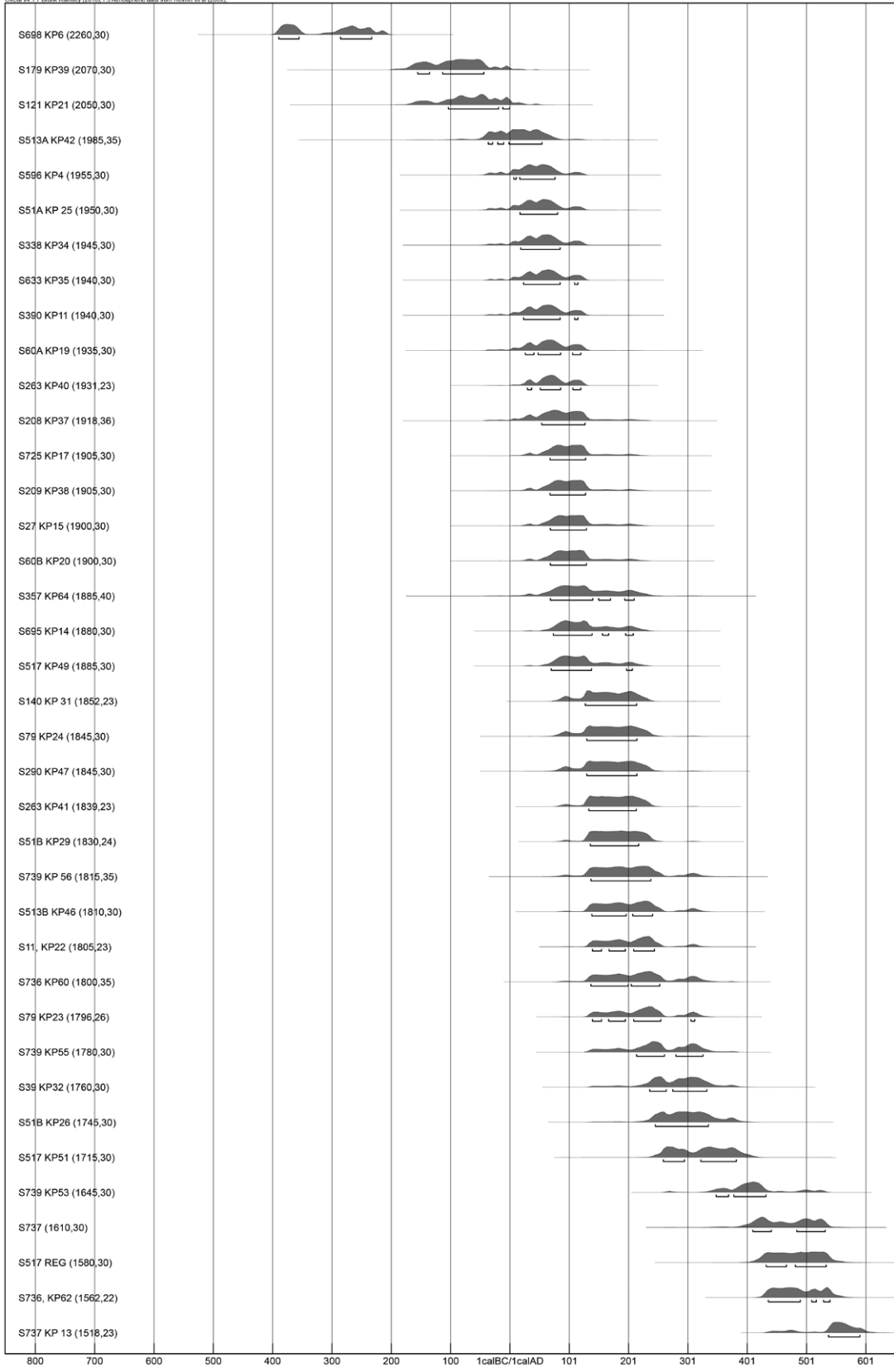
Thing sites are closely connected to their judicial districts. Four law areas are known to have existed in the 12th and 13th century in Norway (Fig. 3). The case study sites, Bommestad and Lunde, were in the Borgarthring law area, and Guåker was in the Eisivathing law area. Also, four administrative levels are known to have existed here, with the law *thing* at the top (Indrebø 1935; Ødegaard 2015). The rural assemblies were probably connected to the Old Norse *heruð* (sing. *herað*) divisions, which are the oldest known administrative districts in south-east Norway, certainly at least as old as the Viking Age (Indrebø 1935), and, as will be argued, they might be older still (Andersson 1999). One *herað* was divided in quarters, each served by a local *thing* and one common to the entire *herað* area. Later sources refer to the latter as a 'weapon-*thing*', where weapon inspections of the arms that all free men were lawfully bound to have would took place (Sanmark 2017, 52). These *thing* meetings were probably *althings* where the local population would meet.

Method

To investigate the function of the cooking-pit sites and whether the sites can be linked to the later *thing* system, the oldest administrative divisions in the investigation area must be mapped. These divisions can be reconstructed using diplomas and tax records, place names, topographic features, archaeological material, and previous research (e.g. Bull 1920; Indrebø 1935). *Thing* sites can be identified through diplomas and place names. Diplomas, i.e. letters and documents with legal force, are published in the series *Diplomatarium Norvegicum* (DN). Dating from the 13th to 17th centuries, the Norwegian diplomas are considerably younger than the cooking-pit sites; however, the *thing* sites might be older than written sources attest. In Scandinavian history and archaeology, there is a long tradition of using place names, such as theophoric names, to construct a relative chronology and identify the function of specific sites.

Lunde, Vestfold County

The cooking-pit site at the farm of Lunde was discovered when the Ludwig Boltzmann Institute for Archaeological Prospection and Virtual Archaeology, the Norwegian Institute for Cultural Heritage Research, and the Vestfold County Council (LBI ArchPro-project), carried out a geophysical survey in 2010 and revealed c. 750 anomalies, which were interpreted as cooking pits. In 2011, The Assembly Project, a research project led by the Museum of Cultural History, University of Oslo, in collaboration



Calibrated date (calBC/calAD)

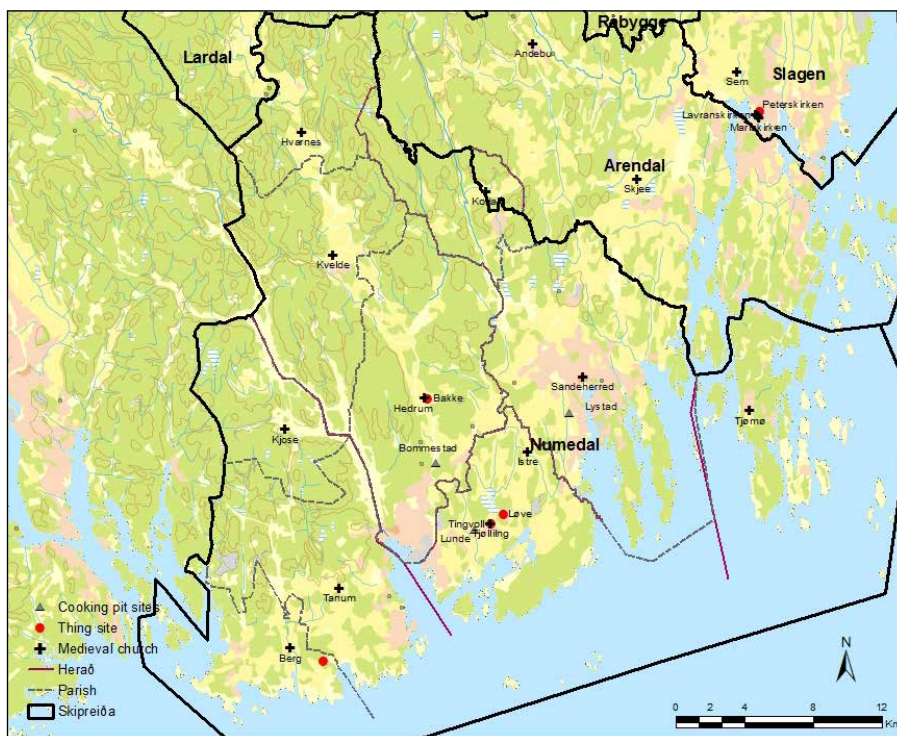


Fig. 5: The distribution of cooking-pit sites, thing sites, and churches compared to the known administrative areas in Numedal municipality in Vestfold County (© Marie Ødegaard, KHM).

with the LBI ArchPro-project, conducted an excavation here. The estimation is now ca. 1000 cooking pits, making the site one of the largest of its kind in Northern Europe (Ødegaard 2015, 302). The aim of the excavation was to date the pits to find out whether they were the result of one large feast or several recurrent meetings, and if the feast site could be linked chronologically to a later *thing* at the neighbouring farm, Tjølling.

Excavations were made of 30 pits (Fig. 4), and 38 dating samples were sent for ¹⁴C-analysis. Multiple pits contained several charcoal layers, indicating reuse of pits several hundred years apart (Ødegaard 2015, 302-309). The site is dated from 380 BC to AD 630, with a peak between AD 100 and 400 (Tab. 1). Furthermore, if one pit could cover the food needs of 30-50 people as previously mentioned, the simultaneous use of all the pits could have catered to 30,000-50,000 people, which seems unlikely. Small amounts of burnt bone from sheep/goat and cattle were found. The large number and reuse of the cooking pits suggests a site used by many people across centuries.

The place-name Lunde may denote a 'holy grove', which provides an interesting perspective on the range of possible functions of the site (Sandnes – Stemshaug 1976, 209). Lunde is located close to the central place Skiringssal and the Viking Age town of Kaupang. It is likely that chieftains sat there, controlling the surrounding landscape throughout large periods of the Iron Age and up to the mid-10th century, when Kaupang was abandoned (Skre 2007). Less than 1 km

north-east is a medieval church at Tjølling. The name Tjølling, ON *Þjóðalyng*, is comprised of a first element, *þjóð* 'people', and a second element, *lyng* 'heather'. To interpret the name, other words containing the same element *þjóð* are used, such as *þjóðveg*, which means 'the common road' and the word composition *þjóðstefna*, *i.e.* the common *thing*. The name Tjølling or *Þjóðalyng* has therefore been explained as 'heather, used as a *thing*-site' (NG VI, 287-289). The name is difficult to date; however, the localisation in a presumably Viking Age place-name environment, *i.e.* Kaupang, has led to the assumption that it should be dated to the period after ca. 550 AD (Brink 2007, 63), but might be older still, from the Early Iron Age (Storm 1901, 227). The name and localisation suggests that assemblies were held there at least in the Viking Age. However, there are different opinions as to whether the name refers to a common rural *thing*-site (Fritzner 1886-1896, 31-32) or a regional *thing*-site (Storm 1901, 227). The church at Tjølling, dated to the first half of the 12th century, indicates that the site may have been a regional meeting site at that time. The church is eastern Norway's second largest basilica – a church type that is relatively rare in Norway and often connected to important sites in Scandinavia (Skre 2007, 389-395). At Tjølling there is also evidence of a *thing* meeting for a larger region, southern Vestfold, in 1557 (DN I, 1118). This suggests that people from a very wide area may have gathered here. The site at Lunde must be seen in comparison with the cooking-pit site of Bommestad, less than 4 km to the north.

Bommestad, Vestfold County

On the farm of Bommestad in Vestfold, the Museum of Cultural History, University of Oslo, excavated a large cooking-pit site in 2006 with ca. 500 pits. The site is dated to 180 BC-AD 430, with a peak between AD 1-200 (Samdal – Bukkemoen 2008). The farm name Bommestad, ON *Bundingsstaðir* or *Bóndþingstaðir*, may be interpreted as ‘farmer’s *thing*-site’, connecting the site to a later assembly (NG VI, 342). Etymologically, the first element *bóndi* means ‘farmer’. The second element *-þingstaðir* is a compound appellative meaning *thing* site and may date back to the Viking Age, but might be older (Bjørkvik 1980, 87-95).

Bommestad and Lunde were located in the same rural administrative division, Numedal municipality, in the Borgarthing law province (Fig. 5). The medieval subdivisions of this municipality are unknown, but it consisted of five so-called *herred* in the 19th century, *i.e.* a younger spelling of ON *herað*. Lunde is located in Tjølling *herred*, while Bommestad is in Hedrum *herred*. This indicates that the sites may have served different areas and/or had different functions.

While the cooking-pit site at Lunde went out of use around AD 600, and continuity might be questioned, the localisation in a central place area and the place-name Tjølling indicate that there probably was a judicial meeting site here in the following period as well. The large stone basilica and later diploma also indicate later regional assemblies at the site (Ødegaard forthcoming). Bommestad, on the other hand, has no other evidence of a *thing* meeting except for the cooking pits and the later name, and no *thing* meetings are recorded here in written sources. It may be that the cooking-pit site at Lunde was located at such an important site that it became almost an institutionalised practice to meet here. Lunde and Bommestad might thus have been on different scales, regionally and locally.

Guåker, Hedmark County

The cooking-pit site at the farm of Guåker in Stange, Hedmark, was excavated by the Museum of Cultural History, University of Oslo, in 2009 (Bukkemoen 2017). Altogether, ca. 100 cooking pits and a culture layer with fire-cracked stones were uncovered. Interestingly, Hedmark County Council has recently registered at least 84 pits 150 m north-east of the site, so the site might be much larger (ID 225113, *Askeladden.ra.no*).

The cooking pits are dated from ca. AD 200-900, their main use was in the first 200 years and usage decreased considerably towards the onset of the Viking Age. In parallel with the last phase of usage, a cultural layer containing bones and teeth mainly from sheep/goats, pigs, and cattle was found and dated to the Viking Age. There were also layers of fire-cracked stones, probably



Fig. 6: The cooking-pit site at the farm of Guåker and the administrative divisions of Stange municipality in the Early Middle Ages. Administrative divisions after Indrebø 1935 (© Marie Ødegaard, KHM).

from the brewing of beer. Such stone layers are normally dated from the 7th century and up to the 17th century. The layers are probably related to the cooking-pit site’s final stages, and thus were a part of the activities at the pit site (Bukkemoen 2017).

The farm name, Guåker, ON *Guðakr*, comprising a first element *guð*, ‘God’ together with *akr* ‘field’, is interpreted as ‘God’s field’, and might be connected with pre-Christian worship (NG III, 160). Certain place-names are often put in connection with judicial functions, such as *akr*, signifying dry lands suitable for meetings (Brink 2004, 210). The name might be from the Viking Age and might have originated because of the gatherings. The archaeological finds indicate continuity in assemblies from ca. AD 200 up until at least AD 1000.

Guåker in Stange, as mentioned above, was located in the Eidsivathing law province in the Early Middle Ages. Written sources from the 15th century indicate an administrative division in quarters here, and the district was named after the farm; the Guðaker quarter (Fig. 6) (Indrebø 1935, 115-117). Such quarter districts were often named by farms with judicial functions when the district was created (Moseng 1994, 94), probably sometime in the

11th century, if not before, indicating that there probably existed a *thing* site at Guåker at that time. A *thing* here is further testified by written sources, which describe Guåker as a fixed assembly site and the main district *thing* for Stange in the 15th and 16th centuries (e.g. *DN IV, 1029/1498; DN IV, 1110/1537*). When a site has the main district *thing*, it indicates that the site was a ‘weapon *thing*’ where, as mentioned, royal officials controlled the *thing* men’s weapons once a year. This *thing* was common for all quarters in a *herað* district and thus a regional *thing*-site.

Cooking-pit sites functions and the *thing* institution

The three case-study sites are all connected to farms with later medieval *thing* meetings. However, most of the cooking-pit sites in Norway, such as at Lunde and Bommestad, went out of use before the 7th century, long before the known law areas were established.

In the first centuries AD, society was one of warriors in which war and religion were inseparable. Religious, political, military, and legal actions were probably tightly integrated as rituals (*Henriksen 2005, 97-98*), and gatherings would contribute to creating cohesion and group fellowship. The solutions to conflicts, alliances, and other relationships and activities were also strengthened by sharing food and drink (*Enright 1988; Gjerpe 2001*). Interestingly, the Guta Saga (1, 51), codified in the 13th-14th centuries, states that local assemblies before conversion to Christianity in the 11th century used to “worship with animal sacrifice, food, and beer, and those involved were called ‘boiling-companions’, because they all cooked their sacrifice meals together” (*Peel 2015*). The importance of alcohol is also substantiated in the Norwegian provincial laws (e.g. *G 6-7; Larson 1935*). This might explain the brewing stones at the pit sites. Considering that law, religion, and warfare were strongly integrated within social life, these sites were probably multifunctional, constituting the contracting of marriages, rituals, and military elements (*Hultgård 2002, 212*). The connection between the cooking-pit sites and later *thing* meetings also suggests that the specialised pit sites were large-scale meeting places with judicial activities, amongst others, extending as far back as the pre-Roman Iron Age.

A few hundred years after the Germanic societies encountered the Romans in the final years BC, changes in the social, economic, and political structures can be traced within Scandinavia. Society became more hierarchical (*Hedeager 2001; Herschend 2009*). Landlords and warriors gained ever-greater power and, after about AD 200, it was possible for the upper strata to force through major restructuring of settlements and agricultural landscapes to increase surplus

production, which in turn led to increased social stratification in Scandinavia (*Hedeager 1988, 180; Myhre 2002, 143-149, 168*). Clearly, this type of large-scale restructuring of the landscape, affecting both the rights of individuals and groups to land, may have required an active leadership with increasing authority to decide, organise, and resolve disputes associated with the process. This would have necessitated regular meetings (*Herschend 2009, 170*) and might also explain why cooking pits show increased usage between AD 200-400 in Norway.

However, if the sites represent Early Iron Age *thing* sites, they should have similarities to what we know about the *thing* in that period. In 98 AD, Tacitus describes two institutions among the Germanic peoples; the assembly or *thing* (*concilium*) and the warrior band (chap. 11). He describes how the Germanic tribes had chieftains surrounded by followers of about one hundred men, known as a *centena* (cf. *Andersson 1999*). The warrior-bands were in charge of local law enforcement in every local administrative unit, the so-called *pagus*. This might indicate that the chieftains and the warrior-bands had their origins in the *thing*, and that a communal function was connected to law enforcement and war (*Hedeager 2001, 104*). Several similarities can also be found between the Germanic *concilium* and the *thing* in Scandinavia over a thousand years later, such as meetings at a fixed time and place, and resolutions that had to be approved by the *thing* congregation by forms of acclamation and the holding up of their weapons, so-called *wapentake* (*Tacitus* chap 11; *Iversen 2013*).

The age and existence of the ‘hundred-groups’ of warriors are disputed (e.g. *Jänichen 1976; Andersson 2000*). Nevertheless, it is likely that the hundred groups and the administrative units implies an assembly system with law provinces (*Sanmark 2017, 32, 35*). One important element is that these meetings got their power to legitimise political and judicial acts exactly because many people were in attendance, thereby likely incorporating wide sections of free men who had military obligations. The connection between military commitment and assembly politics seems to have been important for the communities and armies of the 5th century (*Wickham 2009, 101*). The cooking-pit sites may have been important meeting places for such districts. The material from the cooking-pit sites in Norway testifies to such relations, as the sites seem related to *heruð* districts. This has interesting implications for the age of the *heruð* – first attested in the Middle Ages. The English hundred and Frankish *centena* are based on the same word, the latter known from the continent from the 6th century AD (*Andersson 2000*).

Importantly, these divisions were social, and only later did they become geographically and territorially bounded, *i.e.* the ‘groups’ names might have been passed on to the

names of districts (*Andersson 1999*). These administrative areas represented 'tribes' or social fellowship, socially constructed by their leadership, which would cease to exist if their leaders did not manage to maintain solidarity (*Andersson 1999*, 6; *Myhre 2002*, 43). The cooking-pit sites should probably be interpreted as meeting sites for a district containing a minimum number of people who formed a cult, justice, and defence community.

Conclusion

Cooking-pit sites were used for large-scale gatherings, and the material suggests that some sites were used in connection with *thing* meetings in the Early Iron Age, and some had evidence of assemblies up to modern times. It is argued here that the sites might be compared with the Germanic *thing* (*consilium*) described by Tacitus in AD 98, and that they are related to later administrative districts, the *herud*. The importance of the pit sites seems to have increased between AD 200-400, a period when the Germanic societies experienced several social transformations after coming in contact with the Roman Empire. It is likely that social gatherings and meetings for religious, military, economic, and legal matters became increasingly important in this period. The large cooking-pit sites went out of use around AD 600. Nevertheless, the material indicates that some sites might have been used as *thing* sites in the following periods as well, with some examples continuing into modern times.

References

- Andersson, T. 1999:*
Hundare och det germanska hundratalet, Namn och bygd 87, 5-12.
- Andersson, T. 2000:*
Hundare, in: Müller, R., *Reallexikon der Germanischen Alterumskunde* 15. Berlin/New York, 233-238.
- Bjørkvik, H. 1980:*
Bonde, in: Danstrup, J. et al. (eds), *Kulturhistorisk Leksikon for Nordisk Middelalder: fra vikingtid til reformasjonstid II*. København, 89-95.
- Brink, S. 2004:*
Legal assembly sites in early Scandinavia, in: Pantos, A. – Semple, S. (eds), *Assembly places and practices in medieval Europe*. Cornwall, 205-216.
- Brink, S. 2007:*
Skringssal, Kaupang, Tjølling: the toponymic evidence, in: Skre, D (ed.), *Kaupang In Skiringssal*. Norske Oldfunn, Kaupang Excavation Project 22 Vol. 1. Århus, 53-64.
- Bukkemoen, G. B. 2017:*
Cooking and feasting: changes in food practice in the Iron Age, in: Iversen, F. – Petersson, H. (eds), *The agrarian life of the north 2000 BC to AD 1000: studies in rural settlement and farming in Norway*. Kristiansand, 117-132.
- Bull E. 1920.*
Leding. Militær- og Finansforfatning i Norge i ældre tid. Kristiania/ København.
- DN:*
Diplomatarium Norvegicum: oldbreve til kundskab om Norges indre og ydre forhold, sprog, slægter, sæder, lovgivning og rettergang i middelalderen, vol. 1-23, in: Lange, C. C. A. – Unger C. R. et al. (publ.) 1874-2001. Christiania/Oslo.
- Enright, M. J. 1988:*
Lady with a mead-cup: ritual, group cohesion and hierarchy in the Germanic Warband, *Frühmittelalterliche Studien* 22, 170-203.
- F = Frostatingslova (The Frostathing law)*
Hagland, J. R. – Sandnes, J. 1994. *Norrøne bokverk*. Oslo.
- Fritzner, J. 1886-1896:*
Ordbog over Det gamle norske Sprog I-III. Kristiania.
- G = The Gulathing law*
Larson, L. M. 1935. *The earliest Norwegian laws: being the Gulathing law and the Frostathing law*. New York.
- Gjerpe, L. E. 2001.*
Kult, politikk, fyll, vold og kokegropfeltet på Hov, *Primitive tider* 4, 5-17.
- Gustafson, L. (ed.) 2005:*
Om kokegroper i Norge, in: Gustafson, L. – Heibreen, T. – Martens, J. (eds), *De gåtefulle kokegroper*. Varia 58 Kulturhistorisk Museum. Oslo, 103-134.
- Hedeager, L. 1988:*
Jernalderen, in: Bjørn, C. et al. (eds), *Det danske landbrugs historie I*. Landbohøjskole Selskab. Odense, 109-203.
- Hedeager, L. 2001:*
Det frie Germania, in: Tvarnø, H. – Hedeager, L., *Tusen års europahistorie: Romere, germanere og nordboere*. Oslo, 98-114.
- Henriksen, M. B. 2005:*
Danske kokegrober og kokegrubefelt fra yngre bronzalder og ældre jernalder, in: Gustafson, L. – Heibreen, T. – Martens, J. (eds), *De gåtefulle kokegroper*. Varia 58 Kulturhistorisk Museum. Oslo, 77-102.
- Herschend, F. 2009:*
The Early Iron Age in South Scandinavia: social order in settlement and landscape. *Occasional Papers in Archaeology* 46. Uppsala.
- Hultgård, A. 2002:*
The religion of the Vikings, in: Brink, S. – Price, N. (eds), *The Viking world*. London/New York.

Indrebo, G. 1935:

Fjordung. Granskingar i eldre norsk organisasjons-
soge. Bergens Museums Årbok 1935. Historisk-
antikvarisk rekke nr. 1. Bergen.

Iversen, F. 2013:

Concilium and pagus: revisiting the Early Germanic
thing system of Northern Europe, in: Sanmark,
A. – Iversen, F. – Mehler, N. – Semple, S. (eds),
Debating the thing in the north I. Selected papers
from workshops organized by The Assembly Project,
Journal of the North Atlantic Special Volume 5,
5-17.

Jänichen, H. 1976:

Baar und Huntari, in: Konstanzer Arbeitskreis für
mittelalterliche Geschichte (publ.), Grundfragen
der alemannischen Geschichte: Mainau-Vorträge
1952. Sigmaringen, 83-148.

Narmo, L. E. 1996:

Kokekameratene på Leikvin. Kult og kokegroper,
Viking LIX, 79-100.

NG:

Norske Gaardnavne opplysninger samlede til
brug ved matrikelens revision I-XIX, in: Rygh.
O.1833-1899. Kristiania.

Moseng, O. G. 1994:

Sigden og Sagbladet. Eikers historie II. Øvre og
Nedre Eiker kommuner. Hokksund.

Martens, J. 2005:

Kogegrober i syd og nord – samme sag?, in:
Gustafson, L. – Heibreen, T. – Martens, J. (eds),
De gåtefulle kokegroper. Varia 58 Kulturhistorisk
Museum. Oslo, 37-56.

Myhre, B. 2002:

Landbruk, landskap og samfunn 400 f.Kr.-800
e.Kr., in: Myhre, B. – Øye, I. (eds), Norges
landbrukshistorie 1. 400 f.Kr. – 1350 e.Kr. Oslo,
12-214.

Ødegaard, M. 2015:

Tingsted og territorium. Organisering av
rettslandskapet i Viken i jernalder og middelalder.
Unpublished Ph.D. thesis, University of Bergen.
Bergen.

Ødegaard, M. forthcoming:

Cooking-pit sites as assembly places: Lunde in
Vestfold, south-east Norway – Regional assembly site
in the Early Iron Age? in: Reynolds, A. – Carroll, J. –
York, B. (eds), Power and place in later roman and
early medieval europe: interdisciplinary perspectives
on governance and civil organization. Proceedings of
the British Academy, Oxford.

Peel, C. 2015:

Guta Lag and Guta Saga: The law and history of the
Gotlanders. London/New York.

Pilø, L. 2005:

Bosted – urgård – enkeltgård: En analyse av
premissene i den norske bosetningshistoriske
forskningstradisjonen. Oslo Arkeologisk Serie 3. Oslo.

Sandnes, J. – Stemschaug, O. 1976:

Norsk Stadnamleksikon. Oslo.

Sanmark, A. 2017:

Viking law and order: places and rituals of assembly in
the medieval north. Edinburgh.

Samdal, M. – Bukkemoen, G. B. 2008:

Bommestad 2 – kokegroppfelt og dyrkningsspor fra
jernalder, in: Gjerpe, L. E. (ed.), Hus, boplass- og
dyrkningsspor. E18-prosjektet Vestfold 3. Varia 73
Kulturhistorisk Museum. Oslo, 247-264.

Skre, D. (ed.) 2007:

Kaupang In Skiringssal. Kaupang Excavation Project
Publication Series, Volume 1. Norske Oldfunn XXII.
Århus.

Storm, G. 1901:

Skiringssal og Sandefjord, Historisk tidsskrift 4.R (I),
214-237.

Tacitus, C.

Germania, in: Anderson, J. G. C. 1938. Oxford.

Vogt, H. – Esmark, K. 2013:

Introduction to Part Two, in: Esmark, K. – Hermanson,
L. – Orning, H. J. – Vogt, H. (eds), Disputing
strategies in medieval Scandinavia. Medieval law and
its practice 16. Leiden, 141-160.

Wickham, C. 2009:

The inheritance of Rome. A history of Europe from
400 to 1000. London.

Settlement abandonment in Dartmoor (England)

Retreat of the margins reassessed in terms of market accessibility factors

*Lukáš Holata**

Abstract

In this paper, Postan's theory addressing the retreat from the margins is briefly tested in the area of Dartmoor, South-West England. Deserted and existing settlements are compared in terms of their environmental characteristics (especially with respect to their potential for arable agriculture). Another factor of marginality is also explored: the accessibility to markets. GIS analysis is employed to argue that the widespread 'retreat' never happened, because many existing settlements are located in the same environmental conditions. In spite of that, however, remoteness from markets appears to be an important factor causing settlement vulnerability.

Keywords: *Deserted settlement, Dartmoor, market, GIS.*

Résumé

Abandonnement des habitations dans la région de Dartmoor (Angleterre): la reconsidération du recul des régions marginales et l'accès problématique aux marchés en tant qu'un facteur important de la vulnérabilité des habitations

La présente étude a pour objectif de vérifier brièvement la théorie de Postan concernant le recul des régions marginales en examinant le territoire de Dartmoor, région située au sud-ouest de l'Angleterre. Les habitats abandonnés ainsi qu'existants sont comparés à partir de leurs caractéristiques environnementales, notamment de leur potentiel agricole. De plus, nous nous concentrons également sur un autre facteur de marginalité, l'accessibilité aux marchés. Les résultats des analyses SIG prouvent qu'il n'y a aucun recul. Ils montrent en effet que beaucoup d'habitats existants sont situés dans les mêmes milieux environnementaux. Malgré cela, il semble que le l'accessibilité des marchés soit un facteur important provoquant la vulnérabilité des habitats.

Mots-clés: *habitats désertés, Dartmoor, marché, SIG.*

* Institute of Archaeology
University of South Bohemia
Branišovská 31a
370 05 České Budějovice
Czech Republic
luk.holata@gmail.com

Zusammenfassung

Wüstungen in Dartmoor (England): Der Rückzug aus marginalen Gebieten und die problematische Zugänglichkeit zu Märkten als wichtiger Faktor

In diesem Beitrag wird Postans Theorie bzgl. eines Rückzugs aus marginalen Gebieten im Gebiet von Dartmoor, Südwestengland, diskutiert. Verlassene und noch bestehende Siedlungen werden hinsichtlich ihrer ökologischen Charakteristika (insbesondere im Hinblick auf ihr Potenzial für den Ackerbau) verglichen. Ein weiterer

Faktor der Marginalität wird ebenfalls untersucht, nämlich die Zugänglichkeit zu Märkten. Die GIS-Analyse wird verwendet, um zu argumentieren, dass der angenommene weit verbreitete „Rückzug“ so nicht stattgefunden hat, da viele bestehende Siedlungen den gleichen Umweltbedingungen unterliegen. Dennoch scheint die schlechte Zugänglichkeit von den Märkten ein wichtiger Faktor zu sein, der die Gefährdung der Siedlungen verursachte.

Schlagwörter: *Wüstung, Dartmoor, Markt, GIS.*

Introduction

A wide range of factors have been posited to explain the process of settlement abandonment, one of the most significant transformations across the majority of European countries in the Late Middle Ages and early modern period. Natural disasters, general socio-economic and demographic explanations, environmental constraints, and other changes and events have all been seen as triggers for the collapse of the economy of certain settlements resulting in their abandonment. Abandoned settlements are frequently considered marginal because (a) they may have been located in unfavourable ecological areas, with the consequent absence of a critical environmental resource needed for arable agriculture; (b) they experienced significant climatic deterioration; or (c) they suffered over-exploitation of the area, leading to the degradation of the environmental conditions and the disruption of the ecosystem.

There is a particularly long history of studying settlement abandonment in England (e.g. *Dyer – Everson 2012*, 13). Apart from numerous deserted villages in the central belt (cf. distribution maps provided by (D)MVRG – e.g. *Beresford 1983*, 90-92), large-scale abandonment is documented also in areas characterised by dispersed settlement pattern (cf. several points in this issue – *Dyer 1989*, 51; *1998*, xviii). Dartmoor is an area with a high concentration of abandoned single farms or small hamlets (e.g. *Gerrard 1997*, 71). It is southern England's largest tract of upland (up to 621 m a.s.l.), with a wet, cold climate and with barren, mainly podzolic and gley soils (*Caseldine 1999*; *Newman 2011*, 4-5). It is considered to be a typical marginal area (cf. the definition of marginality by *Coles – Mills 1998*; *Svensson – Gardiner 2009*) when discussing desertion and cereal cultivation. Although several reasons for settlement abandonment have emerged, environmentally deterministic factors are still strongly represented (e.g. *Austin 1985*, 73-75; *Gerrard 1997*, 74-76; *Newman 2011*, 134-135; cf. also *Dyer 1998*, xvii), drawing on Postan's 'Concept of the Margins' (*Postan 1966*, 551-552; *1973*, 14). Postan assumed that the greatest retreat (land abandonment and arable

shrinking) would have occurred on poor soils, which were easily exhausted in recently colonised (marginal) areas. Cereal production and the associated settlement contraction are considered as being dependent on the climatic downturn of the 'little ice age' (cf. *Parry 1975*; in *Dartmoor – Beresford 1979*).

However, there are several objections to this view (cf. *Dyer 1989*; *Bailey 1989*). In Dartmoor specifically, there is evidence of mixed economy of settlements, consisting mainly of arable and pastoral farming with other resources and strategies (cf. *Austin et al. 1980*, 49; *Austin – Walker 1985*; *Fleming 1994*; *Fox 1994*, 166-168; *Gerrard 1997*, 71). Additionally, *Parry's* model (1975) of climate-driven abandonment (and environmental marginalisation of uplands) has been found to be unconvincing where the palaeoecological data have been obtained (cf. *Tipping 1998*; *2002*). In contrast, cultural processes appear to have been of far greater importance. In questioning Postan, *Bailey (1989)* pointed out the remoteness from market centres as an important factor of marginality. Rural communities were more actively involved in markets from the 13th century (especially to sell a surplus to obtain cash to settle fines, rents, and to pay for goods and services; e.g. *Astill – Grant 1988*, 227-229). Good availability of markets played a crucial role in the rural settlement economy and 'ecosystem' (cf. *Schreg 2011*). For that reason, settlements located further from markets are less advantageous than those in the close proximity.

The intention of this paper is to examine these assumptions using GIS. The paper aims (1) to assess the original theory of the retreat from marginal lands, using various map backgrounds of environmental characteristics of the area; and (2) to explore the economic marginality of the area, i.e. the relationship of settlements to the market centres in terms of their accessibility. Due to the limited length of the paper and uncertain dating of abandonment for a large number of the settlements (see below), it is focused on a macro-scale examination of the settlement pattern in synchronic perspective (in contrast to micro-scale landscape analyses; cf. *Austin et al. 1980*; *Austin – Walker 1985*; *Fleming – Ralph 1982*). The chronological trends

of abandonment are thus completely left aside. Based on the comparison of deserted and existing settlements, the main objective is to specify zones in which settlements were vulnerable and, by contrast, those with successful settlements. Consequently, factors that shaped rural communities in the medieval and post-medieval periods can be determined, which enable us to better understand the driving forces beyond settlement abandonment.

Methodology

All data used for the paper have been collected and evaluated in ArcGIS (ArcMap 10.3). Deserted settlements have been extracted from published accounts (*French – Linehan 1963; Linehan 1965; 1966*) with their brief history and coordinates. Additionally, new sites have been completed from ‘grey literature’ using the Heritage Gateway and PastScape databases (*HeritageGateway; PastScape*). Altogether, 132 deserted settlements have been identified for Dartmoor and its surroundings. Except for a few cases, they are situated on the fringe along the top of Dartmoor’s plateau, especially in two main clusters in the south-western and central-eastern parts of Dartmoor; another small cluster is in the north in Okehampton Park. The list is not without its problems: (a) It is especially dependent on the intensity of field surveys, and is not entirely complete. (b) The period of abandonment is not always precisely known, as documentary evidence is scarce (*Linehan 1965, 171; Henderson – Weddell 1994, 120*), and only several deserted settlements have been excavated or have undergone an archaeological survey (*Austin 1978; Beresford 1979; Fox 1958; Gent 2007; Greeves – Rowe 1999; Henderson – Weddell 1994; Weddell – Reed 1997*; dating of abandonment reappraised by *Allan 1994*). Some deserted settlements were not a result of medieval contraction, but were abandoned in the 18th - 19th centuries (*Newman 2011, 130-131*); several of them may even represent later shielings connected with transhumance (cf. *Fox 2012*). (c) In many cases, it is impossible to distinguish reliably individual farms from hamlets (containing between 2 - 6 farmhouses; *Gerrard 1997, 71*). The probability of error is too high; thus this characteristic is not reflected in this paper to avoid publishing false data.

The list of existing settlements of medieval origin has been collected from the place-names inventory in Devon (*Gover et al. 1931; 1932*) with their brief history and important dates stated. It was complemented by archaeological data from Heritage Gateway. Altogether, 770 existing rural settlements have been put into the database. Marketplaces in the area have been extracted from the *Gazetteer of markets and fairs in England and Wales to 1516* (<http://www.history.ac.uk/cmh/gaz/>

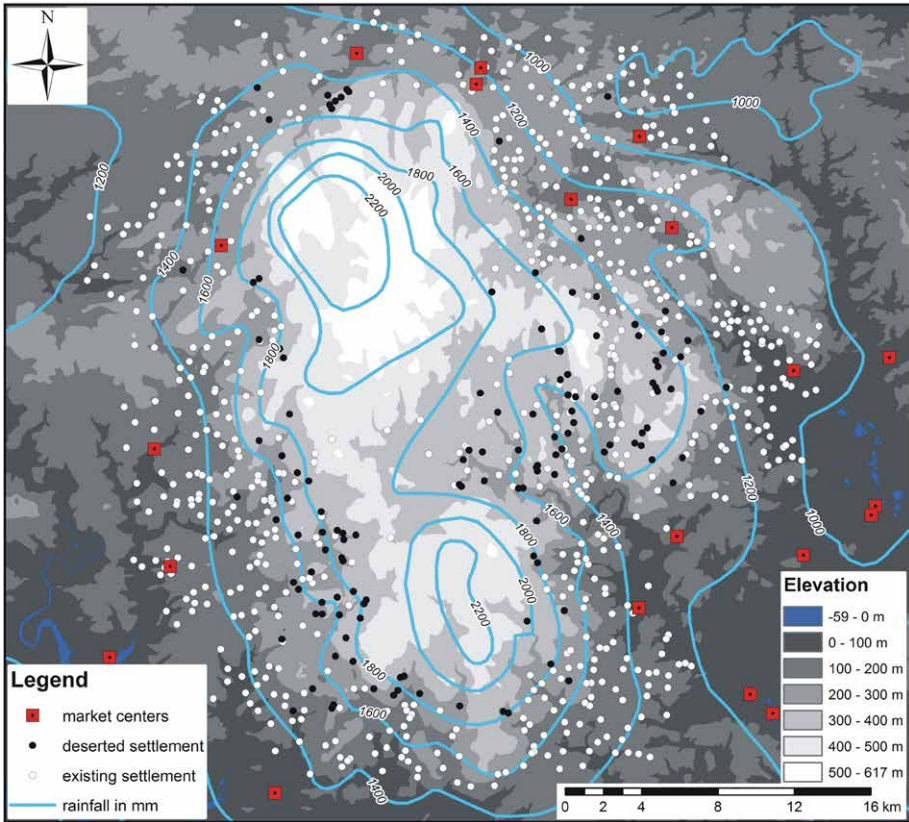
[gazweb2.html](http://www.history.ac.uk/cmh/gazweb2.html)) and the handlist of ‘English Medieval Boroughs’ (*Beresford – Finberg 1973*).

Topography of the region has been derived from ‘OS Terrain 50 Contours’ with the interval of 10 m (*Digimap*), which has been interpolated into the digital elevation models (DEM) used as a background for other analyses. Maps from ‘Historical Atlas of South-West England’ (*Caseldine 1999*) have been georeferenced into coordinates and then vectorised—*Average annual rainfall 1941-1970, Average length of the growing season 1941-1970, Map of soil types, and Land capability* with expressed values of soils. Suitability for growing crops is also assessed by agricultural land classification (*Agricultural land classification*). Although all maps reflect the recent landscape characteristics instead of the medieval ones, the general trend of the environmental setting in Dartmoor can be derived. To assess the supposed position of deserted settlement at the margins, the density of settlement has been calculated (*Kernel Density* tool) and the layer of historical land use taken from Devon Historic Landscape Characterisation – Postmedieval Landscape (*Devon Historic Landscape Characterisation; cf. Turner 2007*) has been employed.

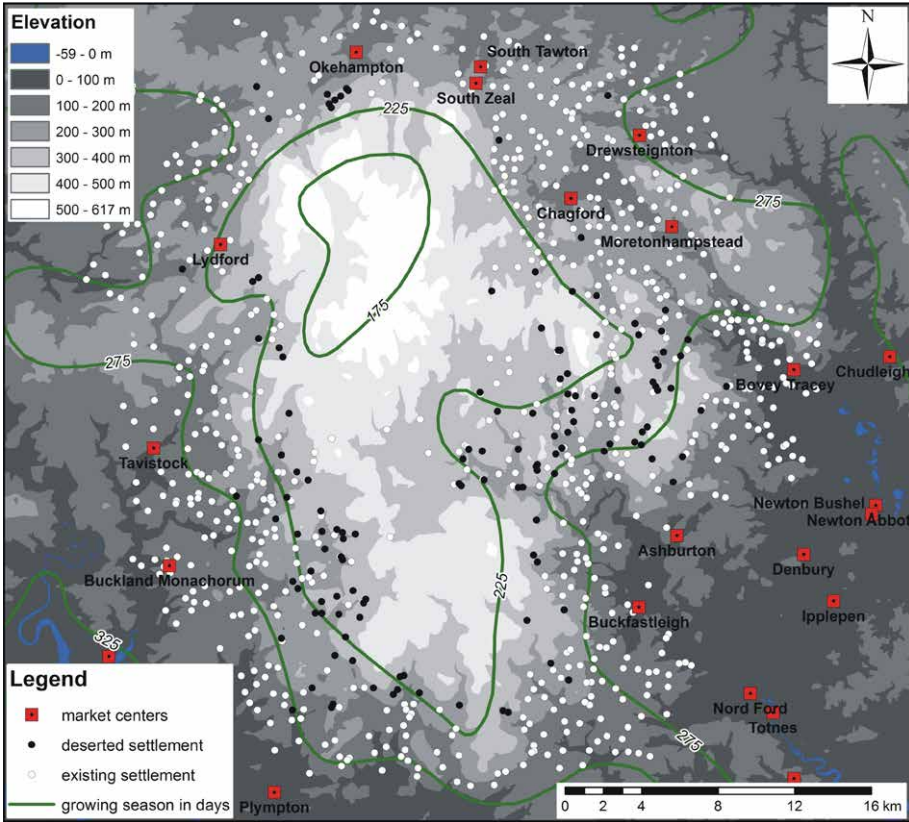
The settlement accessibility from/to markets has been explored, using the friction surface in which the slope gradient is the main determinant. Firstly, *Cost Distance* analysis determines the difficulty of movement to any place of the region from markets, depending on topography of the area. Above that, *Least-Cost Path* analysis has been carried out, using the ‘*MADO algorithm*’ (*Fàbrega-Álvarez 2006*). This enables us to specify in which directions from market centres and through which areas movement would be easiest, based on topography. Unlike the post-medieval road pattern (*Gerrard 1997, 99*), which is similar to the medieval one and passes densely through all inhabited areas, this analysis creates the most optimal routes, only revealing the easiest areas (and settlement there) to reach and those poorly accessible or marginal. Two outputs have been created: routes for the particular catchment area of each centre (‘natural’ access of markets) and the most optimal communicative zones (‘natural corridors’) in the whole area.

Results

The majority of deserted settlements is found above the 1400 mm rainfall isoline. In this area, however, the existing settlement predominates (more specifically, it is 118 deserted settlements / 89.4 % of the total amount X 358 existing settlements / 46.5 % of the total amount; Fig. 1a). In the most extreme locations, reaching more than 1800 mm average rainfalls, the number of deserted settlements (25 / 18.9 %) is slightly higher than the number of the existing ones (15 / 1.9 %). A similar trend is displayed by the average length of the growing season



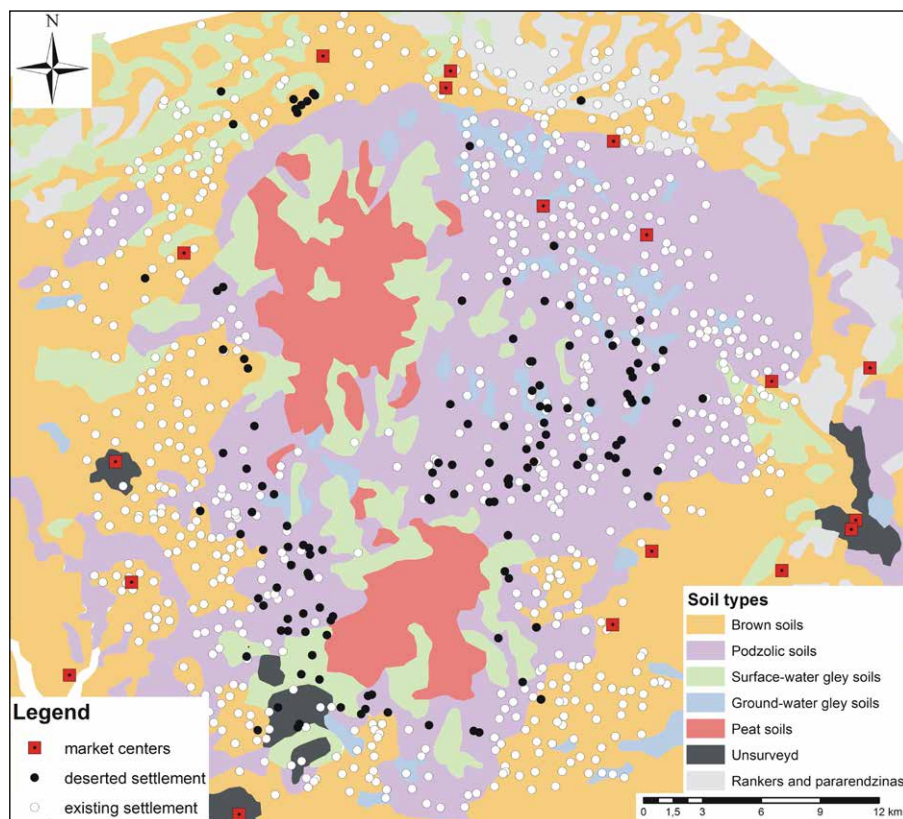
A



B

Fig. 1: Markets and existing and deserted settlements against topography, and: (A) annual average rainfalls 1941 - 1970, (B) average length of growing season 1941 - 1970 (according to Caseldine 1999, 33, modified by the author) (maps © Lukáš Holata).

A



B

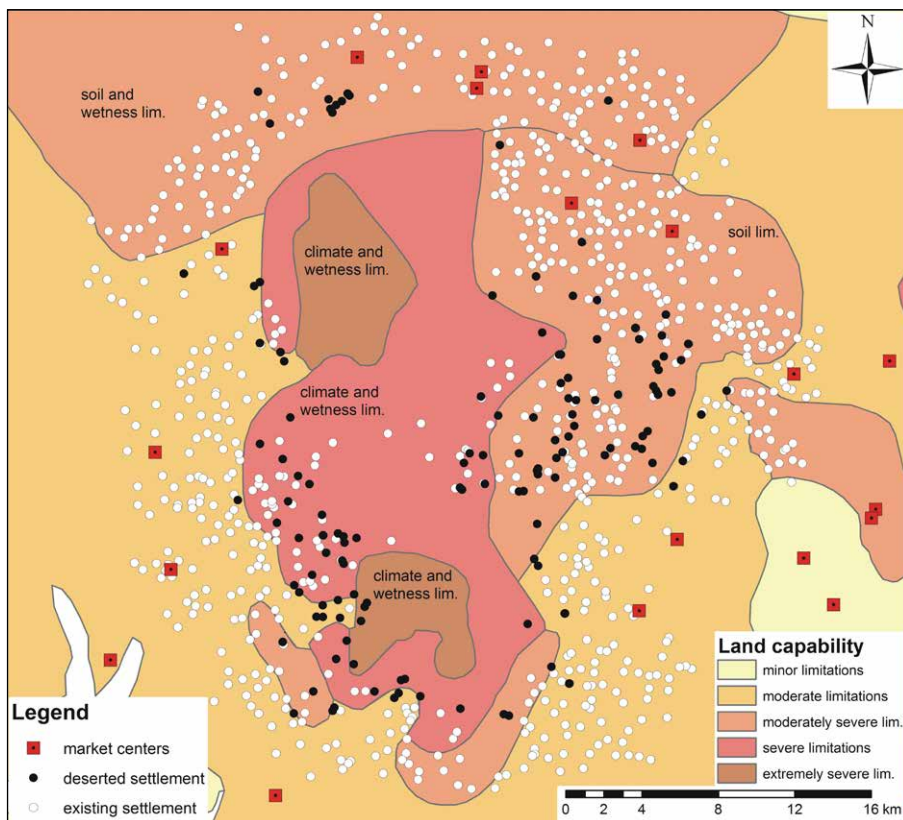
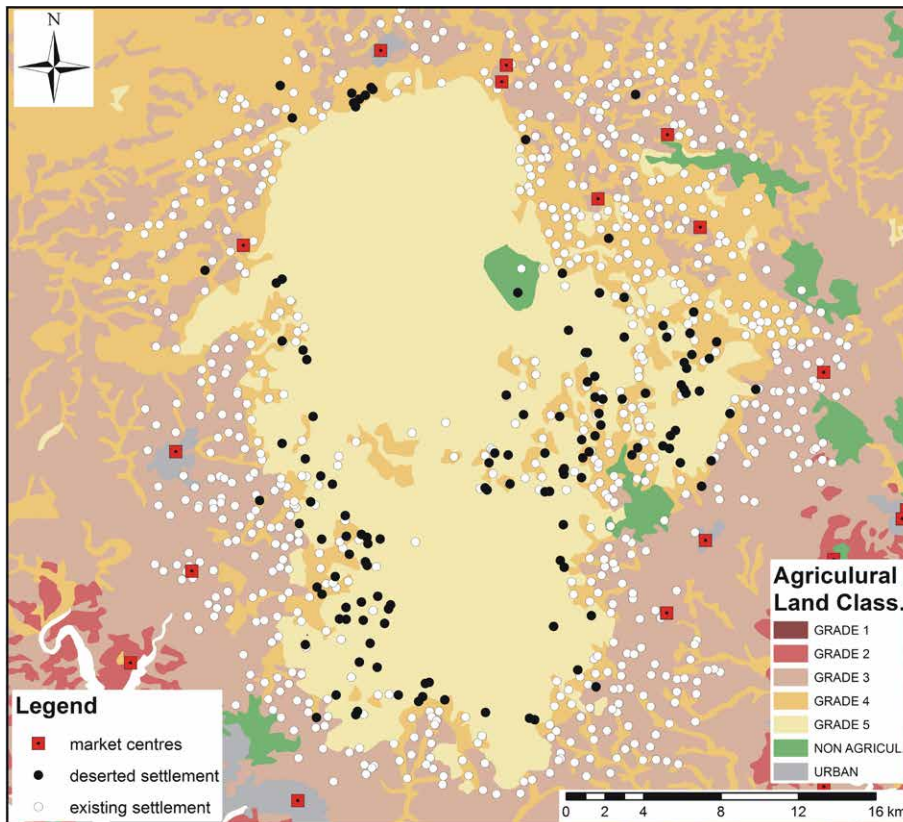


Fig. 2 (continued on next page): Markets and existing and deserted settlements against: (A) soil types, (B) land capability, and (C) agricultural land classification (ALC) (© Lukáš Holata).



C

Fig. 2 (continued): Markets and existing and deserted settlements against: (A) soil types, (B) land capability, and (C) agricultural land classification (ALC) (© Lukáš Holata).

(Fig. 1b). In the area with the shortest growing season (fewer than 225 days), both deserted (45 / 34.1 %) and existing settlements (58 / 7.5 %) are situated.

Most of both the deserted and existing settlements are found in the large area of podzolic soils. Although several deserted settlements are situated on relatively fertile brown soils, existing settlement dominates there (Fig. 2a). A similar trend is displayed by the Land capability background (Fig. 2b). A considerable amount of both deserted and existing settlements lie on the land with moderately severe (67 / 50.8 % X 398 / 51.7 %) and severe limitations (37 / 28 % X 60 / 7.8 %) in terms of soil, wetness, and climate. However, 4 deserted settlements are also situated in the land with very severe limitations. In the ALC (Fig. 2c), existing settlements predominate in the most suitable grade, 3. There is an apparent tendency to avoid the worst grade, 5, and settlements tend to grade 4 (it corresponds well with the extent of the central-eastern cluster of deserted settlements). However, in the southern part, several deserted settlements are located further from the interface on the grade 5 (although a few existing settlements are under the same conditions).

Density analysis indicates that both large clusters of abandonments fall into the areas with the highest settlement concentration (Fig. 3a). They were the most densely settled areas in the Middle Ages. Some

deserted settlements do occur at the edge of the settled zone, especially in the southern part of the top plateau (although the distance from the existing settlements is within 2 km max. only). The majority of deserted settlements are, however, located among existing ones, not in the margins. These zones are still characterised by the 'mosaic landscape' with transects of enclosed and unenclosed land (Fig. 3b). This is well illustrated by the recent photo of deserted Hound Tor (Fig. 4), on the opposite side of the valley (and therefore with similar conditions), where land has been cultivated up to the present time.

The cost distance analysis clearly displays the central areas around market centres in the surroundings of Dartmoor with a high concentration of existing settlements (Fig. 5a). Markets are very well accessible in this part of the landscape. By contrast, the vast majority of deserted settlements are placed in remote positions, at the margins (although some existing settlements are under the same conditions as well). This trend is clearly demonstrated by the box plots (Fig. 5b). Similar results are also indicated by the modelling of the most optimal access from the catchment area of each market (Fig. 5c) and the most optimal communicative zones in the whole area (Fig. 5d). They do not interfere with the clusters concerning the high concentration of deserted settlements, as they are situated completely outside of them. Deserted settlements

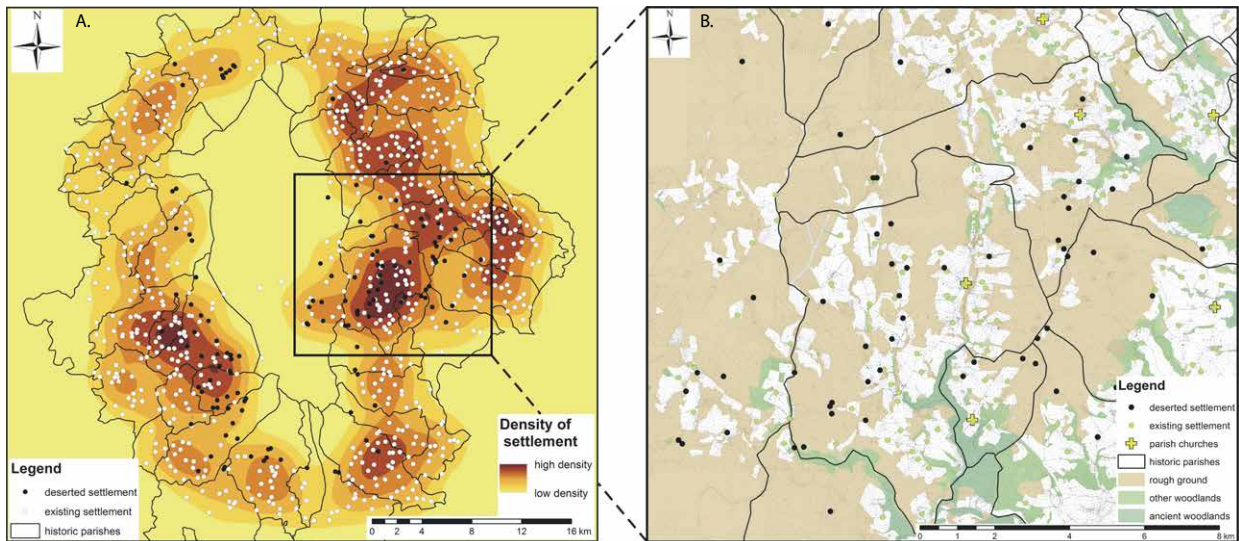


Fig. 3: Existing and deserted settlements against: (A) settlement density and (B) post-medieval land use according the HLC in the central-eastern cluster of the deserted settlements (unenclosed land marked) © Lukáš Holata).



Fig. 4: Deserted hamlet of Hound Tor (marked with white label) with 2 different types of land use: moorland on the right and enclosed fields on the left © Lukáš Holata).

thus fall into the areas in which no optimal access to the markets exists. In both figures, there is only one exception in the south-western part, which intersects the area with deserted settlements.

Discussion

The surroundings of Dartmoor account for an area with the most favourable climate, the most fertile soils, and the longest growing season in the study region, creating relatively good agricultural conditions for settlements. In

addition to this, local markets were very accessible there. All these factors determine the central character of the area and lead to resilience towards abandonment. It is the zone with relatively successful settlements; only a few deserted settlements occur there.

In contrast, there is an apparent tendency of deserted settlements to concentrate in the less-suitable parts of Dartmoor in terms of environmental conditions. Thus, the results of analyses do not exclude environmentally and climatically induced stress on the productivity of these communities (cf.

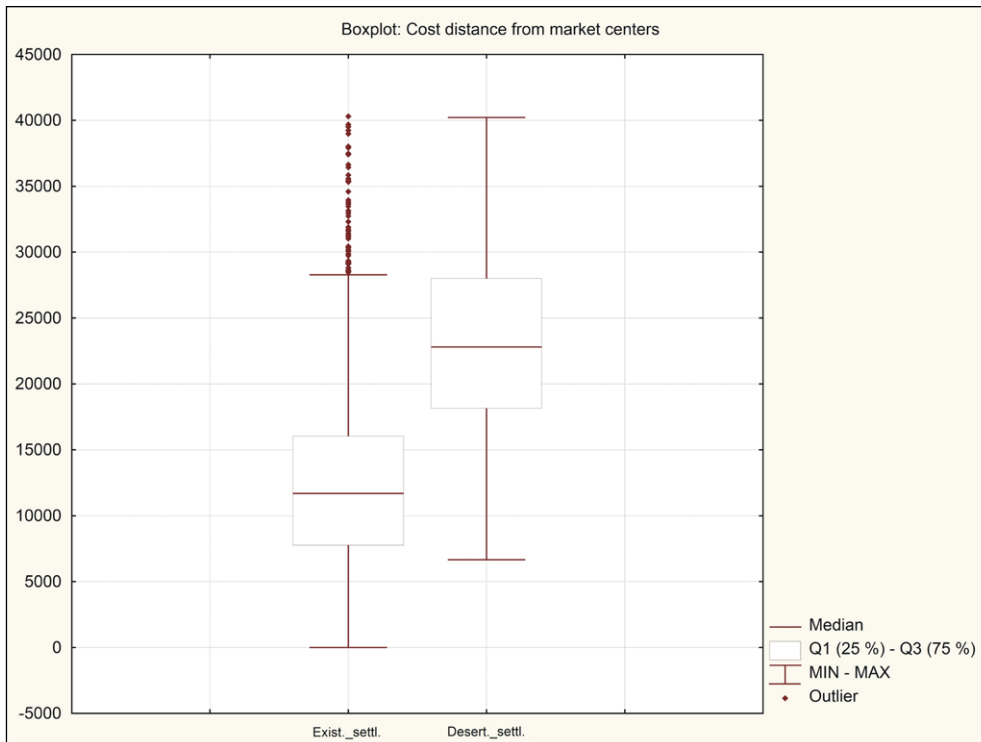
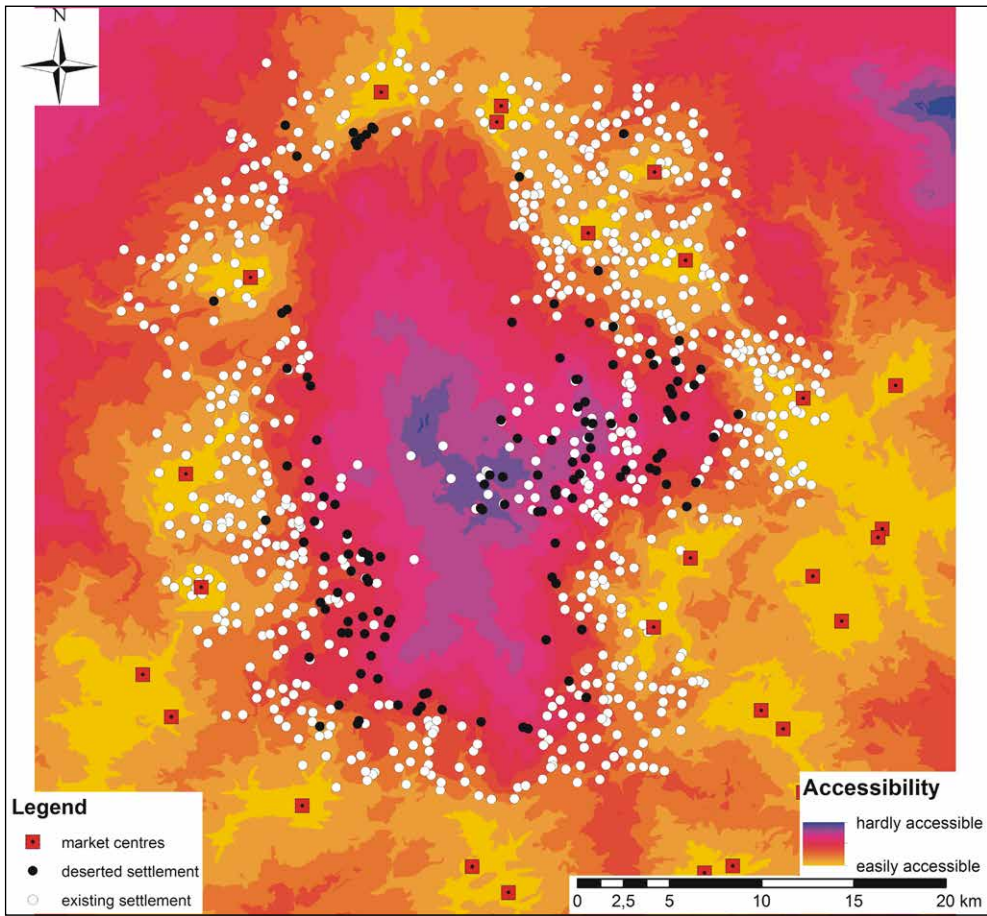


Fig. 5 (continued on next page): Markets and existing and deserted settlements against: (A) cost distance analysis values from markets, (B) values of the model expressed by box plots, (C) optimal routes in the catchment area of markets, and (D) 'natural corridors' in the region with topography (© Lukáš Holata).

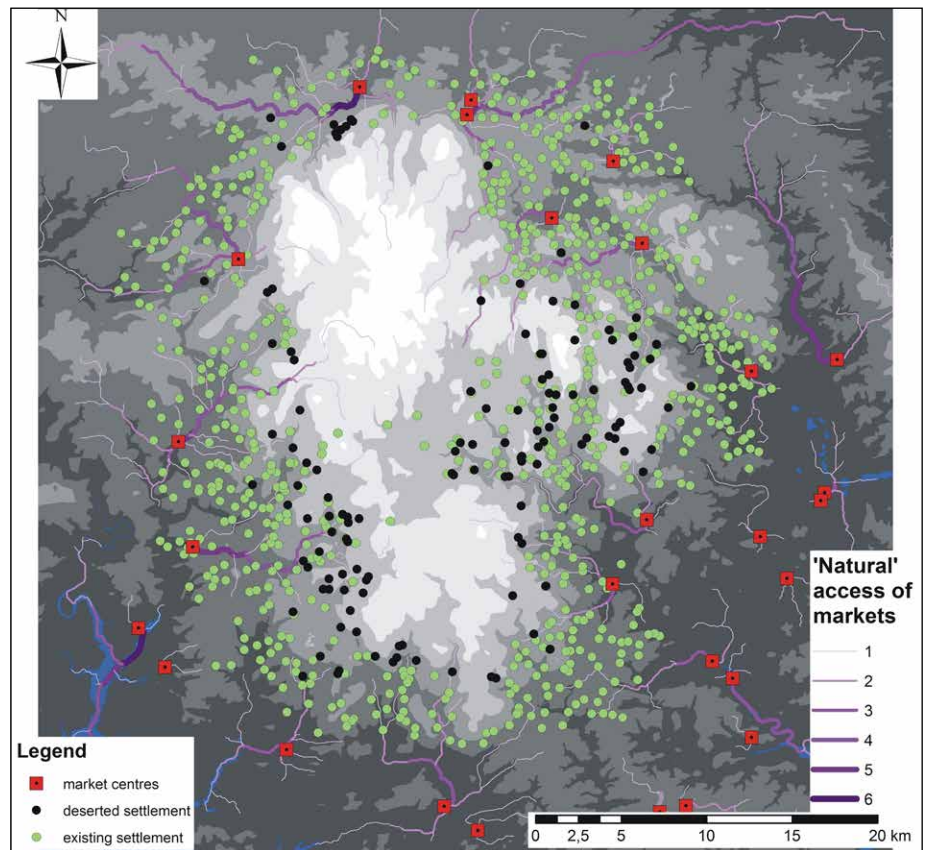
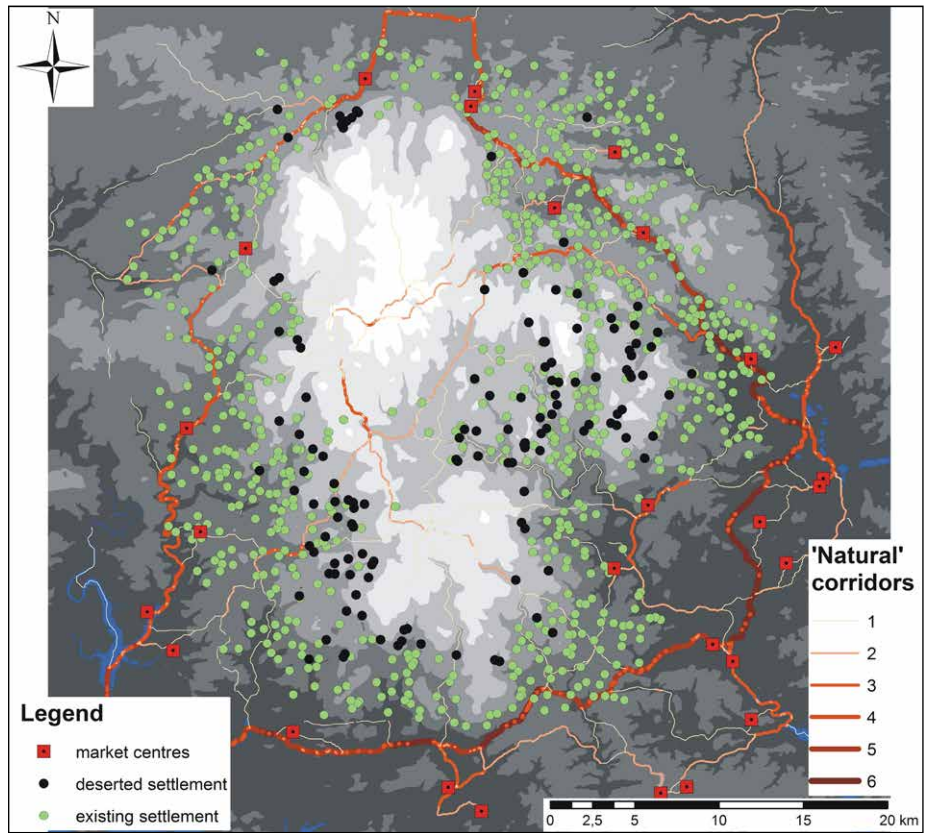


Fig. 5 (continued).

Parry 1975). However, the ‘retreat from margins’ can be considered only in the case of a few settlements in the southern part. The vast majority of deserted settlements are found in the clusters that also include existing settlements. Therefore, the question remains as to why the latter have survived, despite the fact that they occupy approximately the same, equally unfavourable environment. It is beyond doubt that arable production is difficult in this area. Nevertheless, there is evidence that this limitation was mitigated or even overcome by a variety of other sources and strategies (Fox 1994, 166-167): the choice of crops grown, virtually unlimited possibilities of grazing (pastoralism may be relatively insensitive to climate change; e.g. Tipping 2002, 18), good availability of manure, participation in transhumance (taking in of livestock from down-country farms). Other benefits for rural communities came with the development of the tin industry in Dartmoor from the 12th/13th centuries (e.g. Greeves 1985). Resource diversification is generally considered to be the key coping strategy and prevention against abandonment as well (cf. Beresford 1971, 29). In fact, there exist a number of good reasons for the survival of settlements. Instead of ‘retreat’, the performed analyses indicate rather the settlement concentration—with abandonment at the areas within a high density of settlement giving rise to a limited range of resources within their hinterland (although uncertainty of the dating is the great constraint in this statement).

Above that, the cost distance and the least-cost path analyses demonstrate geographic remoteness of the vast majority of the deserted settlements from the economic centres. The results indicate a high vulnerability of settlements in the areas in which access to/from market centres was difficult. Thus, it can be considered as another factor that influenced the shaping of upland communities and created socio-economic marginality of these areas. In addition, difficult market accessibility could deepen other (environmental) disadvantages of settlement locations, and spur on rural communities to leave these areas at times of population decline (in the South-West of England between 1350 and 1500; Fox 1999, 278) in favour of locations that were closer to the markets or the central areas in general.

It is unquestionable that there were a variety of factors strongly shaping (and constraining) human communities in Dartmoor in the past, both environmental and cultural (especially social and religious dimensions) that were left aside in this paper. To better understand the driving forces beyond settlement abandonment, a comprehensive approach that emphasises the interrelationship of environmental, economic, and social systems is necessary.

Conclusion

The presented analyses suggest that environmentally and climatically deterministic (causative) explanations are unsatisfactory to clarify the settlement transformation (abandonment). Retreat from the margins is valid here for only a few cases at best; the results indicate more likely a settlement concentration (the limited resources of the small hinterland in densely settled areas appear to be significant). In addition to environmental marginality, the results also indicate that locational remoteness from market centres (and socio-economic marginality of some areas) was another important factor of settlement vulnerability in Dartmoor.

Acknowledgements

This research was funded by the Marie Skłodowska-Curie Actions (H2020-MSCA-IF-2014, grant number 656650 – ‘ABANDONMENT’) and the project - Rozvoj JU - Mezinárodní mobility (registration number CZ.02.2.69/0.0/0.0/16_027/0008364). I would kindly like to thank the University of Exeter for being a host in 2016-2017.

References

Agricultural land classification:

<https://data.gov.uk/dataset/agricultural-land-classification-detailed-post1988-survey-alcw03792> (28-10-2016).

Allan, J. 1994:

Medieval pottery and the dating of deserted settlement on Dartmoor, Devon Archaeological Society Proceedings 52 (The Archaeology of Dartmoor. Perspectives from the 1990s), 141-147.

Astill, G. – Grant, A. 1988:

The medieval countryside: Efficiency, progress and change, in: Astill, G. – Grant, A. (eds), The countryside of medieval England. Oxford, 213-234.

Austin, D. 1978:

Excavation in Okehampton Park, Devon, 1976-78, Devon Archaeological Society Proceedings 36, 191-239.

Austin, D. 1985:

Dartmoor and the upland village of the South-West of England, in: Hooke, D. (ed.), Medieval villages. Oxford, 71-79.

Austin, D. – Daggett, R. H. – Walker, M. J. C. 1980:

Farms and fields in Okehampton Park, Devon: The problems of studying medieval landscape, Landscape History 2, 39-57.

Austin, D. – Walker, J. C. 1985:

A new landscape context for Hound Tor, Medieval Archaeology 29, 147-152.

- Bailey, M. 1989:*
A marginal economy? East Anglian Breckland in the later Middle Ages. Cambridge.
- Beresford, G. 1979:*
Three deserted medieval settlements on Dartmoor: A report on the late E Marie Minter's excavations, *Medieval Archaeology* 23, 98-158.
- Beresford, M. W. 1971:*
A review of historical research (to 1968), in: Beresford, M. W. – Hurst, J. G. (eds), *Deserted medieval village*. London, 3-75.
- Beresford, M. W. – Finberg, H. R. P. 1973:*
English medieval boroughs: A handlist. Newton Abbot.
- Beresford, M. 1983:*
The medieval village research group: The first thirty years, 1952-81, in: Hinton, D. A. (ed.), *25 years of medieval archeology*. Sheffield, 90-96.
- Caseldine, C. 1999:*
Environmental setting, in: Kain, R. J. P. – Ravenhill, W. (eds), *Historical atlas of South-West England*. Exeter, 25-34.
- Coles, G. – Mills, C. M. 1998:*
Clinging on for grim life: An introduction to marginality as an archaeological issue, in: Milles, C. M. – Coles, G. (eds), *Life on the edge: Human settlement and marginality*. Oxford, vii-xii.
- Devon Historic Landscape Characterisation (HLC):*
http://archaeologydataservice.ac.uk/archives/view/devon_hlc_2015/downloads.cfm (18-05-2017).
- Digimap:*
<http://digimap.edina.ac.uk/datadownload/osdownload> (18-10-2016).
- Dyer, C. 1989:*
The retreat from marginal land: The growth and decline of medieval rural settlements, in: Aston, M. – Austin, D. – Dyer, C. (eds), *The rural settlements of medieval England: Studies dedicated to Maurice Beresford and John Hurst*. Oxford, 45-57.
- Dyer, C. 1998:*
Introduction – The lost villages of England, 1954-1998, in: Beresford, M., *The lost villages of England*. Stroud. xii-xxviii.
- Dyer, C. – Everson, P. 2012:*
The development of the study of medieval settlements, 1880-2010, in: Christie, N. – Stamper, P. (eds), *Medieval rural settlement. Britain and Ireland, AD 800-1600*. Oxford, 11-30.
- Fábrega-Álvarez, P. 2006:*
Moving without destination. A theoretical, GIS-based determination of routes (optimal accumulation model of movement from a given origin), *Archaeological Computing Newsletter* 64, 7-11.
- Fleming, A. 1994:*
Medieval and post-medieval cultivation on Dartmoor: A landscape archaeologist's view. *Devon Archaeological Society Proceedings* 52 (The Archaeology of Dartmoor. Perspectives from the 1990s), 101-117.
- Fleming, A. – Ralph, N. 1982:*
Medieval settlement and land use on Holne Moor, Dartmoor: The landscape evidence, *Medieval Archaeology* 26, 101-137.
- Fox, A. 1958:*
A monastic homestead on Dean Moor, S. Devon, *Medieval Archaeology* 2, 141-157.
- Fox, H. S. A. 1994:*
Medieval Dartmoor as seen through the Account Rolls, *Devon Archaeological Society Proceedings* 52 (The Archaeology of Dartmoor. Perspectives from the 1990s), 149-171.
- Fox, H. 1999:*
Medieval farming and rural settlement, in: Kain, R. J. P. – Ravenhill, W. (eds.), *Historical atlas of South-West England*. Exeter, 273-280.
- Fox, H. S. A. 2012:*
Dartmoor's alluring uplands: Transhumance and pastoral management in the Middle Ages. Exeter.
- French, H. – Linehan, C. D. 1963:*
Abandoned medieval sites in Widecombe-in-the-moor, *Transactions of the Devonshire Association* 95, 168-179.
- Gazetteer of markets and fairs in England and Wales to 1516:*
<http://www.history.ac.uk/cmh/gaz/gazweb2.html> (26-1-2017).
- Gent, T. 2007:*
The re-excavation of a deserted medieval longhouse at Hutholes, Widecombe in the Moor, Dartmoor, *Devon Archaeological Society Proceedings* 65, 47-82.
- Gerrard, S. 1997:*
Book of Dartmoor: Landscapes through time. English Heritage, London.
- Gover, J. E. B. – Mawer, A. – Stenton, F. M. 1931:*
The place-names of Devon, Part I. Cambridge.
- Gover, J. E. B. – Mawer, A. – Stenton, F. M. 1932:*
The place-names of Devon, Part II. Cambridge.
- Greeves, T. 1985:*
The Dartmoor tin industry – Some aspects of its field remains, *Devon Archaeology* 3, 31-40.
- Greeves, T. – Rowe, A. 1999:*
Four deserted medieval settlements on Buckland Down, West Devon, *Transactions of the Devonshire Association* 131, 71-80.
- Henderson, C. G. – Weddell, P. J. 1994:*
Medieval settlements on Dartmoor and in West Devon: The evidence from excavation, *Devon Archaeological Society Proceedings* 52 (The Archaeology of Dartmoor. Perspectives from the 1990s), 119-140.

- HeritageGateway:*
<https://www.heritagegateway.org.uk/gateway/>
 (8-9-2016).
- Linehan, C. D. 1965:*
 Deserted sites on Dartmoor, Transactions of the Devonshire Association 97, 171-178.
- Linehan, C. D. 1966:*
 Deserted sites and rabbit warrens on Dartmoor, Devon, Medieval Archaeology 10, 113-144.
- Newman, P. 2011:*
 The field archaeology of Dartmoor. Swindon.
- Parry, M. L. 1975:*
 Secular climatic change and marginal agriculture, Transactions of the Institute of British Geographers 64, 1-13.
- PastScape:*
<https://www.pastscape.org.uk/> (11-10-2016).
- Postan, M. M. 1966:*
 Medieval agrarian society in its prime. 7. England, in: Postan, M. M., The Cambridge economic history of Europe from the decline of the Roman Empire. Volume 1, Agrarian Life of the Middle Ages. Cambridge, 548-632.
- Postan, M. M. 1973:*
 The economic foundations of medieval society, in: Postan, M., Essays on medieval agriculture and general problems of the medieval economy. Cambridge. 3-27.
- Schreg, R. 2011:*
 Feeding the village – Reflections on the ecology and resilience of the medieval rural economy, Ruralia VIII, 301-320.
- Svensson, E. – Gardiner, M. 2009:*
 Introduction: Marginality in the preindustrial European countryside, Ruralia VII, 21-25.
- Tipping, R. 1998:*
 Cereal cultivation on the Anglo-Scottish border during the ‘little ice age’, in: Milles, C. M. – Coles, G. (eds), Life on the edge: Human settlement and marginality. Oxford, 1-11.
- Tipping, R. 2002:*
 Climatic variability and ‘marginal’ settlement in upland British landscapes: A re-evaluation, Landscapes 3, 10-29.
- Turner, S. 2007:*
 Ancient country: The historic character of rural Devon. Exeter.
- Weddell, P. J. – Reed, S. J. 1997:*
 Excavation at Sourton Down Okehampton 1986-1991: Roman road, deserted medieval hamlet and other landscape features, Devon Archaeological Society Proceedings 55, 39-147.

Medieval settlement dynamics in peatland reclamations in the western, central and northern Netherlands

*Jan van Doesburg**

Abstract

This article focuses on the settlement dynamics of the peatlands of the western, central, and northern Netherlands that were reclaimed during the high and late Middle Ages. The colonists in these reclamation areas had to cope with difficult environmental conditions, which changed through time. The fenlands were wet and required constant drainage by means of a system of canals and ditches. However, drainage and land use in combination caused soil compaction that led to subsidence, posing serious challenges to water management. The residents of the peat areas were forced to become efficient dike builders and civil engineers, building embankments and dikes along tidal channels, rivers, and streams; digging canals; and constructing sluices to protect the land from flooding. Soil compaction exposed the peat areas to the influence of the sea through tidal gullies, rivers, and streams. In some areas, layers of clay were deposited on top of the peat; elsewhere, lakes were formed, which, due to later peat-digging activities, subsequently expanded in size. Two types of settlement development can be distinguished in peat areas. Where reclamations proceeded on the basis of *cope* contracts, the land was divided into regular plots of more or less identical size and farmsteads were located along or close to the reclamation axis. Both dispersed and nucleated settlements were established. Many nucleated settlements later developed into villages with a church and village green. In other peat areas, reclamations led to more-dynamic settlement patterns. Here, settlements shifted once or several times within a reclamation area, creating abandoned settlements (dispersed or nucleated) or isolated medieval churches and churchyards at some distance from the modern village. The question concerning why these different settlement patterns occurred cannot yet be fully answered. Since all peat reclamation areas were affected by soil compaction and the resulting subsidence and rising groundwater tables, the differences in settlement dynamics cannot be explained solely as a result of different environmental conditions. Other factors, such as socio-economic and political-institutional processes, also played a role. Further study of the settlement dynamics of peat reclamation areas demands more integrated historical, historical-geographical, and archaeological research.

* Cultural Heritage Agency of the Netherlands (RCE)
P.O. Box 1600
3800 BP, Amersfoort
The Netherlands
j.van.doesburg@cultureelerfgoed.nl

Keywords: *Deserted villages, isolated churches, medieval reclamations, reclamation models, subsidence.*

Résumé

La dynamique de peuplement dans les zones de tourbières dans les régions occidentales, centrales et septentrionales des Pays-Bas
Cet article se concentre sur la dynamique de peuplement des tourbières de l'ouest, du centre et du nord des Pays-Bas qui ont été occupées durant le Haut et le Bas Moyen Âge. Les colons dans ces zones regagnées ont dû faire face à des conditions environnementales difficiles qui ont changé avec le temps. Ces polders étaient humides et nécessitaient un drainage constant au moyen d'un système de canaux et de fossés. Cependant, le drainage combiné à l'exploitation des terres a provoqué un tassement du sol et des affaissements qui ont posé de sérieux problèmes de gestion de l'eau.

Les habitants des zones tourbeuses ont été contraints de devenir des constructeurs de digues et des ingénieurs civils efficaces, érigeant des digues et des remblais le long des canaux de marée, des rivières et des ruisseaux, creusant des canaux et construisant des écluses pour protéger les terres des inondations. Le tassement du sol a exposé les zones tourbeuses à l'influence de la mer à travers les ravines, les rivières et les cours d'eau. Dans certaines régions, des couches d'argile ont été déposées sur le dessus de la tourbe; ailleurs, il s'est formé des lacs qui, en raison des activités ultérieures d'exploitation de la tourbe, ont ensuite pris de l'ampleur. Deux types de peuplement peuvent être distingués dans les zones tourbeuses. Lorsque le peuplement s'est déroulé sur la base de « contrats », le terrain était divisé en parcelles régulières de taille plus ou moins identique et les fermes étaient situées le long ou à proximité de l'axe principal. Ces établissements étaient ou isolés ou agglomérés. Beaucoup de ces derniers ont évolué en village avec une église et un pré communautaire. Dans d'autres zones tourbeuses, les défrichements ont conduit à des types de peuplement plus dynamiques. Les habitats se sont déplacés une ou plusieurs fois dans une même zone assainie, laissant des habitats abandonnés (dispersés ou groupés) ou des églises médiévales isolées avec leur cimetière à une certaine distance du village moderne.

La question de savoir pourquoi ces différents modèles de peuplement sont apparus ne peut pas encore être complètement élucidée. Puisque toutes les zones d'occupation des tourbières ont été affectées par le tassement du sol et l'affaissement en résultant ainsi que par l'élévation des nappes phréatiques, les différents types de peuplement ne peuvent pas s'expliquer seulement par des conditions environnementales différentes. D'autres facteurs, tels que les processus socio-économiques et politico-institutionnels, ont également joué un rôle. Une étude plus approfondie de la dynamique du peuplement dans les zones de tourbières exige des recherches historiques, historico-géographiques et archéologiques plus intégrées.

Mots-clés: *villages abandonnés, églises isolées, assèchements médiévaux, modèles d'assèchement, affaissement.*

Zusammenfassung

Mittelalterliche Siedlungsdynamik in den Moorrückgewinnungsgebieten der westlichen, zentralen und nördlichen Niederlande

In diesem Artikel wird die Siedlungsdynamik der Mooregebiete der westlichen, zentralen und nördlichen Niederlande, die während des hohen und späten Mittelalters kultiviert wurden, behandelt. Die Ansiedler dieser urbar gemachten Gebiete hatten mit schwierigen Umweltbedingungen zu kämpfen, die sich im Laufe der Zeit änderten. Die feuchten Mooregebiete verlangten fortwährende Trockenlegung durch Kanäle und Gräben. Zusammen führten aber die Entwässerung und Landnutzung zu einer Bodenverdichtung, in deren Folge das Land sich senkte. Dadurch entstanden große Probleme mit dem Wassermanagement. So wurden die Siedler der Mooregebiete zu hervorragenden Deichbauern und Bauingenieuren, die Dämme und Deiche an tideabhängigen Kanälen, Flüssen und anderen Wasserläufen bauten, Kanäle anlegten und Schleusen errichteten, um das Land vor Überflutung zu schützen. Durch die Absenkung waren die Mooregebiete über Priele und Flüsse offen für die See. In einigen der Gebiete wurde auf dem Torf Marschenklei abgelagert, in anderen bildeten sich Seen, die durch spätere Torfstiche nach und nach größer wurden. Wir können in den Mooregebieten zwei verschiedene Arten von Siedlungsentwicklungen unterscheiden. 1) Dort, wo Kultivierungen auf Basis von *cope – Verträgen* durchgeführt wurden, teilte man das Land in mehr oder weniger gleich große Flurstücke auf. Die Höfe wurden entlang oder nahe der Kultivierungsachse angelegt. Sowohl Streusiedlungen als auch geschlossene Siedlungen wurden gegründet. Viele der letzteren entwickelten sich später zu Dörfern mit Kirche und Dorfplatz. 2) In anderen Mooregegenden führten die Urbarmachungen zu dynamischeren Siedlungsmustern, die Siedlungen wurden einmal oder mehrfach verlagert. So entstanden Wüstungen (in Form von Streu- oder geschlossenen Siedlungen) und mittelalterliche Wüstungskirchen, die in einiger Entfernung vom heutigen Dorfliegen. Wir können noch nicht endgültig beantworten, weshalb die verschiedenen Siedlungsmuster überhaupt entstanden sind; denn alle Moorkultivierungsgebiete litten unter Bodenverdichtungen und deshalb unter Absenkungen und steigendem Wasserspiegel. Die Unterschiede in der Siedlungsdynamik können also nicht nur als Folge unterschiedlicher Umweltbedingungen erklärt werden; andere Faktoren, wie sozioökonomische und politische Prozesse, spielten ebenfalls eine Rolle.

Künftige Untersuchungen der Siedlungsdynamik von Moorkultivierungs-Gebieten erfordern fächerübergreifende historische, historisch-geografische und archäologische Forschungen.

Schlagwörter: *Wüstungen, Wüstungskirchen, mittelalterliche Kultivierungen, Kultivierungsmodelle, Bodensenkung.*

Introduction

Around the year AD 1000, major changes in landscape development and settlement patterns can be observed all over Europe. Among new developments were large-scale reclamations and the colonisation of marginal landscapes (see Klápště – Sommer 2009; Van Doesburg – Groenewoudt 2011). The people who settled these landscapes built both dispersed and nucleated settlements. Population pressure caused by urbanisation and population growth is often mentioned as the most important push factor for large-scale reclamation activities in peat bogs and swamps, in some areas in combination with landscape changes such as sand drift, land loss due to flooding, and changing river patterns (De Cock 1965, 257; Wassermann 1985, 121-124; 1989; Besteman 1990; comments by Slofstra 2008, 224 and Groenewoudt – Van Doesburg – Renes 2015, 35; Zomer 2016, 125). Some older publications also mention

climatological changes in the 10th century as a factor behind the onset of the reclamations, with the fenlands becoming more accessible as a result of a dryer climate (Besteman – Guiran 1986; Bakker 2002, 136). However, there is some doubt whether the 10th century really was a substantially drier period with decreasing precipitation or higher evaporation (Borger 1992, 134). In fact, after AD 800 a wetter period that lasted for several centuries seems to have set in across Europe (Proctor et al. 2002; Galka et al. 2013; Büntgen et al. 2011).

The reclamation of vast swathes of peat bog and swamp in the northern, western, and central Netherlands and in coastal Flanders began at this time (Fig. 1). For a long time, these peat reclamations were believed to date from the High Middle Ages. The oldest reclamations were assumed to have been carried out in the 10th century in the north of Noord-Holland Province, from where they

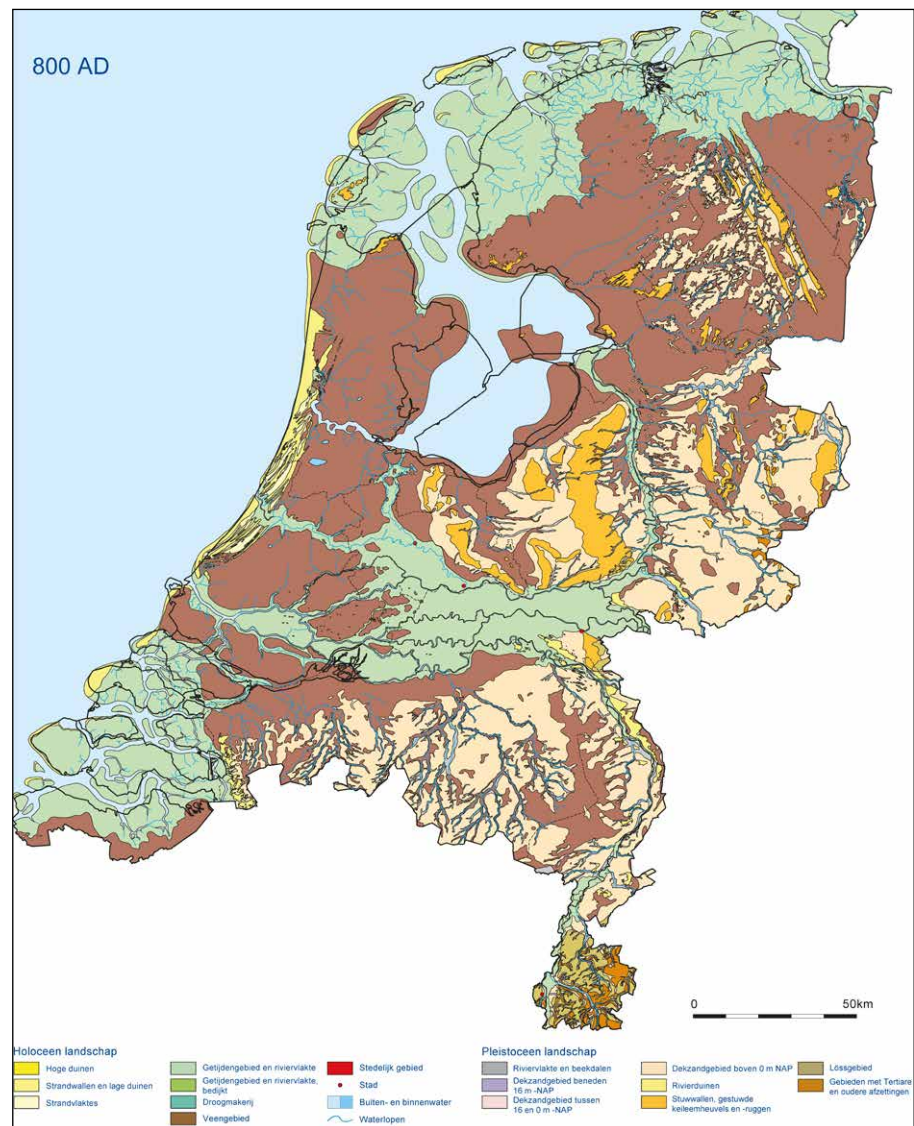


Fig 1: The study area: The Netherlands and the vast peat areas in the western, central, and northern part of the country discussed in the article (in brown). Reconstructed landscape AD 800 (© Peter Vos and Mindert de Vries, Vos – De Vries 2013).

allegedly spread to other parts of north-western Europe (Ligtendag 1998, 50; Vervloet 1998, 152; comment by De Bont 2008, 143-145). In recent decades, this view has changed drastically. Archaeological research has shown that, in fact, the earliest peat reclamations took place in the Iron Age and the Roman period (Brandt – Groenman-Van Waateringe – Van der Leeuw 1987; Therkorn – Besselsen – Oversteegen 1998; Sier et al. 2001; De Langen 2011, 73-81; Thoen – Soens 2015), whenever colonists settled along the margins of a peat marsh. The medieval reclamations also began much earlier than previously suspected. The first took place in the 6th and 7th centuries, but until the 9th or 10th century they were on a fairly small scale (Besteman – Guiran 1986; 1987; Besteman 1990; Knol 1993; De Langen 2011, 81-84). Again, the peat margins were settled first, but in the Carolingian period colonists ventured deeper into the marshes. In some areas large-scale reclamations started in the 10th century, but most date to the 11th or 12th century, while in some areas they continued until the 15th century (De Bont 2008; De Langen 2011; Zomer 2016).

This last period is sometimes referred to in the literature as the ‘Great Reclamation Period’ (Van der Linden 1982, 64-65; Thoen – Soens 2015). Its chronology varies from region to region. In most

areas, reclamations proceeded in stages (Verhulst 1977; 1980; Slofstra 2008, 224-227; De Langen 2011; Zomer 2016, 125-128, 282). Famous examples are the 11th- to 14th-century so-called *cope* reclamations in the central-Dutch peat areas (Van der Linden 1956; De Bont 2008) (Fig. 2). The counts of Holland and the bishops of Utrecht, who owned the wastelands, gave out peatland concessions to contractors (*locatores*), usually *ministeriales* (Dekker 1983; Buitelaar 1993).

In several instances the bishop donated large blocks of peatland to the Utrecht chapters, including jurisdiction and financial benefits, or gave them in fief to *ministeriales*, who served as stewards on agrarian estates on the surrounding higher soils (Dekker 1983; Buitelaar 1993). In some areas, the position of the bishop as owner of the wilderness was disputed by the owners of the surrounding agrarian estates. In several instances this led to a civil action. In cases where the bishop lost his claim, the reclamations were subsequently commissioned by the owners of the agrarian estates (Dekker 1983, 163-278). These were mostly religious institutions, such as abbeys and chapters, or officials connected to them. The contractors organised the reclamations and prepared the establishment of villages, were responsible for water management, and recruited colonists to carry



Fig. 2: Spatial distribution of cope reclamations (© Ton Markus).

out the actual reclamation work. Reclamations provided opportunities for the locators to climb the social ladder (see *Groenewoudt – Van Doesburg – Renes 2015*). Often they would reserve 1 or 2 parcels for themselves on which a castle or moated site was built, sometimes immediately but usually at a later time. In some areas, veritable ‘castle landscapes’ appeared (*Van Doesburg 2011b; Van Doesburg in prep.*). The landowners and locators operated on the basis of contracts, the so-called *cofes*, a word encountered in many place names as its second constituent element—*koop*. The first element in such names often refers to the locator, e.g. Ben in Benschop, Teyke in Teckop and Heye and Boye in Hei en Boeicop (*Van Berkel – Samplonius 2006*). Other *cope* reclamations were named after European regions or places: Demmerik, Spengen, Portengen, Pavijen, and Parijs (*Rentenaar 1984*). *Cope* reclamations were often contiguous, forming large reclamation clusters. Some reclamations were divided into smaller blocks by roads or canals. *Cope* reclamations were highly regular, with fixed dimensions for the reclamation blocks (*Vervloet 1998; De Bont 2008, 226-230*). Each colonist received a plot of 120 m (30 *roeden*) by 720 m

(6 *voorling*), resulting in agricultural units of 14.5 ha. The colonists enjoyed personal freedom, local autonomy, and secure property rights on the peatland they had reclaimed. The count or bishop levied a usually modest tax tied to landownership. To facilitate reclamation the colonists would dig canals and ditches, construct dikes and sluices, and build roads. Farmsteads clustered along the road or main drainage canal (*wetering*) that served as the starting point for the reclamations and to which the individual plots were oriented at a 90° angle. In most reclamations the new settlements were nucleated, with those intended to become a parish receiving a green with a chapel or church (*Renes 2017*). Due to their characteristic shape and uniform plot sizes, *cope* reclamations are easily recognisable in the modern landscape (Fig. 3).

The organisation of the *cope* reclamations was so successful that from the late 11th century onwards the concept was exported to other parts of western Europe, e.g. the British Isles, Frisia, and northern Germany (*Verhulst 1977, 93-94*). For instance, in AD 1106 or 1113 archbishop Friedrich I of Bremen invited Dutch colonists to assist with the reclamation of peatland in his bishopric



Fig. 3: *Cope* reclamation of Spengen, north-west of the town of Utrecht; at the centre of the reclamation the village of Spengen (© erfgoedfoto.nl/Jos Stöver).

(*De Bont 2008*, 150). These reclamations are known as the Holler colonisation and led to the establishment of several Dutch settlements in the Bremen-Hamburg area. The reclaimers were often referred to as ‘Holler’ (from the Western Netherlands (Holland)) and ‘Frisians’, but in fact came from different parts of the Dutch and Flemish coast.

The strong emphasis on *cope* reclamations in the literature to date obscures the fact that this type of reclamation was only one of several forms practiced in the Netherlands in the Middle Ages. Several other reclamation types can be found in the Dutch north and west, some of them predating the *cope* reclamations but others that are contemporary (Fig. 4). Our article focuses on settlement developments in these other reclamation areas, which outside the Netherlands are largely unknown except in adjacent north-western Germany.

We will look at historical, historical-geographical, and archaeological data obtained from the literature and present several models explaining the settlement development in these areas. We will focus on the extent to which settlement dynamics in these areas differed from those in places where there were *cope* reclamations—did differences indeed exist and what factors caused them?

The western and northern Netherlands

Before discussing the reclamations in the northern and western Netherlands, it is important to look at the landscape development that formed the context for these activities. The landscape development in these parts of the Netherlands differed profoundly from what occurred in the *cope* areas. In the course of the Holocene, much of the western and northern Netherlands was covered with a thick peat blanket. Proximity to the sea meant that marine influence was considerable. The peat marshes were cut into by former erosion valleys and tidal basins, and several rivers and streams flanked by fluvial and tidal levees cut across them before draining into these tidal basins. Here and there the peat overlay a Pleistocene boulder, clay, and coversand (degraded rock) landscape, the highest sections of which probably protruded through the peat. In the Middle Ages clay was deposited locally on top of the peat, creating a clay-on-peat landscape.

In some areas the peat landscape had disappeared completely, due to oxidation brought on by drainage and land use, large-scale peat cutting, and marine and fluvial erosion, and lakes had formed (*Borger 1975; Hallewas 1984; De Bont 2008; Knottnerus 2008; 2013; Timmerman 2017*). From the 17th century onwards, several of these lakes were turned into polders, *e.g.* the areas north, west, and south of Amsterdam (*De Bont 2014*). Elsewhere, the peat cover has decreased but is still present. Here, fluvial and tidal levees and the underlying Pleistocene landscape have become more visible.

Shifting settlements and churches

The reclamations in the northern and western Netherlands proceeded in stages. Usually, a fluvial or tidal levee was used as a baseline. Ditches dug at straight angles to the watercourse demarcated plot boundaries and drained the peat. Through time, subsidence made it necessary to extend the ditches, and the colonists ventured deeper into the peat. This process could repeat itself several times. The field patterns often reflect it; the oldest reclamations feature either an irregular or a rectangular pattern, while field patterns in younger reclamations are more uniform. We see long and narrow plots organised in fan shapes or strips (Fig. 4). Kinks and small steps in the parcellation mark different reclamation phases. Everywhere we encounter dispersed farmsteads as well as hamlets and villages. In areas where Pleistocene soils surface through the peat cover, settlements are situated on higher sandy ridges. They consist of a row of farms and other houses along a road, forming roadside villages (*wegdorpen*). Most villages have a church with churchyard. Individual allotments consist of narrow strips of land extending on both sides of the road. Arable fields are situated close to the farms while pastures and hay meadows cluster in the lower areas, often near rivers or other streams.

Most of the modern villages and hamlets and several of the dispersed farmsteads appear to have been relocated once or several times in the course of their existence (*De Cock 1984; Renes 1984; Bos 1988; 1990; Besteman – Guiran 1987; Besteman 1990; De Bont 2008; 2014 De Langen 2011; Veldhuis 2011; Vermue 2012; Worst 2012; Reeskamp 2013; Zomer 2016; Timmerman 2017*). Usually, the process continued until a natural barrier was reached, such as a stream, river, or lake, a higher ridge protruding through the peat, or another reclamation. Settlement drift has been studied in several areas (*Besteman 1990; De Bont 2008; 2014; Zomer 2010; 2016; Veldhuis 2011; Vermue 2012; Worst 2012; Reeskamp 2013; Timmerman 2017*).

In a number of places we find medieval churches situated at some distance from the modern settlement, *e.g.* in Kolderveen (Overijssel Province), where the medieval church stands c. 400 m from the present village. The medieval settlement originally clustered around the church, but was later relocated (Fig. 5).

Likewise, in Marum (Groningen Province), there is some distance between the 12th-century church with its churchyard and the village. The church stands next to an artificial mount, probably a motte (*Veldhuis 2011; Van Doesburg – Veldhuis – Stöver 2012*), while excavations have revealed the presence of an 11th- to 14th-century settlement (*Hielkema 2015*). The cemetery that surrounds the church is still in use today. At Noordbroek (Groningen Province), the masonry of the brick church (first half of the 14th century) incorporates tuff blocks (*Vermue 2012*), which were probably transported from the original church



Fig. 4: Fan-shaped strip reclamation in Loosdrecht. In front, the village of Nieuw Loosdrecht; Oud Loosdrecht is visible on the horizon (right) (© erfgoedfoto.nl/Jos Stöver).



Fig. 5: The medieval church of Kolderveen (Overijssel Province), connected by a tree-lined lane to the modern village, c. 400 m to the north (© erfgoedfoto.nl/Jos Stöver).

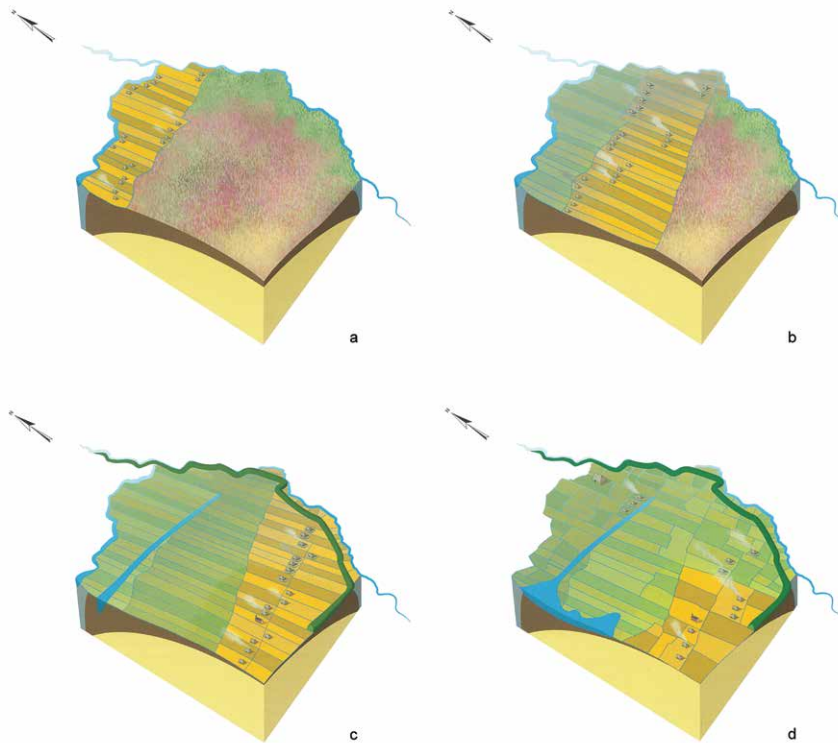


Fig. 6: The development of the reclamations in Roderwolde—*a)* mid-10th century; *b)* 11th century; *c)* 12th century; *d)* 13th-14th centuries (© Jeroen Zomer, Zomer 2016).

site, c. 500 m to the east, on a plot still called *oud kerkhof* ('old churchyard'). In neighbouring Zuidbroek there are indications that its church, too, was originally located elsewhere. Here, again, we find a plot of land called *oud kerkhof* at a distance of c. 1 km east of the present church, which dates from the final quarter of the 13th century.

Field names like *oud kerkhof* ('old churchyard') and *torenakker* ('tower field') occur at several other locations in the provinces of Friesland, Groningen, and Overijssel and to a lesser extent in the western Netherlands (Besteman – Guiran 1987; Besteman 1990; De Bont 2008; Post 2009; De Langen 2011; Veldhuis 2011; Vermue 2012; Worst 2012; Reeskamp 2013; Zomer 2016; Timmerman 2017). Occasionally such former church sites are also clearly marked on historical maps, for instance by the round shape of a field, the presence of a moat, or sometimes even by the remains of the church itself. Property deeds indicate that former churches are always situated on the same elongated parcels as their successors. In most cases the church was relocated only once, but occasionally this happened twice or three times. Written sources and historical maps reveal that entire settlements or dispersed farmsteads were likewise replaced or abandoned. The latter happened at IJzermieden, east of Augustinusga (Friesland Province). Here, a plot called *oud kerkhof* represents the site of the deserted medieval village of Sint-Gangolfus (Noomen 2003; Brinkkemper et al. 2009, 101-103). Written sources indicate that between 1370

and 1387 this village was struck by severe flooding that destroyed its church and farm buildings. The village was subsequently abandoned and the ruins of the church torn down. Its privileges and revenues were transferred to the village of Augustinusga, but with the stipulation that the churchyard still had to be maintained and kept free of wild animals, suggesting that it remained in active use.

Reconstructing the reclamation process

For several areas the reclamation process has been reconstructed, using historical and historical-geographical sources, sometimes in combination with archaeological finds. The various approaches follow more or less the same pattern (see Bos 1988; 1990; Besteman – Guiran 1987; Besteman 1990; De Bont 2008; 2014; Mol 2012; Zomer 2016). We will look in more detail at the reclamations that took place in the north of the province of Drenthe. Roderwolde's reclamation history has been reconstructed by historical geographer J. Zomer on the basis of historical and historical-geographical information and some archaeological data (De Langen et al. 2016). Zomer distinguishes four reclamation phases in this area (Zomer 2010; 2016) (Fig. 6).

During the first phase (mid-10th century), the colonists settled in the north of the area, near a watercourse. Ditches were dug at right angles to the stream, and farmsteads clustered both near the river and deeper into the peat marsh.

In the second phase (11th century), subsidence and rising groundwater levels forced the settlement to move to the south. The allotments were extended deeper into the peat, while the farmsteads again clustered together. As a result of ongoing subsidence, the northern part of the area was inundated by the sea and clay was deposited on top of the peat. In the 12th century the settlement was once again relocated southwards. Ditches were extended and a dike was built along the area's southern border, near another watercourse. The new settlement received a parish church. In the 13th and 14th centuries the western section of the settlement, where the Pleistocene sands surfaced through the peat, clustered around the church, while the residents of the eastern section returned to the northern part of the reclamation area, where the clay-on-peat surface provided favourable conditions for farming. Artificial mounds were constructed on which to build the farmhouses. A *grangium* (grange) of the monastery of Aduard was also built there at this time (*Huis in 'r Veld* 2011). The parcellation changed as well; in much of the area, the elongated linear fields were replaced by irregularly shaped rectangular plots. Between the 15th and the 19th century, several farmsteads were abandoned, while others have remained in continuous use into the present. In 1830 the parish church was demolished and replaced by a new church building, 600 m to the south. Interestingly, the plot on which the church is situated extends along the full length of the reclamation area, from the watercourse in the north that formed the original reclamation axis down to the location of the present church.

The reclamation history of Roderwolde is very similar to that of the neighbouring Peizermaden area (*Van Doesburg – Müller – Schreurs* 2010; *Van Doesburg* 2011a), with one major exception. While Roderwolde is characterised by continuous settlement development culminating in the present village of the same name, the occupation history of the Peizermaden ended in the 14th century. Excavations in the Peizermaden area have revealed that in the High Middle Ages the exploitation of this peat area changed from permanent settlement, with a focus on dairy farming and some arable farming, to seasonal occupation with cattle herding, until the area was completely abandoned. Roderwolde and Peizermaden illustrate how settlement development can vary considerably even within a relatively small area.

Excavations

Several of the deserted settlement locations and former church sites have been excavated. In Wijnjeterp (Friesland Province), the former churchyard was excavated as well, yielding human bone and some early medieval finds (*De Langen* 1992, 85-88; 2011). In the immediate vicinity of the churchyard, 2 12th- and early-13th-century farmsteads

were excavated, each consisting of a farmhouse within a ditch system. Both farmhouses had been rebuilt once, one of them with a different orientation. In the 13th century the settlement was moved south to its present location. The excavated farmsteads were probably the successors of older farmsteads situated further north, near a river. The archaeological data indicate that the reclamations in this area began in the 10th century on coversand ridges along the river's south bank. A former churchyard has also been excavated in Scheemda (Groningen Province), revealing the remains of 2 brick-built churches, both 13th century (*Molema* 1990). The oldest of the 2 stood south of its successor, which was situated in the middle of a churchyard (c. 135 m x 105 m) surrounded by a brick wall and a moat. In 1509 the churchyard and settlement were both flooded. In 1515 a new church was built in the present village of Scheemda.

In Augustinusga, a site called *oud kerkhof*, north of the present village, was excavated (*Brinkkemper et al.* 2009), revealing a moated plot (36 m x 36 m) but no traces of either a church building or burials. Their absence was probably caused by the levelling, at a later period, of the artificial platform on top of which the churchyard had been laid out. Pottery from the moat indicated that the site was used from the late 11th to the early 13th century. In the immediate vicinity of the former churchyard, we also find the field names *Tjoeleplaets* and *Oud Hoff* ('old farmstead'), both suggesting the presence of abandoned farmsteads. The oldest reference to the *Tjoeleplaets* in written sources dates from 1570. In 1699 the farmstead was purchased by the Toiler family, who owned the *Tjoeleplaets* until it was demolished in 1905. Archaeological research showed the *Tjoeleplaets* to have been a 16th-century moated site, of which only an 8 m wide moat and a number of wells remained (*Brinkkemper et al.* 2009). The site *Oud Hoff* was not excavated, but its proximity to the moated site suggests a possible relation between the two. The *Oud Hoff* may have the predecessor of the *Tjoeleplaets*.

The village of Augustinusga seems to have moved to its present location on a sandy ridge in the 13th century.

In Assendelft (Noord-Holland Province), a section of a 10th-century village was excavated (*Besteman – Guiran* 1986, 1987; *Besteman* 1990). The settlement of Assendelft was originally situated at the edge of a raised bog. It comprised a number of farmhouses grouped around a timber-built church measuring 6 m x 12 m. Its longer sides were built with wooden planks while peat sods had been used for both short ends. The surrounding churchyard had a double ditch and its surface had been raised several times. The dead had been buried in wooden coffins. Based on the minimum number of 300 interments, during the (estimated) 2 centuries the cemetery was in use the minimum number of residents of the settlement was about 60. In the 12th century, the settlement shifted

to a zone 200 m west of the present village. Increased flooding was one of the reasons for the relocation. Dikes were built to protect the area and the new 12th- and 13th-century houses were built on artificial platforms. In the 13th century, the church was moved 1200 m eastwards within the same field to its present location, and the settlement clustered around it.

Raised house platforms were excavated in other places as well. Near Oosterboorn (Friesland Province), a raised house platform measuring 7 m x 17 m and containing the remains of a 10th- to 12th-century wooden farm building was found during a small-scale excavation (Kramer – Bekkema 1988; Bekkema 2009). In Kroesewier (Friesland Province) a section of a raised settlement was excavated (De Langen 1992, 113-124; 2011, 85). The settlement began in the 10th century and comprised a group of small *terps*, 1 of which was fully excavated. It had been built of peat sods and supported a similar sod-built farmhouse. In the course of the 10th century, the *terp* was expanded and a new farmhouse built at a 90° angle to its predecessor. In the late 10th or 11th century, the *terp* was raised once again and reused as a cemetery. No remains of a wooden church were found; presumably, later forms of land use had destroyed them. In the 11th or early 12th century, a tuff stone church was built. Finally, in the late 12th or early 13th century, the settlement was abandoned, probably due to a lack of even higher ground to which the settlement might be relocated. The church was abandoned as well. Raised house platforms are also known from Waterland, an area north of Amsterdam (Noord-Holland Province). Waterland was reclaimed from the second half of the 10th century onwards, and again we see settlement drift. In most cases the distance between primary and secondary settlements is no more than a few hundred metres (Bos 1988; 1990; De Bont 2014). In the late 13th century, some farms in secondary settlements were raised on platforms, but others were not. The house platforms partly sank into the soft peat soil and today can be recognised as slight bulges within an otherwise level and linear ditch system. A house plot near Poppendam was partly excavated. The platform itself was composed of peat sods (Bos 1986); the building on top of it had a hearth and a clay floor that had been renewed several times. The finds suggested a date for the house plot in the late 10th to 12th centuries. House platforms also seem to have been used in Purmerend, but most of them are poorly preserved (Soonius 1999). Usually, only the bottom section of the deepest features remains, such as ditches, pits, and wells. More raised house platforms have been encountered in the north of the province of Drenthe (Zomer 2016), in areas with clay-on-peat soils. Outside these areas, farmhouses were built directly on top of the peat (Van Doesburg, Müller – Schreurs 2010; Zomer 2010; 2016 Van Doesburg 2011a).

Reclamation models

Regional studies in the western and northern Netherlands have produced a number of peat reclamation models. These fall into two main groups: those centred on the organisation of the reclamations, and those that use the landscape as their starting point.

In 1965, historical geographer J. K. C. de Cock studied the reclamations in Kennemerland in the west of the Netherlands (De Cock 1965). Using written sources as well as an analysis of historical field systems, hydrological data, toponymy, and especially physical geographical data, he concluded that the reclamations in this area occurred as early as the mid-10th century

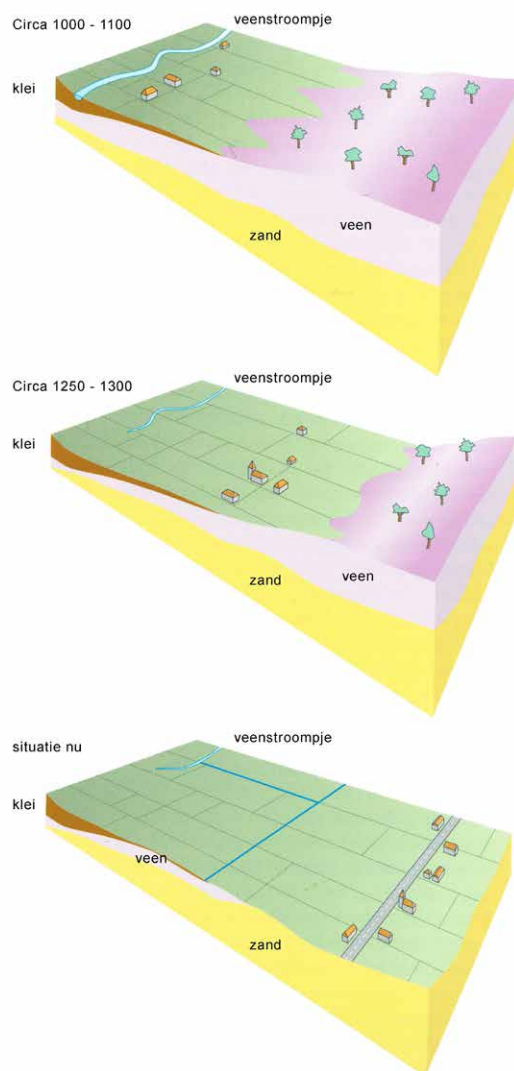


Fig. 7: Schematic representation of a peat ridge reclamation between c. AD 1000 and the present (Klei = clay, veen = peat, zand = sand, veenstroompje = marsh river) (© Otto Brinkkemper, Brinkkemper et al. 2009).

and were carried out by people who originally lived on the beach ridges. These reclaimers built settlements in the peat marshes along watercourses, from where they started their reclamation activities. They dug ditches at right angles to the watercourses, creating a feather-shaped and fan-shaped field system. De Cock's study illustrates the noticeable difference between the relatively early 10th-century reclamations, when central rule was absent, and the later 12th- and 13th-century reclamations, in which territorial rulers played an important role. He does not address in any detail the question as to who the organisers behind these early reclamations were, suggesting that they were a more or less spontaneous initiative by the residents of the beach ridges. In the 1980s, archaeologists J. C. Besteman and A. J. Guiran developed a reclamation model for Noord-Holland (*Besteman – Guiran 1986; Besteman – Guiran 1987; Besteman 1990*). There, in the Carolingian period, reclamations began on a modest scale along the margins of the peatland; the colonists came from settlements on higher grounds. From the late 10th to the 13th century, reclamations were carried out on a large scale and in a more systematic manner, again initiated from the higher grounds

that surrounded the fenlands. The process was set in motion by the digging of parallel ditches to drain the peat, after which colonists settled along canals and dikes, and villages with churches developed. Due to land subsidence the settlements were relocated once or repeatedly before ending up at their present location. Besteman and Guiran regard settlement drift as the norm as reclamations progressed.

For his PhD thesis, historical geographer C. de Bont developed a morphogenetic model for the reclamations in the western Netherlands (*De Bont 2008*; see also *De Bont 2014*, 50-59). He distinguished three reclamation types, based on their geomorphological focus: fen, peat dome, and peat ridge. Each of these landscapes had its own topographical characteristics and settlement history. Of the three reclamation types, peat ridge reclamations are the most common in the west and north of the Netherlands (Fig. 7).

Exactly how these reclamation types proceeded and how they differed between the landscape zones are questions still open to debate, but there is a general consensus that the model aptly describes the development of the systematic peat reclamations in the western Netherlands. However, the model is less suited to other areas. It does



Fig. 8: The medieval church and remnants of a motte-and-bailey castle at Marum on a high sandy ridge ca. 500 m north-west of the present village (© erfgoedfoto.nl/Jos Stöver).

not allow for a number of important factors, such as the relation between reclamations and the settlements on the surrounding older land; reclamations starting out from small Pleistocene elevations; deviations in the reclamation due to influences from the natural landscape; settlement relocation towards surfacing Pleistocene elevations; raised dwelling sites on *terps*; or marine influences.

The oldest model for the northern Netherlands is the 1970s so-called ‘coversand reclamation model’ by historical-geographer K. Bouwer (*Bouwer 1970; Bouwer 1971*). This model assumes that roads that followed the course of the coversand ridges provided the reclamation axes, with drainage ditches being dug on either side of the roads. Although most modern scholars now reject this model, T. Veldhuis nevertheless used it in her ‘refuge model’ (see below).

In 1992, archaeologist G. J. de Langen in his PhD thesis formulated two reclamation models for Friesland: the coastal floodplain reclamation model and the river reclamation model (*De Langen 1992*). The first represents the oldest reclamation phase, from the Iron Age through the Roman period until the Early Middle Ages, when inhabitants of the densely populated *terp* area ventured out into the adjacent peatlands and reclaimed its margins. Sections of these earliest peat reclamations were later inundated and covered by marine clay (*De Langen 2011*). In De Langen’s ‘river’ reclamation model, the peat area was colonised from the 11th century onwards from the ridges and levees along watercourses (*De Langen 1992*). In time, subsidence forced the inhabitants to venture deeper into the peat marshes and reclaim new land. The reclamations started along the lower sections and in the course of centuries moved further upstream until the entire basin was colonised. Both models have been widely accepted and seem to be applicable to most reclamations in the northern Netherlands (*Schoorl 1993; Baas – Ligtdag 1997; Ligtdag 1998; Slofstra 2008; Brinkkemper et al. 2009; Zomer 2010; 2016*).

The ‘refuge model’ was developed by T. Veldhuis in 2011 for the area of Vredewold in the northern Netherlands (*Veldhuis 2011, 5, 73 and 95-96*). It is a combination of the above-mentioned ‘coversand’ and ‘river’ reclamation models. The high coversand ridges along watercourses were the first to be occupied (Fig. 8). The settlements on these ridges functioned as a base of operations or a refuge from where the reclamation of the surrounding peat areas was conducted and new settlements were established. Furthermore, the parcellation on these sandy ridges provided a baseline for the reclamations, which featured elongated plots. According to this model, colonists could settle anywhere along a watercourse rather than just along its lower reaches. This model is applicable to areas where Pleistocene ridges are situated close to watercourses.

Discussion

Our discussion has shown that the large-scale reclamations carried out in the Netherlands during the High Middle Ages resulted in different regional occupation patterns and settlement dynamics, especially in areas where reclamations were not of the *cope* type. It is there that we observe many instances of settlements being moved once or several times. In a number of areas, this process resulted in isolated medieval churches, churchyards, and farmsteads that are situated at some distance from the present village. In some cases, settlements were completely abandoned or were swallowed by the sea or by a lake.

Most cases of settlement drift are regarded as having been stimulated by subsidence caused by the soil compaction that followed upon drainage of the peat soils for agricultural use (*Besteman 1990, 111-113; Slofstra 2008; De Langen 2011, 87-90; Zomer 2016, 267-274*). Subsidence caused major water-management issues. It frequently led to fluvial or—near the coast—marine flooding. In several areas, large swathes of land were lost as a result. Particularly in parts of the western and northern Netherlands large lakes were formed, some of which later expanded due to peat-digging activities. From the 17th century onwards, several of these lakes were drained and turned into polders. Elsewhere, clay was deposited on top of the peat. Here, *terps* were raised, on top of which individual farmhouses and churches were built. In all reclamation areas, dikes were constructed, canals dug, and other measures relating to water management taken in order to protect settlements and individual farmsteads from the effects of rising groundwater levels.

Several authors view settlement drift not only as a response to subsidence and rising groundwater levels, but also as a manifestation of the farmers’ preference for living close to their arable fields (*Molema 1991/1992, 317; Besteman 1990, 111-112*). When, in the course of the continuous reclamation process, the distance between settlement and arable fields became too great, farms were moved, sometimes repeatedly. However, subsidence and rising groundwater levels do not explain why in some areas reclamation settlements were partly or completely relocated, while in others they have remained at their original location.

Some researchers therefore reject the explanation that subsidence and rising groundwater levels alone were responsible for settlement drift. With regard to Waterland, J. M. Bos concludes that in this case settlement drift can be linked to economic changes rather than subsidence (*Bos 1988; 1990, 127-130*). He places the relocation of villages in the context of the growing significance of traffic routes, which made it less important to live close to one’s fields. Between the second half of the 13th and the 14th century, a substantial portion of the population of Waterland shifted from farming to fishing and seaborne

trade, a change linked to the emergence of towns and the incorporation of the area into the territory of the counts of Holland. The 14th century was a period of economic depression, but in the 15th and 16th, Waterland flourished. A second economic reorientation followed in the late 16th and 17th centuries. This time, the focus shifted from seaborne trade and fishing to dairy farming, catering to the markets of nearby Amsterdam. This second economic change went hand in hand with a structural change in some of the Waterland villages. Their elongated linear layout was abandoned in favour of a nucleated one centred on a church. For a number of Noord-Holland settlements, the 17th century was a prosperous period for non-agrarian activities, as villages thrived by provisioning ships for the Dutch East India Company (VOC), whalers, and whale-oil factories. Settlement developments in Waterland differ from those in surrounding areas, and Bos may therefore have a point (see reaction in *De Bont 2014*, 132-143). It teaches us not to look only at changes in the landscape, but to take other factors into account as well.

Conclusion

This raises the question as to why there were such profound differences in settlement development between areas with *cope* reclamations and those where reclamations proceeded in other ways. We cannot answer that question yet. What we do know is that subsidence and the resulting waterlogged conditions cannot have been the main factors, as they also occurred in areas with *cope* reclamations. A factor that may have played a role is that *cope* reclamations were strictly organised. *Locatores* worked on the basis of *cope* contracts they had entered into with the owners of the wilderness, usually a territorial ruler or a religious institution that had received a portion of the wilderness from the hands of such a ruler. Peatland was divided into rectangular reclamation blocks of fixed dimensions and bordering on other reclamation blocks. When hydrological conditions within these blocks deteriorated, it was not possible to extend the reclamations into yet-uncultivated peatland and settle there, since each block was surrounded by other reclamations. Problems relating to rising groundwater levels were not solved by building on top of artificial dwelling platforms, but by investing in a water-management infrastructure, e.g. dikes, sluices, and canals. This was a much more complex and expensive solution, compared to relocating the settlement elsewhere, and it required communities with a certain level of organisation. The fact that these reclamations were already carefully organised may have played an important role.

Little is known about the organisation of reclamations that did not proceed on the basis of *cope* contracts. In some areas, they appear to have been initiated by local farmers (*De Cock 1965*; *De Langen 1992*; Reaction *Slofstra*

2008, 224); in others, by local secular or ecclesiastical elites (*Bos 1988*, 25-28; *Besteman 1990*, 117; *Slofstra 2008*, 224-225; *Zomer 2016*, 268-270). Alternatively, territorial rulers could be involved (*Besteman 1990*, 116-117; *Slofstra 2008*, 227). Some of the early large peat reclamations in the northern Netherlands seem to have been organised within a manorial context (*Mol 2012*). The prevailing view that small-scale reclamations of the manorial type were replaced fairly quickly around AD 1050 by large-scale enterprises involving a large number of free settlers is not universally correct. There are instances of intermediate forms, e.g. large reclamations carried out in a manorial setting, illustrating the highly diverse nature of the organisation of reclamations in the northern and western Netherlands.

Future research should therefore focus not only on the reclamation process and settlement dynamics in these areas, but also address the question of who organised them and was involved in them, and which socio-economic and political-institutional factors contributed to settlement drift and, sometimes, complete abandonment.

References

- Baas, H. I. – Ligtendag W. 1997:*
 Middeleeuwse veenontginningen in het Zvettegebied, *Historisch Geografisch Tijdschrift* 15:2, 41-50.
- Bakker, G. 2002:*
 Echten en Oosterzee. Bijna duizend jaar maaiveldverlaging, *It Beaken* 64:2, 129-160.
- Bekkema, K. J. 2009:*
 Een veenterp bij Oosterboorn, in: Huisman, K. – Bekkema, K. – Bos, J. – Jong, H. de – Kramer, E. – Salverda, R. (eds), *25 jaar Argeologisch Werkferbân: archeologisch onderzoek in Fryslân*. Leeuwarden, 195-199.
- Besteman, J. C. – Guiran, A. J. 1986:*
 De middeleeuwse bewoningsgeschiedenis van Noord-Holland boven het IJ en de ontginning van de veengebieden. *Opgavingen in Assendelft in perspectief*. Rotterdam Papers V. Rotterdam, 183-212.
- Besteman, J. C. – Guiran, A. J. 1987:*
 An early peat bog reclamation in medieval Kennemerland, in: Brandt, R. W. – Groenman-Van Waateringe, W. – Van der Leeuw, S. E. (eds), *Assendelver Polder Papers I*. Cingula 10. Amsterdam, 183-212.
- Besteman, J. C. 1990:*
 North Holland AD 400-1200; turning tide or tide turned? in: Besteman, J. C. – Bos, J. M. – Heidinga, H. A. (eds), *Medieval archaeology in the Netherlands. Studies presented to H. H. van Regteren Altena*. Assen/Maastricht, 91-120.

- Berkel, G. van – Samplonius, K. 2006:*
Nederlandse plaatsnamen. Herkomst en historie. Het Spectrum. Utrecht (derde druk).
- Borger, G. J. 1975:*
De Veenhoop. Een historisch-geografisch onderzoek naar het verdwijnen van het veendek in een deel van West-Friesland. Amsterdam.
- Borger, G. J. 1992:*
Draining-digging-dredging; The creation of a new landscape in the peat areas of the low countries, in: Verhoeven, J. T. A. (ed.), Fens and bogs in the Netherlands; Vegetation, history, nutrient dynamics and conservation. Dordrecht, 131-171.
- Bos, J. M. 1986:*
Amsterdam: Poppendam, Holland 18, 294-295.
- Bos, J. M. 1988:*
Landinrichting en archeologie: het bodemarchief van Waterland. Nederlandse Archeologische Rapporten 6. Amersfoort.
- Bos, J. M. 1990:*
The bog area of North Holland after AD 1000: Crises and opportunities, in: Besteman, J. C. – Bos, J. M. – Heidinga, H. A. (eds), Medieval archaeology in the Netherlands. Studies presented to H. H. van Regteren Altena. Assen/Maastricht, 121-132.
- Bouwer, K. 1970:*
Cultuurlandschappen aan de westzijde van het Drents Plateau. PhD thesis, University Groningen. Groningen.
- Bouwer, K. 1971:*
Nederzettingvormen aan de westzijde van het Drents Plateau. Groningen.
- Brandt, R. W. – Groenman-van Waateringe, W. – Van der Leeuw, S. E. (eds) 1987:*
Assendelver polder papers 1. Cingula 10. Amsterdam.
- Brinkkemper, O. – Brongers, M. – Jager, S. – Spek, T. – Van der Vaart, J. – Ijzerman, Y. 2009:*
De Mieden. Een landschap in de Noordelijke Friese Wouden. Utrecht.
- Buitelaar, A. L. P. 1993:*
De Stichtse ministerialiteit en de ontginningen in de Utrechtse Vechtstreek. Hilversum.
- Büntgen, U – Tegel, W. – Nicolussi, K. – McCormick, M. – Frank, D. – Trouet, V. – Kaplan, J. O. – Herzig, F. – Heussner, K.-U. – Wanner, H. – Luterbacher, J. – Esper, J. 2011:*
2500 years of European climate variability and human susceptibility, Science 331, 578-582.
- De Bont, C. 2008:*
Vergeeten land. PhD thesis, University Wageningen. Wageningen.
- De Bont, C. 2014:*
Amsterdamse boeren. Een historische geografie van het gebied tussen de duinen en het Gooi in de middeleeuwen. Hilversum.
- De Cock, J. C. 1965:*
Bijdrage tot de historische geografie van Kennemerland in de Middeleeuwen op fysisch-geografische grondslag. Groningen.
- De Cock, J. C. 1984:*
De veenontginningen rond Sneek en IJlst, It Beaken 46, 139-149.
- Dekker, C. 1983:*
Het Kromme Rijngebied in de middeleeuwen, De Walburg pers. Stichtse historische reeks 9. Zutphen.
- De Langen, G. J. 1992:*
Middeleeuws Friesland. De economische ontwikkeling van het gewest Oostergo in de vroege en volle Middeleeuwen, Wolters Noordhoff/Forsten. PhD thesis, Rijksuniversiteit Groningen. Groningen.
- De Langen, G. J. 2011:*
De gang naar een ander landschap. De ontginningen van de (klei-op)veen-gebieden in Fryslân gedurende de late ijzertijd, Romeinse tijd en middeleeuwen (van ca. 200 v. Chr. tot ca. 1200 n. Chr), in: Niekus, M. J. L. Th. – Van der Zee, S. – Looijenga, T. – Kiestra, F. (eds), Gevormd en ongevormd landschap van Prehistorie tot Middeleeuwen. Assen, 70-97.
- De Langen, G. J. – Nicolay, J. A. W. – Schepers, M. – Nieuwhof, A. – Postma, D. – Bakker, M. – Varwijk, T. W. – Prummel, W. – Aalbersberg, G. – Vos, P. C. 2016:*
Het terpen landschap als actueel onderzoeksthema, Het Nederlands landschap 34:1, 50-58.
- Gałka, M. – Miotk-Szpiganowicz, G. – Goslar, T. – Jęsko, M. – van der Knaap, W. O. – Lamentowicz, M. 2013:*
Palaeogeography, Palaeoclimatology, Palaeoecology 370, 209-221.
- Groenewoudt, B. – van Doesburg, J. – Renes, H. 2015:*
Land of the free. Social contrasts in the Dutch 'outlands' (A.D. 1200-1900), Landscape History 35:2, 35-48.
- Hallewas, D. P. 1984:*
The interaction between man and his physical environment in the county of Holland between circa 1000 and 1300 AD: A dynamical relationship, Geologie en Mijnbouw 63, 299-307.
- Hielkema, J. 2015:*
Plangebied uitbreiding begraafplaats Marum, gemeente Marum; archeologisch vooronderzoek: een inventariserend veldonderzoek (proefsleuven). RAAP-rapport 2683. Weesp.
- Huis in 't Veld, J. Y. 2011:*
Het Hoogeheem, een Drents kloostervoorwerk in Groningen. Een opgraving van een podium uit de late middeleeuwen bij Hoogkerk, Gemeente Groningen. Stadse Fratsen 28. Groningen.
- Klápště, J. – Sommer, P. (eds) 2009:*
Medieval rural settlement in marginal landscapes. Ruralia VII. Turnhout.

- Knol, E. 1993:*
De noordnederlandse kustlanden in de Vroege Middeleeuwen. Groningen.
- Knottnerus, O. S. 2008:*
Natte voeten, vette klei: oostelijk Fivelgo en het water. *Bedum*.
- Knottnerus, O. S. 2013:*
Reclamations and submerged lands in the Ems River Estuary (900-1500), in: Thoen, E. – Borger, G. J. – De Kraker, A. M. J. – Zoens, T. – Tys, D. – Vervaet, L. – Weerts, H. J. T. (eds), *Landscapes of seascapes? The history of the coastal environment in the North Sea reconsidered*. Turnhout, 241-266.
- Kramer, E. – Bekkema, Kl. J. 1988:*
Undersyk nie in feanterp by Easterboarn, *It Beaken* 50, 37-52.
- Ligtendag, W. A. 1998:*
De Wolden en het water. De landschaps en waterstaatsontwikkeling in het lage land ten oosten van de stad Groningen vanaf de volle middeleeuwen tot ca. 1870. Groningen.
- Mol, J. A. 2012:*
De middeleeuwse veenontginningen in Noordwest-Overijssel en Zuid-Friesland: datering en fasering, *Jaarboek voor Middeleeuwse Geschiedenis* 14, 46-90.
- Molema, J. 1990:*
De opgravingen op het kerkhof van het verdrongen dorp Scheemda, *Palaeohistoria* 32, 247-270.
- Molema, J. 1991/1992:*
Van de Mieden, Egeste en Broke; de middeleeuwse nederzettingsgeschiedenis van het zuidwestelijke Wold-Oltambt in kort bestek, *Palaeohistoria* 33/34, 311-320.
- Noomen, P.N. 2003:*
St. Gandolfus in de IJzermieden: een 'Wüstung' in Achtkarspelen, *It Beaken* 55:1, 32-40.
- Post, J. 2009:*
Het oud kerkhof op de Loeksterhoek, in: Huisman, K. – Bekkema, K. – Bos, J. – Jong, H. de – Kramer, E. – Salverda, R. (eds), *25 jaar Argeologisch Werkferbân: archeologisch onderzoek in Fryslân*. Leeuwarden, 200-205.
- Proctor, C. J. – Baker, A. – Barnes W. L. 2002:*
A three thousand year record of North Atlantic climate, *Climate Dynamics* 19, 449-454.
- Reeskamp, A. S. 2013:*
De Weerribben aan het eind van de vroege Middeleeuwen (800-1000 AD): het natuurlijke landschap en zijn weerslag op de ontginning. MA thesis, Rijksuniversiteit Groningen. Groningen.
- Renes, H. 1994:*
Wüstungsprozesse in den Niederlanden zwischen 1000 und 1800, *Siedlungsforschung, Archäologie-Geschichte-Geographie* 12, 201-233.
- Renes, H. 2017:*
Kernen in de cope. Planmatige dorpscentra in middeleeuwse systematische veenontginningen, *Tijdschrift voor Historische Geografie*, 2:2, 97-107.
- Rentenaar, R. 1984:*
Vernoemingsnamen. Een onderzoek naar de rol van de vernoeming in de Nederlandse toponymie. Amsterdam.
- Schoorl, F. J. J. 1993:*
Het zuidelijke Westerkwartier opnieuw bezien. Een historisch-geografisch onderzoek naar de middeleeuwse bewoningsgeschiedenis. Wageningen.
- Sier, M. M. – Dinter, M. van – Blom, E. – Wiepking, C. G. – Rijn, P. van – Kars, E. A. K. – Hänninen, K. – Oversteegen, J. F. S. 2001:*
Een opgraving in het veen: bewoningssporen uit de Romeinse tijd: gemeente Borsele, provincie Zeeland. ADC-rapport 76. Bunschoten.
- Slofstra, J. 2008:*
De kolonisatie van de Friese veengebieden ca. 900-1200, in: Huisman, K. – Bekkema, K. – Bos, J. – Jong, H. de – Kramer, E. – Salverda, R. (eds), *25 jaar Argeologisch Werkferbân: archeologisch onderzoek in Fryslân*. Leeuwarden, 206-230.
- Soonius C. M. 1999:*
Plangebied Weldevenne Gemeente Purmerend Een aanvullende archeologische kartering en waardering (AAI). RAAP-rapport 444. Amsterdam.
- Timmerman, L. 2017:*
Middeleeuwse agrarische veenontginningen in de Vier Noorder Koggen. MA thesis, Rijksuniversiteit Groningen Groningen.
- Thoen, H. – Soens, T. 2015:*
The Low Countries, in: Thoen, H. – Soens, T. (eds), *Rural economy and society in North-western Europe, 500-2000. Struggling with the environment: Land use and productivity*. Turnhout, 221-260.
- Veldhuis, T. 2011:*
Nederzettingen- en ontginningsgeschiedenis van Vredewold in het Westerkwartier van de provincie Groningen (ca 700-ca 1500 AD). MA thesis, Rijksuniversiteit Groningen. Groningen.
- Van Doesburg, J. – Müller, A. – Schreurs, J. 2010:*
Land van melk en honing? Waardstellend archeologisch onderzoek (februari-juli 2006) naar Middeleeuwse veenterpen in de Peizer en Eeldermeden (gem. Noordenveld) in het kader van inrichting en beheer van het archeologische monument Peizermeden. Rapportage Archeologische Monumentenzorg 178. Amersfoort.
- Van Doesburg, J. 2011a:*
Land van 'melk en honing'. Gedachten over de bewonings- en gebruiksgeschiedenis van de Eelder en Peizermeden in de Middeleeuwen, *Nieuwe Drentse Volksalmanak* 128, 125-144.

- Van Doesburg, J. 2011b:*
Medieval castles in the Dutch central River Area: towers of power? *Concilium Medii Aevi* 14, 63-78.
- Van Doesburg, J. – Groenewoudt, B. 2011:*
Medieval reclamations and land use in the Netherlands, in: Carver, M. – Klápště, J. (eds), *The archaeology of medieval Europe*, vol. 2. Twelfth to sixteenth century. Aarhus, 73-77.
- Van Doesburg, J. – Veldhuis, T. – Stöver J. 2012:*
Het geheim van de bult van Marum, *Stad en Lande* 21:3, 4-10.
- Van Doesburg, J. in prep.:*
Torenhoge ambitie. Ontginning, elitevorming en kastelenbouw in het Kromme Rijngebied in de middeleeuwen. Amersfoort.
- Van der Linden, H. 1956:*
De cope. Bijdragen tot de rechtsgeschiedenis van de openlegging der Hollands-Utrechtse laagvlakte. Assen.
- Van der Linden, H. 1982:*
Het platteland in het noordwesten met de nadruk op de occupatie ca. 1000-13000, *Algemene Geschiedenis der Nederlanden II*. Bussum, 48-82.
- Verhulst, A. 1977:*
Occupatiegeschiedenis en landbouweconomie in het Zuiden circa 1000-1300, *Nieuwe Algemene Geschiedenis der Nederlanden II*. Haarlem, 83-104.
- Verhulst, A. 1980:*
Le paysage rural en Flandre intérieure: son évolution entre le IXe et le XIIIe siècle, *Revue du Nord* 62, 11-30.
- Vervloet, J. A. J. 1998:*
Landsheerlijke venen. het cope-ontginningslandschap, *Historisch-Geografisch Tijdschrift* 16:3, 150-163.
- Vos, P. C. – De Vries, S. 2013:*
2^e generatie palaeogeografische kaarten van Nederland (versie 2.0). Utrecht.
- Therkorn, L. L. – Besselsen, E. A. – Oversteegen, J. F. S. 1998:*
Assendelver Polders revisited: excavations 1997. AAC-publicatie 36. Amsterdam.
- Vermue, A. F. 2012:*
Noordbroek. Een interdisciplinair onderzoek naar de vorming en ingebruikname van de kleilanden in de 15^e en 16^e eeuw. MA thesis, Rijksuniversiteit Groningen. Groningen.
- Wassermann, E. 1985:*
Aufstreckensiedlungen in Ostfriesland: ein Beitrag zur Erforschung der mittelalterlichen Moorkolonisation. Aurich.
- Wassermann, E. 1989:*
Opstreknedertzettingen in Oost-Friesland, *Historisch Geografisch Tijdschrift* 7, 18-27.
- Worst, D. 2012:*
Agrarische veenontginningen in oostelijk Opsterland (900-1700 AD). Een interdisciplinair onderzoek naar de natuurlijke landschapsopbouw, de nederzettingen en ontginningsgeschiedenis en het agrarische landgebruik langs de boven en middenloop van het Koningsdiep. MA-thesis, Rijksuniversiteit Groningen. Elsloo.
- Zomer, J. 2010:*
Landschapsgeschiedenis van Roderwolde. Een interdisciplinair onderzoek naar de natuurlijke landschapsgenese van een woldgebied in de Kop van Drenthe en de kolonisatie en ontginning in de Middeleeuwen en Nieuwe Tijd. MA thesis, Rijksuniversiteit Groningen Groningen.
- Zomer, J. 2016:*
Middeleeuwse veenontginningen in het getijdebekken van de Hunze. Een interdisciplinair landschapshistorisch onderzoek naar de paleogeografie, ontginning en waterhuishouding (ca 800-ca 1500). PhD thesis, Rijksuniversiteit Groningen. Groningen.

Mendicant friaries and the changing landscapes of late medieval Ireland

The foundations of the Augustinian friars in counties Mayo and Sligo

*Anne-Julie Lafaye**

Abstract

Recent research on mendicant settlements has underlined their crucial place in the landscapes of medieval Ireland, both urban and rural. The establishment of friaries in existing towns, newly founded boroughs, or rural environments throughout the medieval period was the product of both the friars' and their orders' identity and role as mendicants, and of their benefactors' own spiritual, economic, and political strategies with regards to territorial and social control, in a colonial context. But, as often with the study of mendicant settlements, the focus has stayed mostly on Franciscan and Dominican foundations, as they left most of the material remains scattered throughout the country's modern landscape. This paper proposes to shift the focus onto a group of 14th- and 15th-century foundations by the Augustinian friars, located in the western counties of Mayo and Sligo. It looks at the landscape context of the foundations and explores the part they may have played in the evolution of the political geography and of the largely rural landscapes of the region from the 14th to the 16th century.

Keywords: *Rural settlement, medieval Ireland, Gaelic Ireland, medieval archaeology, landscape archaeology, Mendicant orders, Augustinian friars, Mendicant friaries.*

Résumé

Les ordres mendiants et les paysages en mutation en Irlande à la fin du moyen-âge: les fondations des moines augustins dans les comtés de Mayo et Sligo

Des recherches menées ces dernières années sur l'implantation des ordres mendiants en Irlande a souligné la place cruciale qu'ils ont occupée dans les paysages de l'Irlande médiévale, en milieu urbain comme en milieu rural. L'établissement de couvents dans des villes existantes, des bourgs neufs et en milieu rural tout au long de la période médiévale fut à la fois le résultat de l'identité mendiante des frères, et des stratégies spirituelles, économiques et politiques de leurs bienfaiteurs dans une perspective de contrôle territorial et social, dans un contexte colonial. Mais comme souvent lorsqu'il s'agit d'études sur les ordres mendiants, les recherches se

* School of History, UCC
2 Perrott Avenue,
Cork, Co. Cork
Ireland
annejulie.lafaye@gmail.com

sont concentrées surtout sur les couvents franciscains et dominicains, lesquels ont laissés la majorité des vestiges architecturaux dispersés dans le paysage irlandais actuel. Cette contribution propose de diriger l'attention sur un groupe de couvents établis par l'ordre des ermites de Saint Augustin aux XIVe et XV siècles, dans les comtés occidentaux de Mayo et Sligo. Y sont explorés l'implantation et l'environnement des couvents, ainsi que le rôle qu'ils ont pu jouer dans l'évolution de la géographie politique et des paysages largement ruraux de la région, du XIV au XVIe siècle.

Mots clés: *Habitat rural, Irlande médiévale, Irlande gaélique, Archéologie médiévale, Archéologie du paysage, Ordres mendiants, Frères Augustins, Couvents des ordres mendiants.*

Zusammenfassung

Bettelorden und sich wandelnde Landschaften im spätmittelalterlichen Irland: Die Fundamente der Augustinerklöster in den Grafschaften Mayo und Sligo
Jüngste Forschungen zu Bettelorden haben ihre bedeutende Rolle in der Landschaft des mittelalterlichen Irlands, sowohl im städtischen als auch im ländlichen

Mendicant friaries and the landscapes of medieval Ireland

A remarkably high number of communities were established by the four main mendicant orders in medieval Ireland. The Franciscan, Dominican, Carmelite, and Augustinian friars established 147 friaries between the 1220s and the Dissolution, in the 1540s (*Gwynn and Hadcock 1970; Ó Clabaigh 2012*). The so-called mendicant orders appeared in the first decades of the 13th century in France and Italy. They were friars, not monks, and did not live cloistered lives of prayer and contemplation, but were itinerant preachers who tended to the spiritual needs of the laity (*Lawrence 1994*). They preached in and outside their churches, leading a life of poverty and begging for their sustenance. For these reasons, they chose to live mainly in towns, where larger populations could support their voluntary poverty through donations and where they could cater to the spiritual needs of more intellectually demanding urban populations (*Lawrence 1994, 3; Bruzelius 2014*).

Even more remarkable than the number of their foundations in Ireland is that of the physical remains of mendicant friaries across the country, in comparison to other European regions. In Ireland, the limited medieval and post-medieval urbanisation has meant that friaries built on the edges of settlements have survived,

unterstrichen. Die Gründung von Klöstern in bestehenden Städten, neu gegründeten Siedlungen oder ländlichen Gegenden im Laufe des Mittelalters war das Ergebnis sowohl der Identität als Ordensbrüder und der ihrer Orden bzw. ihrer Rolle als Angehörige des Bettelordens, als auch der eigenen spirituellen, wirtschaftlichen und politischen Strategien ihrer Wohltäter bezüglich territorialer und sozialer Kontrolle im kolonialen Kontext. Bislang lag der Fokus von Untersuchungen von Bettelordensansiedlungen vor allem auf franziskanischen und dominikanischen Stiftungen, da sie die meisten materiellen Überreste in modernen Irland hinterließen. In diesem Beitrag steht eine Gruppe von Augustinerstiften aus dem 14. und 15. Jahrhundert im Mittelpunkt, die in den westlichen Grafschaften Mayo und Sligo liegen. Untersucht wird der landschaftliche Kontext der Stiftungen und welche Rolle sie möglicherweise in der Entwicklung der politischen Geografie und der weitgehend ländlichen Umgebung in dieser Region vom 14. bis 16. Jahrhundert gespielt haben.

Schlagwörter: *ländlicher Lebensraum, Mittelalterliches gälisches Irland, Landschaftsarchäologie, Bettelorden, Augustinerklöster.*

sometimes quite extensively, as have many friaries established in seemingly very rural environments, especially in the western half of the country (Fig. 1). In their research to date, the author has explored the role and impact of Franciscan and Dominican friaries in the changing landscapes of medieval Ireland and found that they were part of Anglo-Norman and Irish lords' strategies of settlement development and of territorial and social control (*Lafaye 2015; 2016; 2018a; 2018b; 2018c*). As part of a new IRC post-doctoral Fellowship, it was decided to shift the focus onto the corpus of remains of the Augustinian friars, who arrived in Ireland in the later decades of the 13th century. They were particularly successful in Connacht, establishing 7 foundations in Cos Mayo and Sligo in the 14th and 15th centuries: Ardnaree, Ballinrobe, Ballyhaunis, Burriscarra, and Murrisk in Co. Mayo; and Banada and Scurmure in Co. Sligo. They also settled in Dunmore, Co. Galway, just a few kilometres south of the border with Mayo. Nevertheless, the Augustinian friars have been somehow neglected by scholars, in comparison to the Franciscans and Dominicans. They have also been traditionally associated with a second phase of mendicant foundations, taking place in what has been interpreted as a more rural or remote environment, supported by Gaelic patronage and influenced by the



Fig. 1: Ross Errilly Franciscan friary, Co. Galway, one of many mendicant friaries the extensive remains of which survive in the west of Ireland (© The Discovery Programme).

reform of the Observance, while earlier foundations were linked to the urban landscapes of the Anglo-Norman colony and the patronage of the new settlers (McDermott 2007; Ó Clabaigh 2012, 53-86).

The 14th and 15th centuries were a period of transition and change in Ireland, with the relative collapse of the Anglo-Norman and the growth and consolidation of a number of Gaelic and Gaelicised lordships (Nicholls 1972; Duffy – Edwards – Fitzpatrick 2001). The 15th century also marked a return to economic growth and construction after a calamitous 14th century. This was synonymous with renewed religious patronage, in particular towards the mendicant orders. The aim of this paper is to explore the part played by Augustinian friaries in the transition from Anglo-Norman colonisation to Gaelic and Gaelicised lordships in Connacht from the 14th to the 16th century.

Research questions and methodology

To do so, there are a number of questions that need to be answered: What was the position of friaries in relation to the surrounding landscapes, and can any patterns be identified? Did they play a part in the political

and territorial strategies of the lords involved in their patronage? To what extent were the friars themselves involved in establishing new communities? What impact or legacy, if any, did the foundations have on settlement expansion and organisation in Mayo and Sligo? To address these questions, a multidisciplinary methodology was adopted. It combined historical research with a desk-based archaeological and topographical study of the landscape and settlement of Cos Mayo and Sligo from the 13th to the 16th century. The database of the Archaeological Survey of Ireland (ASI), available online, was used to search for all sites of mottes, castles, moated sites, and tower houses across the two counties, which were used as a measure of the organisation and evolution of the settlement. Admittedly, this is not without its limitations, but is telling regarding areas of concentration of population and activity from the arrival of the Anglo-Normans in the region to the 16th century. In parallel, primary and secondary sources relating to the political geography and territorial divisions of the region and their evolution were explored in order to establish the context of the foundations (Knox 1902a; 1902b; 1903a; 1903b; 1903c; Simington 1956; MacCotter 2008). The sources relating to the foundation of each friary were used to explore

the conditions of their establishment and construction (calendars of papal registers, in *Bliss – Twemlow 2004; Twemlow 1909; 1912; 1915; 1933; Augustinian Archives 1956; Martin 1956*).

Four Augustinian foundations in Mayo and Sligo

In the scope of this short paper it was decided to focus on 4 case studies, out of the 7 Augustinian foundations in Mayo and Sligo. They are Ballinrobe (Fig. 2), Burriscarra (Fig. 3), Ardnaree, and Banada. Both Ballinrobe and Burriscarra are located in what was the MacWilliam Burke lordship. Ballinrobe was founded before 1337, the first house of the order to be established in Connacht (*Coleman 1912, 217; Martin 1956, 361-362*). It benefitted from the patronage of the powerful De Clare and Burke families, as well as from papal grants of indulgences in 1400 and 1431 (*Bliss – Twemlow 1904, 270; Twemlow 1909, 340-341*). Ballinrobe had begun as an Anglo-Norman settlement in the 13th century, and it prospered and developed as a town (*Knox 1902b, 402-403; Simington 1956, 24*). It is located in the barony of Kilmaine, which represents the area of most intense occupation in Mayo (Fig. 4). Burriscarra friary was originally founded as a Carmelite friary by the Anglo-Norman Staunton family in 1298 (though there is no contemporary record confirming this date, which is suggested in *Knox 1908, 95*) and its site was then associated to a borough, a parish church, and the Staunton castle of Castlecarra (*Knox 1902b, 404-405; ‘Church de Nova Villa de Kera, for the rector’, in Sweetman – Handcock 1886, 232; Blake 1910, 238*). However, unlike Ballinrobe, Burriscarra did not thrive as a settlement and both the borough and the friary were apparently abandoned in the late 14th century. The friary was then refounded as Augustinian in 1413, when friars led by one Matthew O’Maan settled in the former Carmelite house under the patronage of two Staunton descendants (*Bliss – Twemlow 1904, 387*). The Stauntons had become tenants of the MacWilliam Burkes, and at some point adopted the name of MacEvilly (*Knox 1908, 287*).

Ardnaree, located at the mouth of the River Moy near Killala Bay, was established before 1400 under the patronage of the O’Dowda family (‘Murtough, the son of Donough O’Dowda, ... died, and was interred at Ardnaree’, in *O’Donovan 1848-51, 775; Martin 1956, 360-361*), lords of Tireragh. Tireragh also gives its name to the modern barony, now part of Co. Sligo (*MacCotter 2008, 149-150*). Unlike Kilmaine, Tireragh never experienced any large-scale Anglo-Norman colonisation. It was granted to the Berminghams,

who attempted to hold it with garrisons, but for the most part it was left to the O’Dowdas as tenants (*Knox 1903a, 65-66*). Donnell O’Dowda (d. 1380) captured Ardnaree castle in 1371 (*O’Donovan 1848-51, 655*), and he was possibly involved in the foundation of the friary. A papal indulgence was granted in 1411 to the benefit of the community after the collapse of parts of the friary; the reconstruction was possibly funded in part by Tadhg Riabhach O’Dowda between 1417 and 1427, as he is identified as founder in De Burgo’s *Hibernia Dominicana* and Mervyn Archdall’s *Monasticon Hibernicum* (*O’Donovan 1844, 359*). Eventually, the town of Ballina developed across the river from the friary. It was officially established as a town in 1723, and Ardnaree was integrated as a suburban area of Ballina. The O’Dowdas were also involved in establishing Scurmore friary, located a few kilometres to the north of Ardnaree, granting the site to 2 friars (presumably from Ardnaree) to establish a new community (*Twemlow 1915, 677*).

Finally, in 1423 the friary of Banada was also established by a friar, on land given by Donough O’Hara, lord of Leyny (*Herrera 1644, 125; Martin 1956, 365-366*). It was built on the site of a Fitzgerald castle that had been destroyed in 1265 (*Knox 1903a, 71*). As was the case in Tireragh, no significant Anglo-Norman colonisation took place in Leyny. The O’Haras remained in possession throughout the period, under the Fitzgerald and then the Burke overlordships (*Knox 1903a, 71-72*). The friary was established as the first Observant Augustinian foundation in Ireland (*Augustinian Archives 1956, 81*). In 1439, Donough resigned the lordship and joined the community as a friar (*O’Donovan 1848-51, 917*). The patronage of the O’Haras was supplemented by the benefactions encouraged by papal grants of indulgences in 1444 and in 1460 for the construction of various sections of the friary, including the cloister and the belfry tower (*Twemlow 1912, 455; 1933, 103*). These appeals were relatively successful, judging from 18th-century drawings that record the ground plan and elevations of the church and domestic buildings as they still existed then, including a tall belfry tower. Only very small fragments now remain. Another particularly revealing document is preserved in the papal registers. It reports that in 1460, months before the second indulgence was granted to help complete the friary buildings and because the friars were lacking basic necessities such as food, a friar complained that most of the community members were O’Haras, and appropriating the community resources for their own use (*Twemlow 1933, 88*). These accusations cast some doubt over whether the claim of poverty and lack of resources in the grant of indulgence was genuine, and about an actual return to a stricter observance of the rules of poverty and mendicancy in this first Observant foundation.

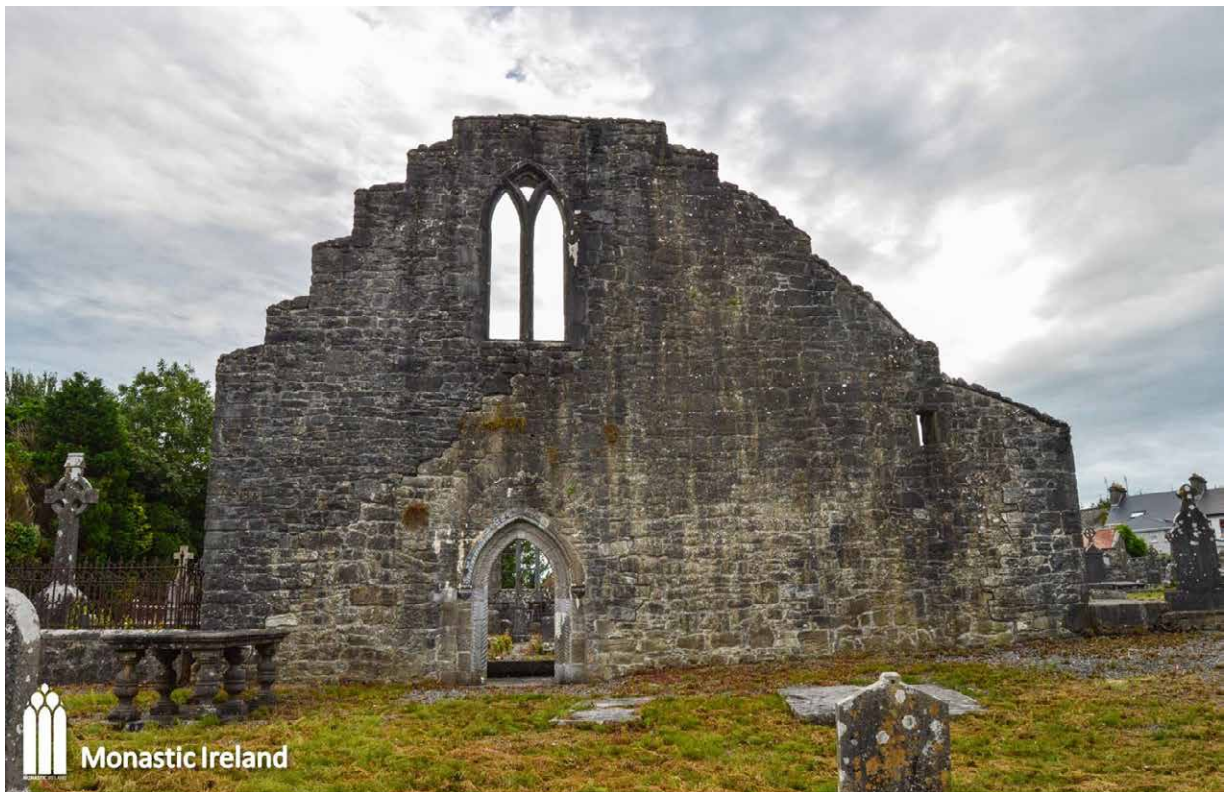


Fig. 2: Remains of Ballinrobe Augustinian friary (© Anne-Julie Lafaye).



Fig. 3: Remains of Burriscarra Augustinian friary (© Anne-Julie Lafaye).

Augustinian friaries, landscape, and settlement in Mayo and Sligo

In order to visualise the results of the multidisciplinary research undertaken, a map was drawn to represent the transformations of the political geography and settlement of Mayo and Sligo from the 13th to the 16th century. The borders of Anglo-Norman cantreds and of the late medieval lordships are represented, and boroughs, Anglo-Norman mottes and castles, moated sites, late medieval castles, tower houses, and the mendicant friaries of all four orders are plotted within them. These include foundations that took place just over the borders of neighbouring counties Leitrim, Roscommon, and Galway (Fig. 4). A number of preliminary findings were drawn from this map and the evidence collected in primary and secondary sources, some of which was presented through the four case studies selected. These findings will need to be explored further and refined as the project continues, but give significant clues regarding the role and impact of the friars in medieval Mayo and Sligo.

What is immediately apparent on the map is the fact that areas of occupation and activity stayed consistent throughout the period. They are on the most fertile land, along riverine corridors, the many lakes of the two

counties, and on coastal areas: Killala Bay, the River Moy and Lough Conn in Tirawley and Tirrerragh; Clare River, Lough Mask, and Lough Corrib in Carra and Kilmaine; the Ballysadare and Owenmore Rivers along the border of Leyny and Tirrerrill; and down into Corran barony. However, these areas experienced a period of particular economic and demographic growth in the 15th century, reflected in a significant increase in the construction of castles and tower houses. It must be stressed that a notable amount of castle sites are marked as unclassified on the Archaeological Survey, although some are actually described as being tower houses and in some cases, 13th century in date. They do, overall, fit with the general pattern of occupation in both counties (Fig. 4).

Primary sources and existing research on Anglo-Norman settlement in Connacht have shown that its extent remained limited (*Knox 1902a; 1902b; 1903a; 1903b; 1903c; O'Connor 1998, 73; for Roscommon, see Graham 1988*). Like elsewhere, mottes and castles were built, and manors, settlements, and boroughs were established in cantreds parcelled out amongst Anglo-Norman lords; but the extent of actual settled communities of colonists were few and difficult to quantify (Fig. 4). In Sligo in particular, sources suggest most of the modern

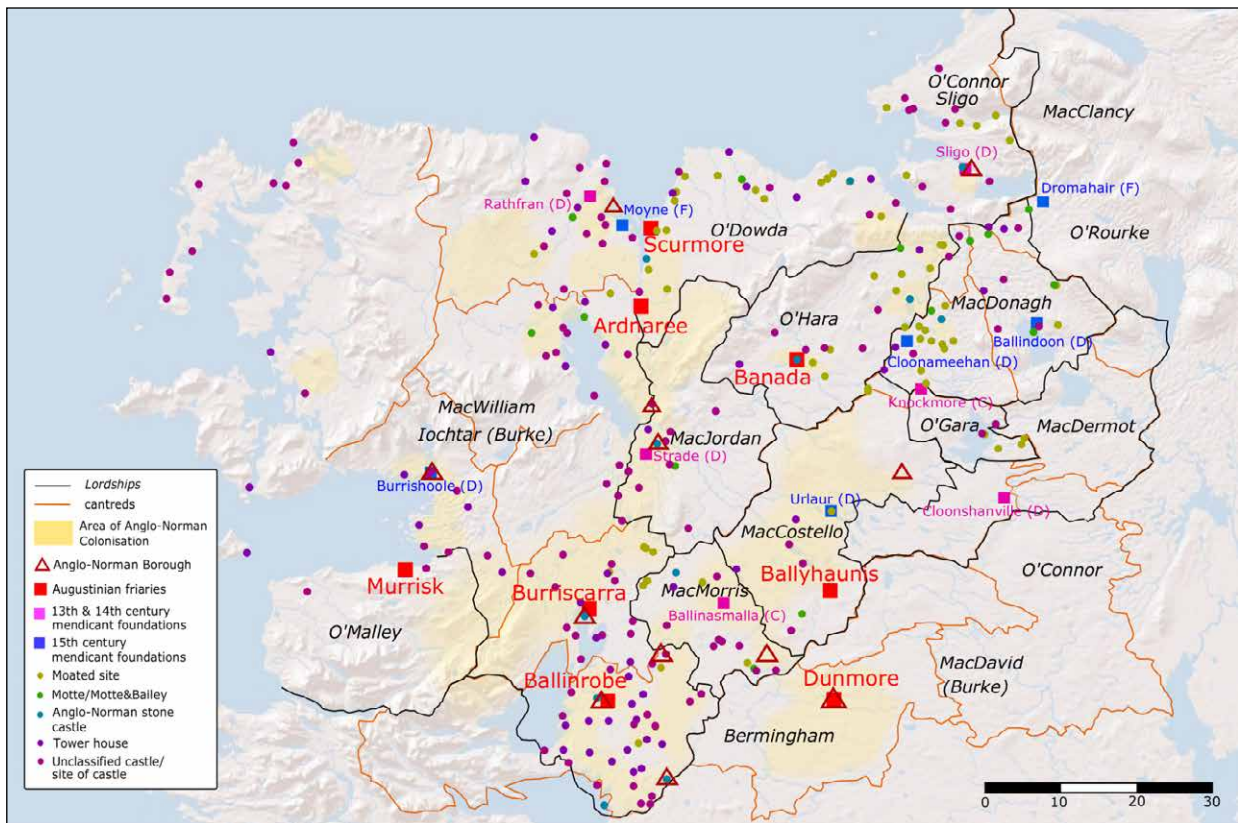


Fig. 4: Map of the political geography, settlement, and mendicant foundations in Cos Mayo and Sligo, 13th-16th centuries (© Anne-Julie Lafaye with base map © 2014 Esri).

county remained in the hands of Gaelic chiefs such as the O'Dowdas, O'Haras, O'Garas, and MacDonaghs, paying rent to Fitzgerald and Burgo overlords (*Knox 1903a*, 70-73). The identification of a number of moated sites by the ASI, a type of settlement primarily associated with Anglo-Norman colonisation (*Barry 1987*), along the coast of Tirrerragh and the borders of Leyny with Corran and Tirrerrill could point to a greater colonial presence and territorial control than first thought, though Kieran O'Connor and Thomas Finan's work in Roscommon suggests that moated sites could have been established by Gaelic chiefs (*O'Connor 2000; Finan 2014*). As far as Sligo is concerned, this would help to reconcile the silence in sources about any extensive communities of settlers in these areas – unlike more settled areas of Co. Mayo, where settlements or boroughs were established, and tellingly, there are fewer moated sites – and the fact that the cantreds making up William de Burgo's manor of Sligo were worth a substantial £333, at least before he was murdered in July 1333 and conflicts broke out (*Knox 1903a*, 61). These questions go, of course, beyond the scope of this paper, but it is worth outlining them in the

context of the research presented, which deals with the part played by Augustinian friaries in the changes that took place in the region in the course of the 14th and 15th centuries: indeed, while 13th-century mendicant foundations took place within Mayo's most settled Anglo-Norman manors and in Sligo town, a Fitzgerald borough, the only other pre-15th-century foundation in Co. Sligo, took place in Knockmore, under the patronage of the O'Garas, ca. 1320 (Fig. 5). Is mendicant implantation another clue to the limited presence of Anglo-Norman settlers in large parts of Connacht?

When the English power collapsed in Connacht in the 14th century, it gave way to the growth of a number of small but well-defined lordships. They followed the lines of the territories where Gaelic families had retained control, and of those over which now-Gaelicised Anglo-Norman families had consolidated their hold: the MacCostellos (Nangle/De Angulos), the MacJordans (de Exeter), and the most powerful among them, the MacWilliam Burkes (*Nicholls 1972*, 143-150; Fig. 4). The position of mendicant friaries from the 14th century onwards clearly followed the distribution of these late medieval lordships,

Friary	County	year	order	Patronage at foundation	Landscape context (at foundation time)	Territorial/economic/political divisions
Sligo	Sligo	1252	Dominican	Fitzgerald	Borough/Castle	Sligo Manor, cantred of Carbery
Strade	Mayo	1252	Dominican	de Exeter	Borough/Castle to NE	Athleathan manor, cantred of Luyne
Rathfran	Mayo	c. 1274	Dominican	de Exeter?	No evidence for nucleated settlement. Castle to NE	Cantred of Tyraulyf
Ballinasmalla	Mayo	1288-9	Carmelite	Prendergast	No evidence for nucleated settlement	Cantred of Crigfertur, territory of Tynaghtyn (Kilcolman parish)
Burriscarra	Mayo	1298	Carmelite	Staunton	Borough. Castle to SW.	Manor and cantred of Carra
Ballinrobe	Mayo	1320s	Augustinian	de Clare/de Burgo	Borough/ Site of Castle	Roba manor, cantred of Conmacnekyly
Knockmore	Sligo	c. 1320	Carmelite	O'Gara	No evidence for nucleated settlement. Moated site to E.	Cantred of Seoflow & the two Kerrys, territory of Gregrage, manor of Sligo, lordship of Coolavin
Cloonshanville	Roscommon	1385	Dominican	MacDermott	No evidence for nucleated settlement	MacDermott lordship of Airtech
Ardnaree	Mayo	b. 1400	Augustinian	O'Dowdas	Near site of Anglo-Norman castle. Ballina later developed across River Moy	O'Dowda lordship, under Sligo O'Connor's overlordship
Burriscarra	Mayo	b. 1407	Augustinian	Staunton/Mac Evilly	Deserted borough. Parish church. Castle to SW.	Staunton/McEvilly territory, under MacWilliam Burke overlordship
Banada	Sligo	1423	Augustinian	O'Hara	Remains of Anglo-Norman castle. No evidence for nucleated settlement	O'Hara Lordship of Leyny. Chief burying place of Kilmacteige parish
Dunmore	Galway	b. 1425	Augustinian	Bermingham	Borough	Cantred of Conmacdonmor, manor of Dunmore (caput)
Ballyhaunis	Mayo	c. 1430	Augustinian	MacCostellos	Site of Anglo-Norman motte/manor house	Cantred of Seoflow & the two Kerrys, De Angulo n(MacCostello) lordship
Urlaur	Mayo	c. 1430	Dominican	MacCostello	No evidence for nucleated settlement. Moated site.	MacCostello lordship
Scurmore	Sligo	b. 1454	Augustinian	O'Dowdas	No evidence for nucleated settlement. Two moated sites to N/NE.	O'Dowda lordship, under Sligo O'Connor's overlordship
Moyne	Mayo	b. 1455	Franciscan	MacWilliam	No evidence for nucleated settlement	MacWilliam Burke lordship
Murrisk	Mayo	1456	Augustinian	O'Malley	No evidence for nucleated settlement	O'Malley lordship of Umhall, under MacWilliam Burke overlordship
Burrishoole	Mayo	c. 1469	Dominican	Burke	Deserted Borough/Castle	MacWilliam Burke lordship
Cloonameehan	Sligo	1488	Dominican	MacDonogh	Moated sites to N and E. Bunnanadden MacDonogh castle to SW.	MacDonogh lordship of Tirrerrill and Corran. Was chief burying place of Cloonoghil parish
Ballinboon	Sligo	1507	Dominican	MacDonogh	No evidence for nucleated settlement. Site of MacDonogh castle	MacDonogh lordship of Tirrerrill and Corran. Chief Burying place of the family.

Fig. 5: Table of mendicant foundations with landscape context and position in the political geography of Connacht (© Anne-Julie Lafaye).

just as earlier foundations had occurred within the most settled Anglo-Norman manors of Connacht. What is true of all Mayo and Sligo foundations throughout the period is that they are consistent with areas of significant concentration of population and activity, despite their overall rural implantation, and took place within the sphere of influence of the local ruling families involved in establishing them (Figs. 4 and 5). Another piece of the puzzle to consider is the evidence for Gaelic settlement in both counties. Sites such as ringforts, crannogs, or cashels could not be represented on the map because of their considerable numbers, but a look at their distribution on the ASI shows they extend across roughly the same areas of occupation highlighted on our map. It would be a worthwhile endeavour to carry out a more detailed analysis of the areas of concentration of these sites relative to later Anglo-Norman and Gaelic settlements, especially as it has been argued that ringforts might have continued to be occupied into the 14th century, and crannogs as late as the 17th century (O'Connor 1998, 77-94). This would help to better understand the landscape context encountered by the friars and how its changes over time might have affected where they could or chose to establish a new community. For now, it lends additional weight to what our map suggests about the foundation of mendicant friaries in the most settled areas of Mayo and Sligo rather than in remote and empty landscapes.

The four case studies presented in this paper are particularly emblematic of the continuity and changes that took place in the political and material landscapes of north-west Connacht: they were established near or at the site of Anglo-Norman castles and boroughs, but in the context of the growth and consolidation of local lordships. In Banada, not only did the O'Haras establish the friary on the remains of a 13th-century castle, they also appear to have influenced its running through the recruitment of members of the community within their own kin. In the case of Ardnaree, as well as in Ballyhaunis, a settlement appears to have developed after the foundation took place, pointing to the ongoing development of these places and the part Augustinian foundations might have played in it.

Finally, research into how these new communities were established has shown that the friars were not passive in the process. Individual friars are named in papal documents authorising foundations, together with the patrons who granted them a site on which to build a friary; others petitioned the pope for indulgences when their resources were found wanting. Like the Dominicans, Franciscans, and Carmelites before them (Lafaye 2018c), in Mayo and Sligo the Augustinian friars appear to have adapted

to the largely rural landscapes of the region, following patronage where it was available. They did not seek the most remote of sites, but favoured the most populous areas, representing better opportunities for collecting alms as well as an output for their spiritual services.

Conclusion and further questions

Research carried out on the 13th-century foundations of the Franciscan and Dominican orders in Ireland revealed that they took place at the confluence of their patrons' interests and their own. Foundations were as much part of the political and economic strategies of their benefactors as of the spiritual project of the friars. Their position in the landscape was strategic to the friars' activities and to the political and economic plans of those with land, power, and money, particularly in the context of Anglo-Norman borough foundation, but not only (Lafaye 2015; 2016; 2018a; 2018b). Preliminary work on the foundations and macrotopography of the Augustinian friaries in Mayo and Sligo suggests that they belong to a similar narrative and are the result of similar processes, despite the changing political geography and the more rural implantation. In fact, the landscape context of these and other mendicant friaries in Connacht, as well as the circumstances surrounding their establishment, paint a more complex and diverse picture than the traditional interpretation of mendicant settlements in Ireland. The latter opposes 13th-century Anglo-Norman urban foundations to 15th-century Gaelic rural ones, but in Mayo and Sligo, 13th-century foundations are found in non-urban environments, and 15th-century friaries were established in areas with significant levels of occupation and activity.

From the preliminary findings presented in this paper, further questions should and will be explored as part of the IRC-funded project: Once the new community was established, who were the friars serving, and what was their impact on spiritual needs and religious practices in late medieval Ireland, especially in relation of the parochial network in place? What was their interaction with the local communities and with the landscapes directly surrounding their friaries? With regards to the microtopography and spatial analysis of friaries' internal spaces, what were the functions and uses of these spaces by the friars and the lay communities they served? It is envisaged that these questions, together with the research presented here, will help to form a more detailed picture of the extent of the friars' impact on the society of late medieval Ireland.

References

- ASI*:
Archaeological Survey of Ireland, Historic Environment Viewer. <http://webgis.archaeology.ie/historicenvironment/> (22-01-2019).
- Augustinian Archives 1956*:
Irish material in the Augustinian archives, Rome, 1354-1624, *Archivium Hibernicum* 19, 61-134.
- Barry, T. B. 1987*:
The archaeology of medieval Ireland. London.
- Blake, M. J. 1910*:
Notes on the place names mentioned in Browne's map of Mayo, 1584 (continued), *Journal of the Galway Archaeological and Historical Society* 6/4, 238-244.
- Bliss W. H. – Twemlow J. A. (eds) 1904*:
Calendar of papal registers relating to Great Britain and Ireland: Volume 5, 1398-1404. London.
- Bruzelius, C. 2014*:
Preaching, building, and burying: friars in the medieval city. New Haven.
- Coleman, A. 1912*:
Registrum monasterii Fratrum Praedicatorum de Athenry, *Archivium Hibernicum* 1, 201-221.
- Duffy, P.-J. – Edwards, D. – Fitzpatrick, E. (eds) 2001*:
Gaelic Ireland c. 1250-c. 1650: land, lordship and settlement. Dublin.
- Finan, T. 2014*:
Moated sites in county Roscommon, Ireland: a statistical approach. *Château Gaillard* 26. Caen, 177-180.
- Graham, B. J. 1988*:
Medieval settlement in county Roscommon, *Proceedings of the Royal Irish Academy* 88c, 19-38.
- Gwynn, A. – Hadcock, R. N. 1970*:
Medieval religious houses in Ireland. London.
- Herrera, T. 1644*:
Alphabetum Augustinianum, 2 volumes. Madrid.
- Knox, H. T. 1902a*:
Occupation of Connaught by the Anglo-Normans after A.D. 1237, *Journal of the Royal Society of Ireland* 32/2, 132-138.
- Knox, H. T. 1902b*:
Occupation of Connaught by the Anglo-Normans after A.D. 1237 (continued), *Journal of the Royal Society of Ireland* 32/4, 393-406.
- Knox, H. T. 1903a*:
Occupation of Connaught by the Anglo-Normans after A.D. 1237 (continued), *Journal of the Royal Society of Ireland* 33/1, 58-74.
- Knox, H. T. 1903b*:
Occupation of Connaught by the Anglo-Normans after A.D. 1237 (continued), *Journal of the Royal Society of Ireland* 33/2, 179-189.
- Knox, H. T. 1903c*:
Occupation of Connaught by the Anglo-Normans after A.D. 1237 (continued), *Journal of the Royal Society of Ireland* 33/3, 284-294.
- Knox, H. T. 1908*:
The history of the county of Mayo to the close of the sixteenth century. Dublin.
- Lafaye, A.-J. 2015*:
The Dominicans in Ireland: a comparative study of the east Munster and Leinster settlements, *Journal of Medieval Monastic Studies* 4, 77-106.
- Lafaye, A.-J. 2016*:
Les franciscains en Irlande (XIIIe-XVIe siècles): histoire et paysages, *Études franciscaines* 8/1, 27-54.
- Lafaye, A.-J. 2018a*:
Spiritual renewal and changing landscapes: the mendicant orders in Ireland, 13th-16th century, in: Lyttleton, J. – Stout, M. (eds), *Church and Settlement in Ireland*. Dublin, 119-141.
- Lafaye, A.-J. 2018b*:
Kilmallock borough and Dominican priory: medieval planning, patronage and urban life in medieval Ireland, *Discovery Programme Report* 9, 67-90.
- Lafaye, A.-J. 2018c*:
The Dominicans in Ireland: role and impact of a mendicant order in a non-urban environment. *Proceedings of the conference 'The Dominicans in the Medieval Society of Northern Europe'*, 6-7 November 2016. Odense. Forthcoming.
- Lawrence, C. 1994*:
The friars: the impact of the early mendicant movement on Western society. London.
- MacCotter, P. 2008*:
Medieval Ireland: territorial, political and economic divisions. Dublin.
- Martin, F.-X. 1956*:
The Augustinian friaries in pre-reformation Ireland, *Augustiniana* 6, 346-384.
- McDermott, Y. 2007*:
Returning to core principles, *History Ireland* 15, 12-17.
- Nicholls, K. 1972*:
Gaelic and Gaelicised Ireland in the Middle Ages. Dublin.
- Ó Clabaigh, C. 2012:
The friars in Ireland 1224-1540. Dublin.
- O'Connor, K. D. 1998*:
The archaeology of medieval rural settlement in Ireland. *Discovery Programme Monographs* 3. Dublin.
- O'Connor, K. D. 2000*:
The ethnicity of Irish moated sites, *Ruralia* III, 92-102.
- O'Donovan, J. 1844*:
The Genealogies, Tribes and Customs of Hy Fiachrach, commonly called O'Dowda's Country.

Now first published from the Book of Lecan, in the Library from the Royal Irish Academy, and from the genealogical manuscripts of Duaid Mac Fírbis, in the library of Lord Roden; with a translation and notes, and a map of Hy-Fiachrach. Dublin.

O'Donovan, J. 1848-51

Annala Rioghachta Éireann: annals of the kingdom of Ireland by the Four Masters, from the earliest period to the year 1616. Edited from MSS in the library of the Royal Irish Academy and of Trinity College Dublin with a translation and copious notes. Dublin.

Simington, R. C. 1956

Books of survey and distribution, being abstracts of various surveys and instruments of titles, 1636-1703, Volume 2, County of Mayo. Dublin.

Sweetman, H. S. – Handcock, G. F. 1886:

Calendar of documents relating to Ireland, 1302-1307. London.

Twemlow, J. A. 1909:

Calendar of papal registers relating to Great Britain and Ireland: Volume 8, 1427-1447. London.

Twemlow, J. A. 1912:

Calendar of papal registers relating to Great Britain and Ireland: Volume 9, 1431-1447. London.

Twemlow, J. A. 1915:

Calendar of papal registers relating to Great Britain and Ireland: Volume 10, 1447-1455. London.

Twemlow, J. A. 1933:

Calendar of papal registers relating to Great Britain and Ireland: Volume 12, 1458-1471. London.

Transformation and continuity in the Wexford countryside

*Breda Lynch**

Abstract

With 350 monasteries founded within the first 50 years of its inception, the speed of the expansion of the Cistercian Order was a medieval phenomenon. The Irish element of the Cistercian narrative is firmly tied up in the reforms of the Irish Church in the 12th century. Standing outside the area of Roman dominance during the first millennium, the church in Ireland evolved differently to those areas bounded by the reach of the Roman Empire. By the late 11th century, the lax organisation of the church's administrative system came under scrutiny; so the parishes and dioceses of Ireland were established. In tandem with these changes, the small monasteries loosely organised around a holy man or woman also warranted attention. The reformation and reorganisation of these monasteries came primarily in the form of the arrival to Ireland of the Continental Orders, principally the Cistercians and Augustinians. The Cistercian monasteries were more rural in their spatial situation. These monks sought remote areas both to aid in their contemplative lifestyle and to help fulfil the ideals of self-sufficiency. Although 42 Cistercian monasteries were founded in medieval Ireland, with 37 lasting to the 16th century, the monastic houses belong to two distinct branches. The monasteries were termed either part of the Irish/Mellifont filiation or were of the Anglo-Norman filiation. Tintern Abbey belongs to the latter group. Founded for the Cistercian Order c. 1200, it amassed large tracts of land, as was the standard Cistercian approach. Tintern, along with the majority of the other 36 monasteries of the order across the island that were still in existence in the 16th century, was dissolved by order of Henry VIII in the period 1536-1541. Following a hiatus, the former monastery and lands at Tintern came under the control of the Colclough family. The Colcloughs adapted the abbey building into a fortified dwelling and developed the holding as a landed estate. The Colclough family retained ownership of the property until the 1950s, when the abbey and remaining lands were donated to the Irish State. Tintern is among the very rare examples in the Irish landscape where the monastic building and lands can be traced through just two distinct ownership groups from the 13th to the 20th centuries. The story of Tintern is one of constant reinvention and transformation, where each successive generation left their mark. It is also a story of continuity, where the lands and the abbey remained as a complete unit at its core for in excess of 700 years. The following essay will explore some of the many transitions that took place at Tintern Abbey in that period.

* Jerpoint Abbey VC
Office of Public Works
Thomastown, Co. Kilkenny.
R95P523 Ireland
breda.lynych@opw.ie

Keywords: *Cistercian, monastery, abbey, land, estate, residence, Reformation.*

Résumé

Transformation et pérennité au sein de la campagne de Wexford

Avec la fondation de 350 monastères pendant les premiers 50 ans de sa création, la vitesse d'expansion de l'ordre cistercien était un véritable phénomène au Moyen Âge. Le volet irlandais de l'histoire cistercienne est fortement lié aux réformes ayant eu lieu au sein de l'Église irlandaise au XIIIe siècle. Située hors de la région contrôlée par l'Empire romain pendant le premier millénaire, l'église en Irlande a connu une évolution différente par rapport aux zones quadrillées par Rome. Vers la fin du XIe siècle, l'organisation, peu encadrée du système administratif de l'Église, fut remise en cause. Par conséquent, les paroisses et les diocèses d'Irlande furent établis. En parallèle avec ces changements, les petits monastères qui étaient librement structurés autour d'un homme ou d'une femme de Dieu retinrent également l'attention. On doit la réforme et la réorganisation de ces monastères en grande partie à l'émergence des ordres continentaux en Irlande, notamment les ordres cisterciens et augustins. Les monastères cisterciens étaient généralement situés dans des zones rurales. Ces moines recherchaient des endroits retirés pour pouvoir s'adonner à leur mode de vie méditatif et atteindre leurs idéaux d'autarcie. Bien que 42 monastères cisterciens furent fondés en Irlande au Moyen Âge, dont 37 résistant jusqu'au XVIe siècle, les maisons monastiques appartiennent à deux branches d'ordre différentes. Les monastères étaient séparés en deux filiations: l'irlandaise/de Mellifont et l'anglo-normande. L'abbaye de Tintern appartient à la dernière: Fondée par l'ordre cistercien autour de l'an 1200, elle s'étendait sur de vastes étendues de terre, suivant l'approche traditionnelle cistercienne. Tout comme la plupart des 36 autres monastères du même ordre qui existaient toujours sur l'île au XVIe siècle, Tintern fut dissoute sur décision de Henry VIII entre 1536 et 1541. Après un certain temps, l'ancien monastère ainsi que les terres de Tintern passèrent sous le contrôle de la famille Colclough. Elle transformait l'abbaye en une demeure fortifiée et en fit une résidence. Les Colclough en étaient les propriétaires jusque dans les années 1950, période à laquelle l'abbaye et les terres restantes furent léguées à l'État irlandais. Tintern est l'un des très rares exemples du patrimoine irlandais où l'édifice et les terres monastiques n'ont appartenu qu'à deux groupes de propriétaires différents entre le XIIIe et le XXe siècle. L'histoire de Tintern, marquée par chacune des générations successives, est caractérisée par une réinvention et une transformation constantes. Il s'agit également d'une histoire de continuité dans laquelle l'ensemble des terres et de l'abbaye n'a jamais été divisé pendant plus de 700 ans. La présente contribution abordera certaines des nombreuses transitions ayant eu lieu à l'abbaye de Tintern au cours de cette période.

Mots-clés: *Cistercien, monastère, abbaye, terre, propriété, résidence, réforme.*

Zusammenfassung

Transformation der Landschaft um Wexford

Angesichts der 350 Klöster, die in den ersten 50 Jahren seines Bestehens gegründet wurden, war die Geschwindigkeit, mit der sich der Zisterzienserorden nach seiner Gründung ausbreitete, ein wahres mittelalterliches Phänomen. Der irische Teil der Geschichte der Zisterzienser ist eng mit den Reformen verknüpft, die sich im 12. Jahrhundert in der irischen Kirche vollzogen. Da die Kirche in Irland im ersten Jahrtausend nicht unter dem Einfluss der römischen Vorherrschaft stand, entwickelte sie sich anders als jene Kirchen, die sich damals in den Provinzen des römischen Reichs befanden. Gegen Ende des 11. Jahrhunderts wurde die laxen Organisation des kirchlichen Verwaltungssystems einer eingehenden Prüfung unterzogen, in deren Folge die Kirchgemeinden und Diözesen von Irland gegründet wurden. Zusammen mit diesen Veränderungen schenkte man auch den kleinen Klöstern, die bislang nur lose um einen Heiligen oder eine Heilige herum organisiert waren, mehr Beachtung. Die Reformation und Neuorganisation dieser Klöster hing vor allem mit der Ankunft der auf dem europäischen Festland gegründeten Orden wie den Zisterziensern und Augustinern in Irland zusammen. Die Zisterzienserklöster lagen von ihrer räumlichen Situation her eher in ländlichen Gebieten. Die Zisterziensermönche suchten nach abgelegenen Orten, an denen sie ihrer kontemplativen Lebensweise nachgehen und sich gemäß ihrer Idealvorstellung selbst versorgen konnten. Obwohl im Mittelalter 42 Zisterzienserklöster in Irland gegründet wurden, von denen 37 bis ins 16. Jahrhundert überdauerten, gehörten die Ordenshäuser zwei verschiedenen Ordenszweigen an. Die Klöster gehörten entweder zur irischen/Mellifont-Filiation oder zur anglonormannischen Filiation des Zisterzienserordens. Tintern Abbey lässt sich der letzteren Gruppe zuordnen. Das Kloster wurde um das Jahr 1200 vom Zisterzienserorden gegründet und erwarb ausgedehnte Ländereien was der üblichen Vorgehensweise der Zisterzienser entsprach. Tintern Abbey wurde zusammen mit den anderen 36 Klöstern, die über die ganze Insel verstreut waren und noch bis ins 16. Jahrhundert hinein existierten, zwischen 1536 und 1541 auf Geheiß des englischen Königs Heinrich VIII. Tudor aufgelöst. Nach einiger Zeit, während der das frühere Kloster und die zugehörigen Ländereien brachlagen, gelangten diese in den Besitz und in die Obhut der Familie Colclough. Die Colcloughs bauten das ehemalige Klostergebäude in ein befestigtes Wohnhaus um und erschlossen einen Großteil der umliegenden Ländereien zu einem zusammenhängenden Grundbesitz. Die Familie Colclough blieb bis zu den

1950er-Jahren Eigentümer des Anwesens, bevor sie das frühere Kloster und die verbliebenen Ländereien an den irischen Staat stiftete. Tintern gehört zu den sehr seltenen Beispielen in der irischen Klosterlandschaft, bei denen sich die Geschichte des Klostergebäudes und der zugehörigen Ländereien über lediglich zwei verschiedene Eigentümergruppen hinweg vom 13. bis zum 20. Jahrhundert derartig genau nachvollziehen lässt. Die Geschichte von Tintern Abbey ist von einer ständigen Neuerfindung und Umgestaltung geprägt, bei der jede neue Generation ihre eigenen Spuren hinterlassen hat. Es ist aber auch eine Geschichte der Beständigkeit, denn in ihrem Kern haben die Ländereien und das Kloster als vollständige Einheit mehr als 700 Jahre überdauert. Der folgende Text beschreibt einige von vielen Episoden des Wandels, die sich während dieser Zeit in Tintern Abbey vollzogen haben.

Schlagwörter: *Zisterzienser, Kloster, Abtei, Land, Anwesen, Residenz, Reformation.*

Achoimre

Athrú agus leanúnachas faoin tuath i Loch Garman

Le bunú 350 mainistreach laistigh den chéad 50 bliain ó bunaíodh an t-ord, b'fheiméan meánaoiseach í luas méadaithe an t-Ord Cistéirseach. Tá dlúthcheangail idir cuid Éireannaí an scéil Cistéirsigh agus leasuithe na hEaglaise Éireannaí sa 12ú haois. Seasta taobh amuigh de cheantar smachta na Rómhánaigh sa chéad mhílaois, d'fhorbair an Eaglais in Éirinn i mbealach difriúil de na ceantair a bhí faoi rialú na Róimhe. Faoi dheireadh an 11ú haois, rinneadh grinnscrúdú ar eagraíocht scaoilte córas riaracháin na hEaglaise; agus mar sin, bunaíodh paróistí agus deoisí na hÉireann. I dteannta leis na hathruithe seo, d'eagraigh na mainistreacha go scaoilte thart ar fhear naofa nó bean a d'éiligh aird freisin. Tharla an

The Cistercian Order established their first foundation in the north-east of Ireland c. 1142, at Mellifont Abbey on the border of counties Meath and Louth. From Mellifont the order expanded quickly. After the Anglo-Normans arrived in Ireland, they, too, established Cistercian monasteries, which were principally subject to the mother house at St Mary's Abbey, Dublin. The abbey at Tintern was founded for the Cistercian monks about the year 1200 and was firmly embedded in the Anglo-Norman tradition. The foundation documentation for Tintern Abbey allows us to see the extent of the organisation and settlement that took place at these monasteries at foundation. The liberties and privileges granted to the monks were extensive and had far-reaching implications for the land and area surrounding

Reifirméisean agus atheagrú na mainistreacha seo le teacht na hoird Eorpaigh go hÉirinn, go háirithe na Cistéirsigh agus na hAgaistínigh. Bhí na mainistreacha Cistéirseach níos tuaithe ina suíomh. Theastaigh ó na manaigh seo suíomhanna iargúlta a aimsiú chun cabhrú lena stíl maireachtála smaointeach agus chun cabhrú leo idéal an neamhspleáchais a chomhlíonadh. Cé gur bunaíodh 42 mainistreach in Éirinn sa mheánaois (mhair 37 go dtí an 16ú haois) baineann na mainistreacha le dhá bhrainte éagsúil. Measadh go raibh ceangal ag na mainistreacha le bráithreachas Éireannach nó bráithreachas Angla-Normannach. Baineann Mainistir Tintern leis an dara ghrúpa. Bunaíodh í don Ord Cistéirseach thart ar 1200 agus bhailigh sí líon mór talamh timpeall uirthi mar a bhí coitianta don Ord Cistéirseach. Rinne Rí Anraí VIII Mainistir Tintern, chomh maith le formhór na 36 mainistreacha eile a bhí ar an oileán fós sa 16ú haois, a dhíscaoileadh sa tréimhse ó 1536-1541. Tar éis bearna, tháinig an iar-mhainistir faoi smacht Clann Colclough. Chuir Clann Colclough an foirgneamh in oiriúint chun a bheith ina áit chónaithe daingnithe agus d'fhorbair siad an gabháltas mar eastát talún. Choimeád Clann Colclough an réadmhaoin go dtí na 1950í nuair a deonaíodh an talamh a bhí fágtha don Stát. Seasann Mainistir Tintern i measc samplaí annamha de mhainistreacha Éireannacha gur féidir a bhfoirgneamh agus talamh a cheangal go leanúnach le dhá ghrúpa úinéireachta amháin ón 13ú go dtí an 20ú aois. Is scéal d'athchumadh agus athrú leanúnach inar fhág chuile glúin a lorg é scéal Tintern. Is scéal de leanúnachas é freisin mar gur fágadh an talamh agus an mhainistir féin mar aonad iomlán ar feadh níos mó ná 700 bliain. Déanfaidh an téacs a leanann anseo cuid de na hathruithe a tharla ag Mainistir Tintern a iniúchadh.

Keywords: *Cistéirseach, mainistir, abtheach, talamh, eastát, áit chónaithe, Reifirméisean.*

the monasteries (*B. Lynch 2010*). They give the impression of solid foundations under estates that were intended to be long-lasting. William Marshal's foundation charter for Tintern lists extensive liberties that were granted to the community. Just some of the rights included are soke and sac, tol and theam, freedom from geld and danegeld, and free of scutage, pontage, passage, lastage, and stallage. These liberties allowed the monks to command the district, receive fines and dues, granted them the exclusive right to mill corn, seize fines and profits, and pay money in lieu of military service. The monastery was exempted from paying certain taxations while allowed extensive grazing rights, in addition to the right to exact charges on persons crossing their lands. Land granted by William Marshal



Fig. 1: Aerial view of Tintern Abbey and Bannow Bay (© National Monuments Service, Dept. of Culture, Heritage and the Gaeltacht).

was described as being opposite the monastery and on the brow of the hill, where the land descends to the water (Hore 1901; B. Lynch 2010). The Cistercians tended to settle 'far from the conversations of men' and this maxim was certainly followed for Tintern Abbey (Fig. 1).

At Tintern, it is immediately evident that the choice of the positioning of the monastery followed many of the common Cistercian tenets. The layout of the monastery followed the usual conventions of church, cloister, and claustral buildings with a tower incorporated from the inception of the construction. The fact that a small portion of the boundary wall still exists today, in addition to the *capella ante portas* (hereafter *capella*)—or church outside the gates – allows us to clearly see the size of the medieval monastic complex. The development of the monastery building and the area within the original complex are the main focus of this paper. The changes in the building are best discussed by referring to the accompanying conjectural drawings, which chart the changes in the building over time (Fig. 2).

Immediately prior to the dissolution of Tintern Abbey, the Cistercians held 2,370 medieval acres of land, 1,920 acres of which were arable, 400 pasture, and 50 under wood (B. Lynch 2010). This land was distributed across the estate. The demesne lands in the *villata* comprised 30 acres of arable land with 10 acres under wood, pasture,

and moor. Two mills were situated at this location, one called the 'see mill' and the other called the 'over shott mylle' (B. Lynch 2010; White 1943). Although the abbey church and the other buildings within the precinct along with a garden covering half an acre are mentioned, these seem not to have survived untouched for long. In fact, the discord within the church and wider society in the 16th century was reflected in the unrest in the locality of Tintern. Substantial sections of the Tintern estate were said to be 'waste' when the survey was carried out in January 1541. The holdings at Saint Kearns, Kermore, and Saint Leonards were destroyed by the rebellion of Carre McArte. The same McArte took control of the entire barony of Tymolyn, totalling 700 acres. The monastic holdings at Nash and Gayneston were waste also, these following the rebellion of the Kavanaghs. Presumably these are the same Kavanaghs who caused much destruction of the lands at the Cistercian monastery of Duiske 40 km to the north (B. Lynch 2010). Within 10 years of the dissolution of Tintern, Thomas Wood was in possession of the lease of the abbey, followed 11 years later by Anthony Colclough. At some point in the intervening period, the abbey and its buildings were badly damaged by fire during an attack by the Keatings of Kilcowan (Cloney 1987; A. Lynch 2010).

Finally, in 1566 Anthony Colclough was the owner of Tintern Abbey. He obtained the lease along with orders to

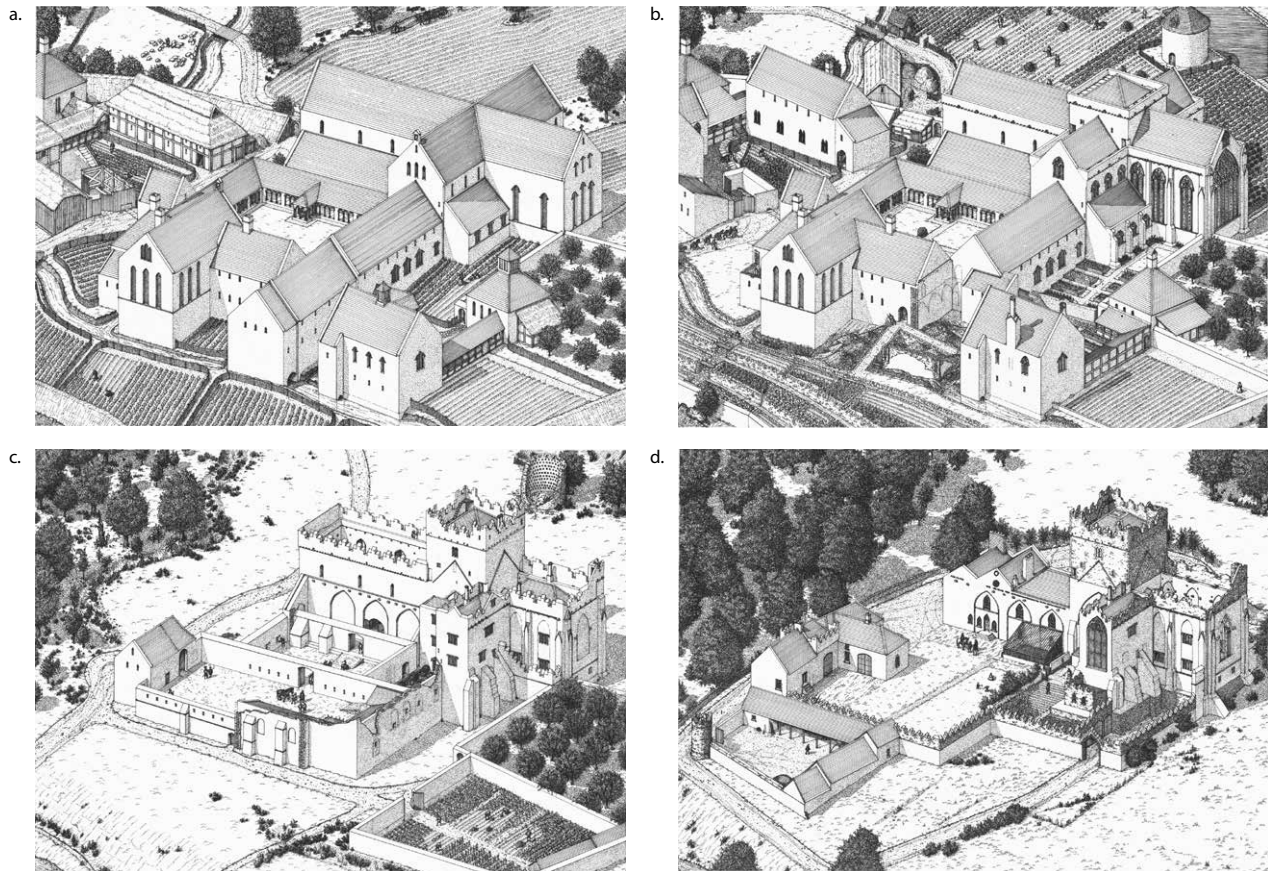


Fig. 2: Tintern Abbey – evolution of the building over time – a) ca. 1250, b) ca. 1350, c) ca. 1600, d) ca. 1875 (drawn by Daniel Tietzch-Tyler © The Office of Public Works).

fortify the site within 3 years to stop the incursions of the Irish. Evidence in the form of dendrochronological dating of timbers in the tower proves that this area was the first to be remodelled and the oak trees used here were felled between the autumn of 1569 and the following spring (A. Lynch 2010). Timbers from the former abbey were reused extensively throughout the house, particularly in cross-beams and lintels for windows. Elizabethan panelling was used in the tower for decoration on solid walls. The interior of the tower was also divided internally, where a timber frame was constructed in sections and filled with wattle and daub, providing a solid barrier when dried (Fig. 3). The tower, once modified, remained an integral part of the family residence until the mid-20th century. While the 16th-century improvement works were undertaken, Anthony and his wife Clare resided temporarily in the nearby manor of Rosegarland (Hore 1901; A. Lynch 2010). The tower was fit for habitation by 1576, as the couple were in residence in the old abbey when Sir William Pelham, Lord Justice of Ireland, visited them there in that year.

Traditionally, it is believed that stones from the former west range were removed from the cloister area at this time

and used in the construction of the battlemented bridge situated a short distance to the south-east of the abbey. This bridge is today a National Monument and is situated adjacent to the monastic *capella*, indicating the extent of the original monastic precinct. If the rubble was used, then it was either in an earlier bridge or in the core of the current bridge, as its structure today bears all the hallmarks of the 18th-century remodelling of the abbey under Vesey Colclough, as indicated by the fake battlements. The *capella* was adapted to become the final resting place of generations of Colcloughs, a tradition that began in 1584 with the internment of Sir Anthony Colclough and ended in the mid-20th century when the family vault was sealed.

Upon Anthony's death, his son Thomas inherited the estate and amassed in excess of 25,000 statute acres of land by foreclosing on unpaid loans. Thomas was married twice. His first wife was a member of the Reformed Church while his second wife was Catholic. Following Thomas's death, the Tintern lands were divided along religious lines, and this issue of religion was a feature of the ownership of Tintern for centuries. While the lands were divided and reunited many times, it also allowed for either a Catholic or a Protestant



Fig. 3: Internal divisions in the tower constructed from wattle and daub (© The Office of Public Works).

owner to be in place, depending on the circumstances of the time, making it impossible for the lands to be confiscated on the grounds of religion. Traditionally, the Colcloughs in the old abbey were Protestant, while the Catholic branch resided at Duffry Hall, situated near Enniscorthy in the foothills of the Blackstairs Mountains.

In the early 18th century the estate was once again joined, this time under the personage of Caesar Colclough of Duffry Hall. Following Caesar's death in 1766, his grandson Vesey inherited Tintern. Although Vesey embarked on various building works at the abbey, he squandered his inheritance (*A. Lynch 2010*). The battlemented walls that adorn much of the abbey today are a testimony to Vesey's period as owner of Tintern. A view of Tintern produced by the artist Gabriel Beranger and based on a drawing by Vesey perhaps indicates the aspiration Vesey had for the final transformation of the abbey to Gothic mansion (Fig. 4; *Harbison 2004*). The drawing shows the entire building roofed and rising to three stories in the old chancel and nave. Although never fully achieved, this may be the basis for the remodelling of the nave. Gabriel Beranger and Barralet both stayed in Tintern with Vesey Colclough in 1780. At that time Beranger described the abbey as 'good quarters for man and beast.... [T]he tower of it is made a dwelling; the

rest is uncovered and waste, offices being built against it'. He later refers to rain coming into their room and 'parcels' of rats and mice warming themselves before the fire. Prior to their visit other renovations and adaptations to the house had also taken place, principally the conversion of the original chancel into a 'stately home' (*Maxwell 1954; A. Lynch 2010*).

Tintern was next inherited by Vesey's son, another Caesar. However, this Caesar was held as a prisoner of war in France from 1806 to 1814 and so the estate was administered by Caesar's youngest brother John (*Thorne 1986*). These were progressive years at Tintern. The developments on the estate were principally driven by John, who was also involved in civic enhancements in nearby New Ross where he co-founded a bank, and in Wexford town where he suggested improvements to the quayside. At one time, a thriving weaving industry established to the south-west of the abbey possessed 36 looms producing linen, diaper, check, and woollens. Prior to 1812, a yarn market and market house were in use near to the village of Tintern (*Cloney 1987*). John added to this commerce by establishing a flour-milling industry near the village. The remains of that mill can still be seen at the site today, but the mill was accidentally burned in the late 1790s. A brick-manufacturing industry was also

Elevation of y^e North Front of Tintern Abby, in y^e C^{ty} of Wexford 85. M^o from Dublin .

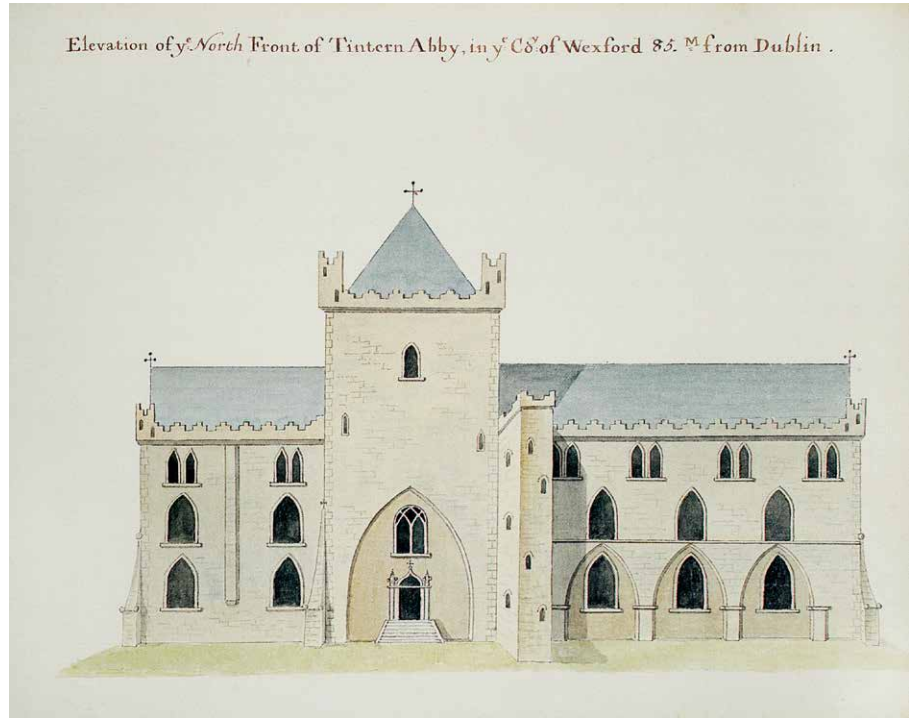


Fig. 4: Aspirational drawing of Tintern Abbey by Gabriel Beranger (© National Library of Ireland).

established at Tintern, where the red clay from the brick field on the opposite bank of the bay to the old *capella* was used to manufacture this commodity. The place name of the ‘brick field’ survives today. Bricks produced here were used in the refurbishment of the abbey and were also used in the nearby manor of Rosegarland (Cloney 1987).

John had a keen interest in gardening and a deep understanding of planting and landscaping. By 1795 he had established a nursery to grow seedlings for the extensive plantations he envisaged. In this age of enlightenment it was perhaps not unusual that the property at Tintern would evolve into a more modern landed estate (Laffan 2017). John had intended to extend the lawns and gardens in front of the abbey, but the village of Tintern was situated within the desired area. John set about moving the tenants and improving their lot by establishing a new village at Saltmills. Although out of sight of the abbey estate house, Saltmills had been a portion of the Tintern estate from monastic times. The salt mill inferred in the name was listed among the possessions of the monks at dissolution. The repositioning of the old village of Tintern to Saltmills may not have been merely for altruistic reasons – rather for aesthetics – but it appears to have been a satisfactory move for the tenants.

The establishment of the walled garden owes its creation to this period, too. The walled garden was constructed predominately using brick manufactured at Tintern. The garden covers 2.5 acres and is divided into ornamental and kitchen gardens with 5 bridges constructed over the river. Allusion to the garden is found

in a letter dated 1801, as are mentions of a ‘fine parcel of young fruit trees’ and ‘wall trees’. The garden was a necessary and fashionable element for the supply of fresh fruits and vegetables to the Colclough table.

A nursery formed the base for the estate planting that occurred in the early 19th century, and many of those trees and stands can be identified on the Ordnance Survey maps drawn later in that century. The formal estate planting also provided for the tantalising glimpses of the house presented to visitors as they approached; a situation that still pertains. John also organised the formal walks within the estate and these are used as a wonderful amenity to the present day. Visitors in the early 20th century described the approach to Tintern, remarking that the abbey ‘lifts its towers amidst groves of stately trees.... [O]ur car, rolling down the broad avenue of the park, comes suddenly upon the ancient structure in its secluded valley’ (Shoemaker 1908).

Beranger’s view of Tintern (Fig. 4) never fully found expression in reality, and it is believed that John formalised the plans for transforming the nave of the old abbey church into a three-storey residence in Georgian Gothic style (A. Lynch 2010). However, he did not live to see the work completed. Shot by his fiancée’s brother William Alcock in a political duel at dawn, this ended one of the most progressive periods at Tintern. It is arguably this period more than any other after the initial foundation and construction that has impacted mostly on the visual and spatial aspects of the site as it is viewed and experienced today. This transformation is also reflected in

Fig. 2, where the progression of changes is represented by four conjectural reconstruction drawings.

After John's untimely death in 1807, the estate was managed by the land agent Thomas MacCord until John's brother Caesar returned from France in 1814. Caesar continued with John's task of establishing Saltmills and, by 1831, the village had 29 houses, a dispensary, and a boy's school. The old village of Tintern was demolished (*National Library of Ireland Colclough papers no. 26; Lewis 1837; A. Lynch 2010*). Caesar was elected MP for Wexford in 1818 and served in this capacity for a time. It is believed that Caesar became dominated by his wife Jane Kirwan, who many believe poisoned him. Whatever the truth, Caesar died in 1842 without either an heir or an uncontested will, leading to a series of protracted lawsuits. These suits brought financial ruin to the estate, from which it never recovered. Ultimately, it was decreed that Mary Grey Wentworth Colclough, Caesar's cousin, was the rightful heir of the estate and Mary came into her inheritance in 1852. Further legal disputes followed, but in 1857 Mary was finally settled as the rightful owner of Tintern. In 1912, Mary's granddaughter Lucy Marie Biddulph Colclough inherited the estate. Lucy Marie would be the last Colclough to own and reside in Tintern Abbey.

When Lucy Marie came into her inheritance in the early 20th century, Ireland was a vastly different place to when her ancestors had held the estate. Political agitation and the passing of a series of land acts, coupled with the rise in nationalist sentiment, meant that the survival of the landed estates in Ireland was untenable. The general situation, and the unstable financial position at Tintern, indicated an uncertain future for the estate. The physical condition of the old abbey dwelling was particularly dire. Writing in the first years of the 20th century, Michael Myers Shoemaker described the house as follows:

'[I]ts great tower ... is not habitable save in its lower story, which is used as a kitchen. ... [I]vy peers in the windows and taps on the glass. Today and each day Tintern is going more and more into ruin, and the voracious ivy climbs ever higher and higher, pointing like the handwriting on the wall to the ending of it all' (Shoemaker 1908).

Finally, a night of sickness and fear spent in the abbey, half a century after Shoemaker's visit, proved too much, and the last Colclough resident made the decision to leave her home. In 1959 Miss Colclough moved to Tintern House in Saltmills, the village created by her ancestor

and part of the estate from monastic times. Ownership of Tintern passed from private to public with the abbey and associated buildings, along with the battlemented bridge and remains of the old *capella*, vested in the Commissioners of Public Works in 1963. Most of the surrounding land had previously been sold through the Land Commission and the immediate woodlands were bequeathed to the Irish State and are managed by Coillte – the Irish Forestry Board. In total, the Land Commission oversaw the transfer of c. 14,307,000 statute acres of land from estates to tenant purchases in the period 1885-1999.

Today the abbey and its buildings are managed and maintained by the Office of Public Works on behalf of the Irish people. The visitor reception and tea rooms are housed in the 19th-century stables and coach house, respectively. Extensive archaeological excavations were carried out on the site from 1982 to 2007, followed by conservation works that are ongoing.

Conclusion

In the context of Irish, and indeed international Cistercian studies, Tintern Abbey's main significance lies primarily in the fact that much of the land associated with the foundation formed one cohesive bloc from medieval to modern times with little interruption. The conversion of Tintern Abbey into a residence is not unique in Ireland, nor was it the most ambitious. That accolade has been attributed to Thomas Agar's 1537 conversion of Bective Abbey in Co. Meath (*Stout – Stout 2016*). However, the continuity of ownership of Tintern, from abbey and demesne to Colclough residence and estate, is a situation that is unusual in Ireland. This, combined with the fact that the core of the original property is now in public ownership, allows the public to enjoy and access the estate in ways that would otherwise be prohibitive. The ease of access also presents the researcher and those interested in studying its development from monastic to landed estate with a unique opportunity. For many, the daily walk around the defined pathways within the woodlands is a chance to think, relax, and escape the everyday – little different to the ideals of the 12th-century monks, who toiled the same land and escaped the daily routine through prayer and meditation.

Three times the abbey and its lands have been completely transformed. Firstly, the development of the holding from barren to productive under the Cistercians meant that the lands in this part of Wexford were utilised in a way that can be contrasted with other patterns within the area. The unsettled time marking the transformative

period of the Reformation left an indelible mark on Tintern, as it experienced its second conversion, from former monastic estate to a landed one. This phase of the property's evolution stretched from 1567 to 1959 before death, lawsuits, and mismanagement brought financial ruin on the owners and the estate. From 1963 the abbey and the lands immediately surrounding it have been in the ownership of the Irish State, marking the third phase in the evolution of the demesne, from private residence to public amenity.

Acknowledgements

Tintern Abbey and the national monuments referred to in this paper fall under the protection of the Commissioners of Public Works in Ireland. I wish to thank all my colleagues and agents of the commissioner for their assistance given in the writing of this piece. I also wish to acknowledge and thank the individuals and organisations who permitted me to use images and those who facilitated and executed the translation, editing, and publication of this text. Finally I wish to thank RURALIA for the opportunity to present this paper.

References

Primary

National Library of Ireland:

Collection List No 26, Colclough Papers MSS29, 711-29,766.

White, N. B. (ed.) 1943:

Extents of Irish monastic possessions, 1540-1541. Dublin.

Secondary

Cloney, S. M. 1987:

The Colcloughs, in: Whelan, K. (ed.), Tintern Abbey Co. Wexford. Guidebook published by Friends of Tintern, 19-40.

Harbison, P. 2004:

Barralet and Beranger's antiquarian sketching tour through Wicklow and Wexford in the autumn of 1780, Proceedings of the Royal Irish Academy 104C.6, 131-190.

Hore, P. H. (ed.) 1901:

History of the town and county of Wexford. London.

Laffan, W. 2017:

Abbey Leix: An Irish home and its demesne. Tralee.

Lewis, S. 1837:

A topographical dictionary of Ireland. London.

Lynch, A. 2010:

Tintern Abbey, Co. Wexford: Cistercians and Colcloughs. Excavations 1982-2007. Dublin.

Lynch, B. 2010:

A monastic landscape: the Cistercians in medieval Ireland. Bloomington.

Maxwell, C. 1954:

The stranger in Ireland from the reign of Elizabeth to the Great Famine. London.

Shoemaker, M. M. 1908:

Wanderings in Ireland. New York/London.

Stout, G. – Stout, M. 2016:

The Bective Abbey project, Co. Meath: Archaeological excavations 2009-12. Dublin.

Thorne, R. (ed.) 1986:

The History of Parliament: The House of Commons 1790-1820. London.

Silent witness: The deserted medieval borough of Newtown Jerpoint, Co. Kilkenny, Ireland

Ian W. Doyle* & Tadhg O’Keeffe**

Summary

The finest example of a deserted medieval nucleated settlement in Ireland is at Newtown Jerpoint, Co. Kilkenny, in south-east Ireland (Fig. 1). Buildings were still visible into the 1830s, when the Ordnance Survey made a plan of the entire settlement for inclusion on the 6-inch map (Fig. 2). Although the site was subsequently cleared of walls, one can identify streets and house plots on the ground, and one can even detect some evidence of the town’s topographical development. The quality of the archaeological remains is matched by the quality of the documentation. Although there is no record of its date of foundation or final desertion, sources inform us of its status as an Anglo-Norman chartered settlement – a borough – and allow us to identify the many actors in its story, from Anglo-Norman lords to the tenants who held property there by burgage tenure. Much research on this deserted town has been carried out already, but significant questions remain. This review paper marks the beginning of the next phase of detailed research.

Keywords: *Medieval Ireland, boroughs, desertion.*

Resume

Témoin silencieux : la ville médiévale déserte de Newtown Jerpoint, Co Kilkenny, Irlande

Le meilleur exemple de ville médiévale désertée en Irlande se trouve à Newtown Jerpoint, dans le comté de Kilkenny, au sud-est de l’Irlande (Fig. 1). Pendant les années 1830, les bâtiments étaient encore bien visibles lorsque le Service cartographique de l’État établit un plan du site à inclure sur la carte dite de 6 pouces (Fig. 2).

Bien que la plupart des murs ont été détruits par la suite, on peut encore identifier les rues et les habitations, voire même déceler les traces du développement topographique de la ville. La qualité des vestiges archéologiques correspond à la qualité de la documentation : Bien que ni la date de fondation ni celle de désertion définitive nous sont parvenues, les sources historiques nous informent de son statut d’établissement réglementé anglo-normand, une bourgade, et nous permettent d’identifier les nombreux acteurs de son histoire, des seigneurs anglo-normands jusqu’aux habitants prenant droit des lieux régis par des lois banales (« burgage tenure »/ *ius burgense, ius civile*). De nombreuses recherches sur cette ville déserte ont déjà été menées, mais des questions ouvertes importantes

* The Heritage Council
Church Lane
Kilkenny
Ireland
idoyle@heritagecouncil.ie

** School of Archaeology
University College
Dublin
Ireland
tadhg.okeeffe@ucd.ie

subsistent encore. Cet article marque le début de la prochaine phase de recherche détaillée.

Mots clés: *Irlande médiévale, bourgs/bourgades, désertion.*

Zusammenfassung

Stummer Zeuge: die mittelalterliche Stadtwüstung Newtown Jerpoint, Co. Kilkenny, Irland

Ein hervorragendes Beispiel für eine mittelalterliche Stadtwüstung in Irland ist Newtown Jerpoint, Co. Kilkenny, im Südosten Irlands (Fig. 1). Die Gebäude waren noch in den 1830er Jahren sichtbar, als ein Plan der gesamten Siedlung für die Aufnahme in der sogenannten 6-Zoll-Karte erstellt wurde (Fig. 2). Obwohl später auf dem Gelände die noch vorhandenen Mauern entfernt wurden, kann man auch heute noch nicht nur Straßenverläufe und Grundstücksverläufe

A history of research on Newtown Jerpoint

The study of deserted medieval settlement nucleations in Ireland began with Robin Glasscock's two chapters in *Deserted Medieval Villages*, the groundbreaking survey by Maurice Beresford and John Hurst (*Glasscock 1971a, 1971b*). Using documentary sources to identify possible sites, and aided by cartographic sources and the aerial photographs of Kenneth St Joseph, Glasscock compiled in 1968 a preliminary gazetteer of 'deserted towns', 'rural-boroughs' (places which had burgesses but were never more than rural villages) and 'nucleated settlements', and he illustrated his survey with aerial images of 3 sites. His list of sites was markedly incomplete, as was apparent when Geoffrey Martin published a new list of boroughs (including so-called 'rural boroughs') a decade later (*Martin 1981*).

Glasscock named only 15 deserted Anglo-Norman towns, and was only able to claim the survival of earthworks at less than a third of them, and he noted the survival of earthworks at only 1 of the 7 rural boroughs that he listed. He described an additional 11 'deserted sites where there is some evidence to suggest that places were formerly medieval nucleated settlements (?villages)', and in each case that evidence included or was restricted to actual archaeological evidence. No follow-through research, even low-level, has been carried out on most of the sites in Glasscock's gazetteer, and the site that he regarded as the best preserved and for which he advocated immediate protection by the state – Kiltinan, Co. Tipperary – was cleared away by its owner several decades ago. The one site in Glasscock's list that has seen a subsequent programme of research is Newtown Jerpoint, included among his 'deserted Anglo-Norman boroughs' and described by

erkennen, sondern ebenso Spuren der topographischen Entwicklung der Stadt nachvollziehen. Die Qualität der archäologischen Überreste kann mit der Qualität der Dokumentation gleichgesetzt werden: Es gibt aus den Schriftquellen keine Aufzeichnungen über das Datum der Gründung oder der endgültigen Wüstwerdung, jedoch wird der Status als anglo-normannische ‚Chartered Settlement‘ beschrieben. Zudem können wir viele Akteure der Geschichte Newtown Jerpoints identifizieren, von der anglo-normannischen Elite bis hin zu den Pächtern, bzw. Bewohnern, die dort nach spezifischen Verträgen (Burgage Tenure) Besitz erhielten. Viele Forschungen über diese verlassene Stadt wurden bereits durchgeführt, aber es bleiben wichtige Fragen offen. Dieser Artikel gibt eine erste Übersicht und markiert den Beginn für künftige detaillierte Forschungen.

Schlagwörter: *mittelalterliches Irland, Stadtwüstung.*

him as a 'unique' site that 'should be put in State charge' (*1971b, 293*).

Newtown Jerpoint had been the subject of a paper a decade before Glasscock submitted his survey for publication (*Pilsworth 1958*). In 1973, Claire Foley excavated a pair of successive medieval buildings on a platform about 400 m north-west of the town's church (*Foley 1989*). They were not within the area of the town, but the excavation provided the first – and, so far, the only – glimpse of Anglo-Norman domestic architecture in the settlement. Then, just over 30 years ago, Terry Barry featured Newtown Jerpoint prominently in his general survey of Ireland's medieval archaeology, effectively elevating it to the status of a DMV type site for Ireland (*1987, 75-81*). Since then, Kieran O'Conor has reiterated the site's significance (*O'Conor 1998, 49-51*; see also *Bolger 2017, 59-61*). A LiDAR survey (an aerial laser scan) of the site was commissioned by the Heritage Council in 2006 and a conservation plan by Oxford Archaeology was published on the council's behalf in 2007. This included a discussion of the settlement's morphology and a round-up of historical source materials (*Munby 2007*). The parish church (see *Murtagh 2007*) has since been stripped of ivy and conserved, and the fragmentary remains of the late medieval tower house have been stabilised as per recommendations from the conservation plan.

A brief history of Newtown Jerpoint

Located in central Co. Kilkenny, a county rich in Anglo-Norman settlement (Fig. 3), Newtown Jerpoint is tucked into the angle where the River Nore meets its small tributary, the Arrigle. The place name Jerpoint is a



Fig. 1: View of Newtown Jerpoint from the west (© Tadhg O’Keeffe).

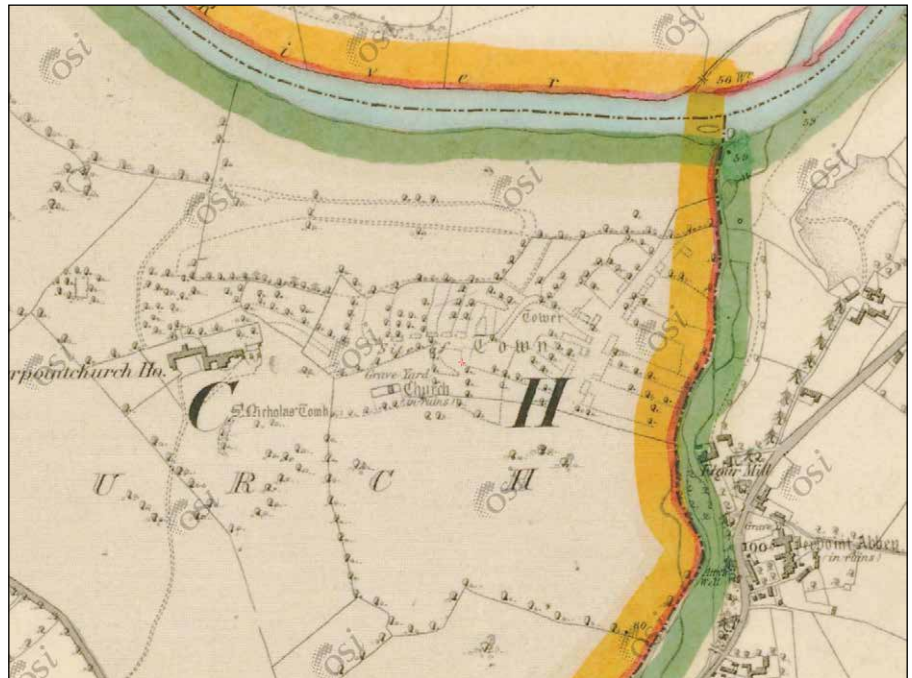


Fig. 2: The deserted town as mapped by the Ordnance Survey in the 1830s (© Ordnance Survey Ireland).

combination of an ancient Irish name for the Nore (An Eoir/An Fheoir) added to the Latin for bridge (*pons*). The bridging point was on the Nore, on the upriver side of its confluence with the Arrigle, and there was an actual bridge there from at least the late 12th century (Ó Ciobháin 2007, 69). The smaller river separates the site of the town from that of the Cistercian abbey of Jerpoint, founded less than two decades before the Anglo-Norman

invasion of Ireland. Town and abbey were in different cantredal jurisdictions – the town was in the barony of Knocktopher and the abbey was in the barony of Gowran (see MacCotter 2008, 180)—so there was no proprietary connection between them. Moreover, there is no record of a bridge between the town and the abbey, even though the river was narrow enough to span relatively easily. It is conceivable that the foundation of the town was an

irritant to the Cistercian community at first, given that the Cistercians preferred to live in relatively isolated spots, but later abbots did actually own property in the town: there is a record that a house belonging to the abbot in the town was burned in 1311, while the abbot at the time of the dissolution of the monasteries had in the town 'a burgage with five gardens' and 'another burgage called Marschalls corte' (Munby 2007, 30, 32).

The date of the town's foundation is not known, nor is it known whether the foundation preceded the grant of a charter giving it borough status or whether it was made possible by the issuing of that grant. Pilsworth suggested (1958, 32) that the town was founded shortly after 1200 by Griffin fitzWilliam, a brother of Raymond le Gros, installed in Knocktopher by William Marshal. This is a reasonable suggestion. Griffin's middle son, Matthew, held 1½ knight's fees at Knokechnoker (modern-day Knocktopher) and ¼ fee Nova Villa in 1247 (Munby 2007, 26-27). The church was gifted to St John's Priory in Kilkenny in the 1220s (Munby 2007, 26); that suggests that the place was rather underdeveloped until that decade, as parish churches tended, it seems, to be assigned to monastic houses as soon as they were founded and were generating revenue (O'Keefe 2006).

The first Anglo-Norman nucleated settlement in the manor was possibly at Oldtown, a townland to the west. A Gaelic settlement originally perhaps, Oldtown had Anglo-Norman occupants in the 13th century, but it presumably acquired its name after the new town was founded at the confluence of the 2 rivers. It remained a centre of settlement thereafter: its occupants shared with the burgesses of the new town a duty to serve at the lord's court and at his mill (Munby 2007, 27).

Our earliest detailed record of the character of Newtown Jerpoint is a 1289 manorial extent (Munby 2007, 27). It tells us that each burgage plot came with 6 acres of land at an annual rent of 1 shilling a year. There were 24 burgesses in the settlement holding 138 acres. Oddly, other burgesses are recorded as holding other land in the manor, which might suggest that burgage tenure was enjoyed among tenants living out in the countryside. Circumstantial evidence indicates that at least some of those other burgesses lived in Oldtown: a 1307 inquisition enumerates 54 burgesses in the new town, and the fact that the old town was recorded as empty of buildings by at least 1324 (Munby 2007, 29) leads one to wonder if burgesses simply moved from there to the newer settlement around 1300, thereby raising its population of burgesses from 24 to 54.

From the outset, Newtown Jerpoint had to compete with Thomas fitzAnthony's new borough of Thomastown, less than 3 km to the north-east as the crow flies. The challenge was all the greater because fitzAnthony's town, while no larger spatially, had a better planned marketplace,

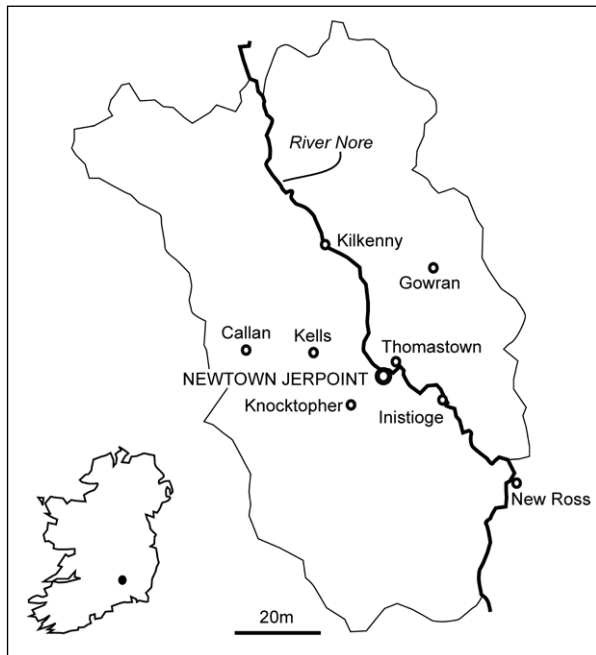


Fig. 3: Location map of Newtown Jerpoint with Co. Kilkenny, and of other settlements mentioned in the paper (© Tadhg O'Keefe).

the lifeblood of any medieval town. Moreover, fitzAnthony had a castle at Thomastown – the castle is known today as Grenan castle (Waterman 1968, 67-72)—which suggests he planned on spending more time in the vicinity of his town than many other barons were to do with their towns. It is reasonable to think that a seigneurial presence would usually work to a town's advantage.

In 1375 Newtown Jerpoint was granted pontage, murage, and pavage. The provision to collect customs from goods carried over the bridge in each direction was specifically to fund the repairing of that bridge and of the tower and gate, which protected its south end (Munby 2007, 30). During the medieval period, the presence of a bridge crossing could bring prosperity (Harrison 2004, 58). But for its bridge, the new town would probably have failed much earlier: the 1375 grant was more about protecting the economy of the region, and ensuring Thomastown's supply lines from the south, than it was about protecting the new town's own community and its mercantile activities. As we will show, the new town did not possess a well-defined marketplace of its own.

Given its proximity to the larger town, Newtown Jerpoint survived for a surprisingly long time. Late in the Middle Ages a tower house was built on one of the burgage plots – a very small part of it survives – which indicates that somebody in the town was making money. Some of the town's inhabitants were described as burgesses in 1586, while it was still listed as a town (Jerypond) as late as 1591 (Munby 2007, 25). Seven 'tenants of the

Long street of Jeripond' were recorded as rent payers to the earl of Ormond in 1595-1596 and 8 'Cottiers of the Longe Stret in Jeripond' are enumerated in a rental of 1614 (*Munby 2007, 32*). The presence of tenants of such lowly status on the town's main street is a fair indication of decline. By 1653 all that was left, besides the church, was '...a small old castle, a corn mill in repair, a pigeon house and several thatched cabins' (*Munby 2007, 32*). The old bridge was probably washed away in the great flood of 1763 (*Munby 2007, 33*), but the town was effectively dead by then anyway.

The physical remains at Newtown Jerpoint and what they tell us

The remains at Newtown Jerpoint today comprise the ruined parish church of St Nicholas, 2 converging streets with traces of burgage plots, piles of stones cleared from former buildings within these plots, the fragmentary remains of a tower house, and the even more fragmentary remains of 2 mills. The bridge is gone, but investigations by Rex Bangerter exposed collapsed masonry remains in the expected location, as

well as a likely landing point on the east bank of the Nore (*Bangerter 2012*).

The church itself is a nave-and-chancel structure (Fig. 4). It is quite short by the standards of its period, and lacks the sophistication of the church in Thomastown, but there is enough in its fabric to allow us date it to the earlier 13th century. Late in the Middle Ages, a vaulted pulpitum was inserted into the east end of the nave and a new residential tower was built over it (Fig. 5). It is dangerous to draw inferences on the state of the town based on alterations of this character. First, the pulpitum certainly offered the parish priest new preaching options, but the congregation who witnessed sermons from it actually lost space within their part of the church by virtue of where the new structure was inserted. Second, the new tower was for the priest alone, and, even though its insertion suggests a level of insecurity in the Middle Ages, the fact that it was above the new pulpitum (rather than at the west end, as was normal for such towers) might say much about the pretensions of the priest. The church is surrounded today by an irregularly shaped stone boundary wall, but the LiDAR image shows this to be located within a larger rectangular area that can be



Fig. 4: The church of St Nicholas from the north-west; note Jerpoint Cistercian abbey in the background (© Tadhg O'Keefe).



Fig. 5: The pulpitum and residential tower of the parish church viewed from the nave; note the earlier bellcote in the original gable (© Ian Doyle).



Fig. 6: The effigial grave slab in the churchyard (part of the second slab, with incised decoration, is visible in the foreground) (© Tadhg O'Keeffe).

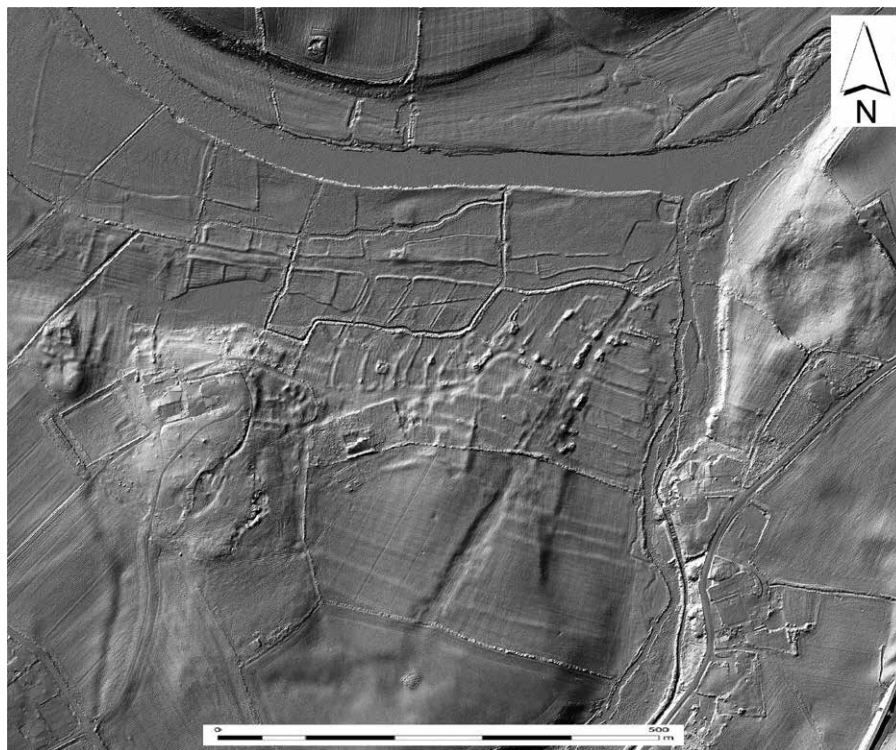


Fig. 7: The LiDAR survey of Newtown Jerpoint (© The Heritage Council of Ireland/The Discovery Programme).

interpreted as the original churchyard and cemetery. This is important in 2 regards. First, it confirms that the church does not occupy an older ecclesiastical site. Second, it is a substantial enclosed area, laid out to allow the growth of a cemetery, and that suggests the founder had serious ambitions for the new town.

Within the present churchyard is the base of a cross, apparently fashioned from an unfinished millstone, and it is conceivable that this cross stood outside the churchyard to the north in the area where there may have been a marketpace. There are also two medieval grave slabs, the larger of which (14th century?) is, for Ireland, a rare form of effigial monument (Fig. 6). There may be other slabs hidden under the grass, if not scattered more widely. There is also the base of a 13th-century baptismal font that had a circular drum and 4 detached flanking pillars.

Turning now to the earthworks, archaeologists with experience of studying deserted medieval nucleated settlements will be familiar with the challenge of reading earthwork evidence on the ground. Some degree of formal settlement planning is usually in evidence and can be detected with relative ease by walking earthworks, but the biography of each settlement is different, resulting in unique and distinctive morphological patterns that are much more difficult to detect and interpret. While it is not unusual to find, for example, that major boundaries survived the centuries in which settlements were living places, it is often the case that open spaces – streets, marketpaces – changed shape due to encroachment or

decline, and that few properties escaped amalgamation or subdivision. LiDAR surveys are immensely valuable in resolving questions raised by field walking and in revealing traces that cannot be detected easily by conventional methods. The combination of a LiDAR survey (Fig. 7) with the record made by the Ordnance Survey in the 1830s means that the earthwork plan of Newtown Jerpoint is especially legible. There are several key observations to be made about the town based on this evidence, and they whet the appetite for more research, including geophysical prospecting and, at a later stage, archaeological excavation.

First, one expects no traces of antecedent settlement on the site of a new town, and none can be seen, but there is evidence suggestive of antecedent land use. The row of plots opposite the church have reverse-S (or aratral) curves, typical of medieval plough strips or selions (see, for example, *Aston 1985*, 121-122). This suggests that the plots in Newtown Jerpoint were laid out over former plough strips, and that the low banks that define their northern boundaries were reshaped from former plough headlands (Fig. 8). Examples of tofts superimposed on former plough strips are known in England (see *Roberts 1996*, for example), so the explanation offered here is entirely reasonable. The Newtown Jerpoint evidence is of considerable interest in an Irish context for 2 reasons. First, there is, as yet, rather limited evidence in the Irish landscape of great medieval field systems with ridge-and-furrow cultivation (*Gardiner – O’Conor 2017*, 149). Strips



Fig. 8: Portion of the LiDAR survey showing the medieval tofts on reverse-S selions to the north of the parish church (© The Heritage Council of Ireland/The Discovery Programme).

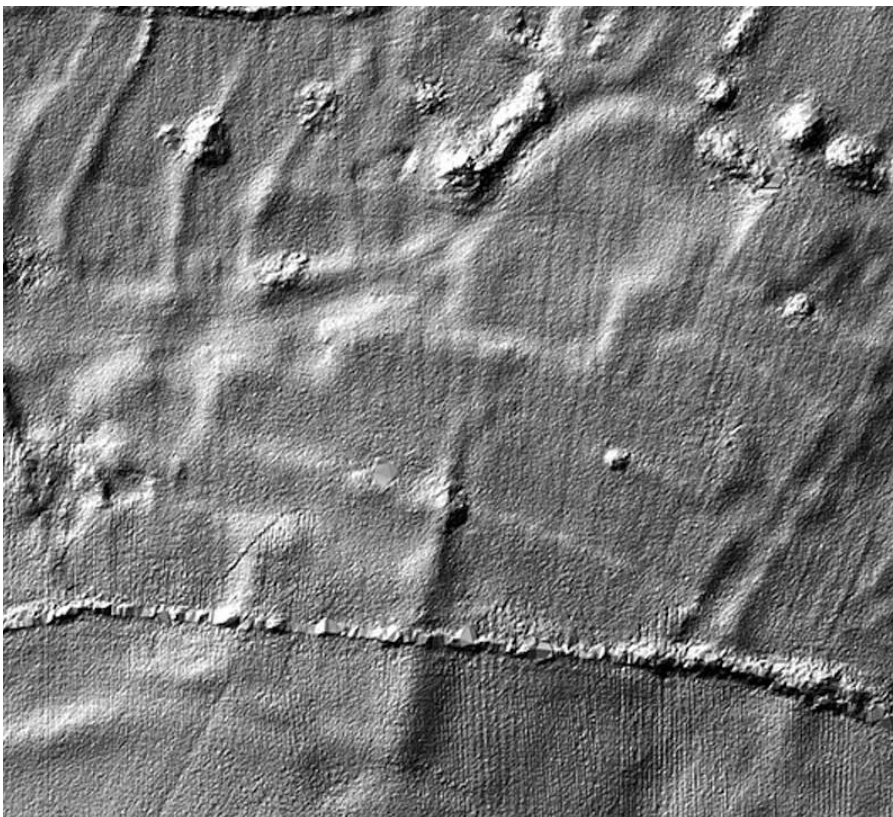


Fig. 9: Portion of the LiDAR survey showing staggered plots on the west side of Long Street (© The Heritage Council of Ireland/The Discovery Programme).

with aratral curves are known in Ireland, as are plough headlands (*Hall – Hennessy – O’Keeffe 1985*). Second, the Newtown Jerpoint plough strips are likely to predate the imposition of Anglo-Norman lordship in the district,

indicating that here, at least, the arable practices long assumed (anecdotally) to characterise Anglo-Norman farming in Ireland were being followed in the pre-invasion period. The alternative explanation, it should be noted,

is that the plots represent an extension of the settlement onto former Anglo-Norman arable land, in which case the strips are not pre-invasion, but we think that the evidence so far points to the plots in question being original.

Second, the town appears to have had no prominent outer boundary, and the opportunity to provide it with one – the 1375 murage grant – did not lead to one. As a borough, it must have had some form of boundary originally, but the fact that none can be detected is possibly a sign that late in the 13th century, the normal period of wall construction, the town was not regarded as having the sort of long-term prospects that would justify the effort.

Third, the character of the 2 streets in the town indicates a complex history. The smaller, narrower, east-west street in the town ran past the parish church from the direction of Oldtown, but its line cannot be traced west of Jerpointchurch House. Within the town its line curves clockwise just past the church, allowing it to meet Long Street at a right angle; opposite where it runs into Long Street, a narrow lane leads down to the site of one of the mills. The tofts on the north side of the street present evidence of pre-settlement farming, as was noted. There are hints in the ground that the selion boundaries actually continue under the road as far as the original churchyard boundary, which would suggest that road did not run along the outside of a continuous headland but cut through the ends of the selions.

The wider street – to be equated with the ‘Long Street’ mentioned in some sources – ran through the town in a fairly straight line from south-west to north-east in the direction of the site of the medieval bridge over the Nore. North of the river, its line continued northwards across the floodplain, only turning eastwards towards Thomastown once it reached the top of the river terrace. South of the town, its line can be traced in the large field south of the parish church, but it then disappears. It presumably continued to the south-west in the direction of Knocktopher, but its line cannot be detected confidently in later field boundaries. The chronological relationship of Long Street to the narrower street is uncertain, and one can devise arguments in favour of earlier and later dates. From the point of view of future investigations to determine sequence, the most interesting tofts along this street are those about halfway along its length on the west side: here, the rear boundaries – is that the correct identification? – are stepped, the lengths of the tofts decreasing from south to north until the junction of Long Street and the narrow street (Fig. 9). The arrangement tends to suggest a respect for the line of the narrow street. It does not explain, however, why that narrower street takes an odd swing to the left before it intersects (or was intersected by) Long Street.

Fourth, and finally, Newtown Jerpoint has no strongly demarcated marketplace. A triangular widening of the smaller of the two streets is apparent on the north side of the churchyard, but one would expect the market to be nearer to, if not on, Long Street, given the importance of the bridge in the life of the town. James Graves recorded a tradition that there was a marketplace at the junction of the two streets (*Munby 2007*, 129), which would make sense, but it must have been small. The key point is that Newtown Jerpoint’s market facilities were less formally planned than those of Thomastown. Does this tell us that, even at its moment of foundation, it was never intended to challenge Thomastown as an economic centre?

A manor house outside the town?

There is no mention in the documentary records of a manor house or any settlement sites of elevated social status at Newtown Jerpoint. Buildings excavated by Claire Foley some 400 m to the north-west of the parish church might represent such a settlement of some status (*Foley 1989*), although they do not appear to have been part of a high-status manorial complex of the type now identified at Rincrew, Co. Waterford (*Cotter – MacCotter – O’Keeffe 2015*).

In 1973, land improvement works exposed a raised clay platform upon which at least 2 phases of buildings were evident. Archaeological investigations on this platform revealed what the excavator referred to as Structure 1 (Fig. 10), which was a rectangular stone building of 2 phases of construction. Finds from this structure included Ham Green and Saintonge pottery, a spindle whorl, and various pieces of metalwork, including iron knives and a small bronze lid. This structure was subsequently replaced by a substantial mortared-stone building referred to as Structure 2. The walls of this were 1 m thick and measured 9 m in length and 6.5 m in width. Internal features such as an arch base at the eastern end and a stairwell to provide access to an upper floor were evident. Finds associated with this phase included what is described as a bronze tailor’s pin and sherds of Merida ware.

So far, the remains of these structures have defied convincing analysis, mainly because the corpus of excavated parallels in Ireland is so small. For Barry (*1987*, 75), Structure 2 was a possible medieval grange or manor house, or alternatively a barn for the storage of grain, while the earlier Structure 1 was probably a peasant longhouse (*Barry 1998*, 80). O’Conor has concurred with these suggestions (*1998*, 50). O’Keeffe identified the more elaborate house as that of a free tenant (*2015*, 60).

The medieval pottery assemblage from the 1973 excavation would repay further study, in particular as understanding of these wares has improved since its time of publication in the late 1980s. However, from the

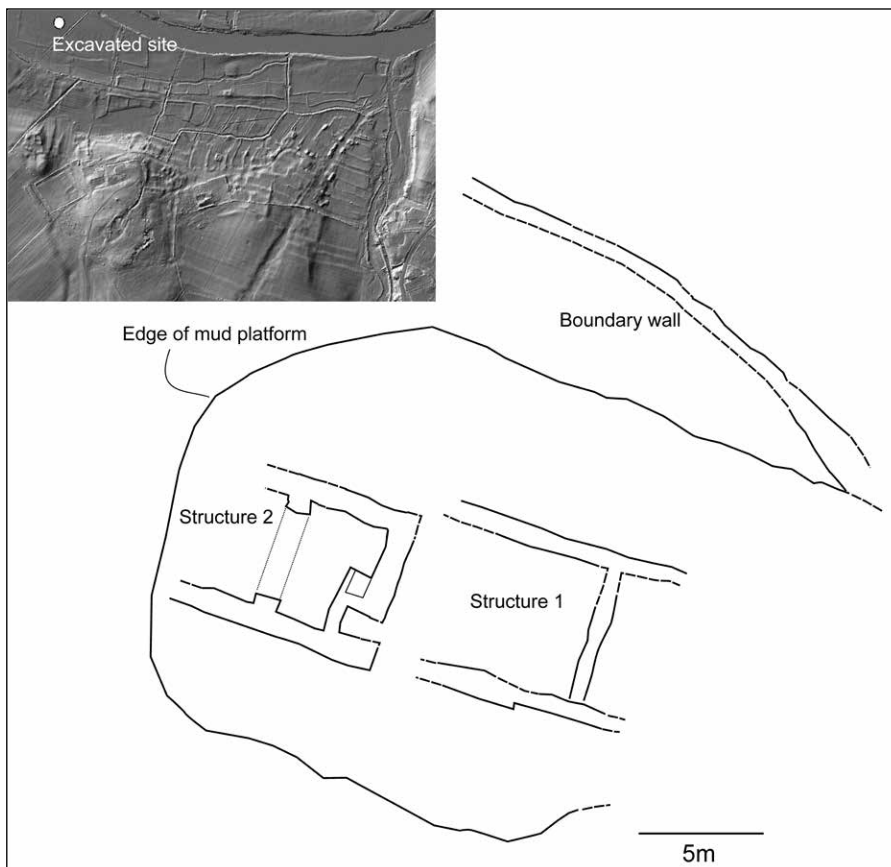


Fig. 10: The site of a possible free-tenant residence to the west of the town excavated in 1973 (© Tadhg O'Keeffe).

published excavation report it is possible to distinguish a number of patterns. Sherds of Ham Green pottery were recovered from the earliest occupation layers associated with Structure 1. In total there are approximately 10 Ham Green vessels from Bristol and 9 French jugs, as well as 25 sherds of Merida ware, which the excavator argued represented 15 vessels (Foley 1989, 121). The bulk of the medieval pottery assemblage was made up of native wares consisting of Leinster Cooking Ware (described as Coarseware 1), and what are now referred to as Kilkenny wares. Even from such a limited examination, we can suggest that the earliest occupation of the site, beginning with Structure 1, where sherds of Ham Green were recovered, can be assigned to the later 12th to 13th centuries (McCutcheon 2006, 42). However, based on the known historical references to settlement in this area of Kilkenny, a date early in the 13th century appears more plausible than one in the late 12th century. An absence of finds from Structure 2 makes any interpretation of its function difficult, yet the scale of the building and its internal masonry features, such as an arch and a stairwell, do suggest a higher-status function. Taking a broad view on the excavation, the character of the finds is domestic, but it is not that of a peasant settlement. The small range of imported ceramics from Bristol and France, as well as portion of

a barrel padlock, suggests activity at a point higher on the social scale. A comparable body of medieval houses, recently published from Co. Wexford, display a far more basic range of small finds and ceramics, predominantly of Leinster Cooking Ware and other local wares with far less substantial architectural features comprising mud walls (Eogan – Kelly 2016, 234-237). Closer to Newtown Jerpoint, the partial excavation of a possible medieval moated site at Kilkerragh, some 12 km upstream of Newtown Jerpoint, also revealed a similar assemblage, where imported wares were present but in much smaller proportions to native wares (Hurley 1987, 93-94).

Newtown Jerpoint in context: a 'rural borough' or a town?

The historian A. J. Otway-Ruthven asserted many years ago that many of the Anglo-Norman boroughs could 'never have had any real urban character' and that many of them were founded to attract settlers to Ireland (1965, 79). Such boroughs were described by Glasscock as 'rural boroughs' (1971a, 1971b), the term connoting that they were no more than small rural villages. The late John Bradley looked at the range of these so-called 'rural boroughs' in Ireland and considered the differences between them and functioning towns (Bradley 1985;

	Newtown Jerpoint	Callan	Thomastown	Gowran	Knocktopher	Kells	Kilkenny	New Ross
Parish church	X	X	X	X	X	X	X	X
Street(s)	X	X	X	X			X	X
Market/fair	X	X	X	X	X	X	X	X
Defences		X	X	X			X	X
Fortified houses	X	X	X	X	X			
Seigneurial castle			X	X	X	X	X	
Port/harbour								X
Bridge	X		X	X			X	X
Mills	X	X				X	X	X
Chapel(s)		X		X		X	X	X

Tab 1: Co. Kilkenny's medieval boroughs and their topographical elements.

Borough	Year	Burgess rent	Burgages	Estimated population (burgages x 5)
Newtown Jerpoint	1307	£1 2s.6d.	22	110
Dunnamaggan	1347	£2 3s.	43	200
Kells	1347	£3 11s. 8d.	71	350
Knocktopher	1312	£4 17s. 6d.	97	500
Callan	1306	£12 17s. 8½d.	257	1,300
Kilkenny	1307	£17 11s. 4½d.	351	1,750
New Ross	1307	£25 6s. 8d.	506	2,500
Gowran	1306	£34	680	3,400

Tab. 2: Value of boroughs in Co. Kilkenny during the 14th century (values from Empey 1983, 442). New Ross is also included for comparison.

1998) by identifying criteria by which a settlement's status could be determined. We can apply those criteria here (Table 1) to settlements with borough status in Co. Kilkenny (and include New Ross in Co. Wexford as a regional marker).

One can see from this that Newtown Jerpoint possessed many of the features that Bradley regarded as indicative of urban status, but that it lacked a seigneurial residence. Towns in strategic locations such as Callan and New Ross could function without a seigneurial presence, but the ongoing and marked interest of a lordly founder was an advantage, and Newtown Jerpoint lacked that advantage.

Bradley also used rental information to calculate the economic value of a borough to a lord and to estimate the

number of burgesses. The method is fraught with the risk of oversimplification, but the exercise is still worthwhile. Using a series of rental rolls from the 14th century, it is possible to tabulate the burgess rental for many of those towns listed in Table 1 (see Tab. 2). There are issues with such an approach, not least the fact that the rentals span a period from 1307 until 1347; other issues are highlighted by Graham (2000, 135-136), including the possibility that many burgesses lived outside the actual borough (as may have been the case in Oldtown/Newtown Jerpoint) and that burgage rents could vary if one individual held several burgage plots. However, setting these values out does highlight significant variation in the scale of the rental returns for the selected boroughs. A multiplier of 5 per burgage plot has been used to provide an estimate of population at each settlement. From all of this, we get a good indication of Newtown Jerpoint's place in the regional urban hierarchy: it is at the bottom.

Conclusion

The number of known deserted medieval settlements has increased in recent years, thanks to LiDAR and geophysics, and even some excavation (Bolger 2017), but key issues raised by Glasscock all those years ago remain to be answered, not the least of which are the causes of desertion and the dates of episodes of desertion. There is no reason to think that there was a single main episode of desertion in Ireland during, for example, the 14th century, when war, famine, and disease affected large parts of the island. On the contrary, the first village/town desertions might have been relatively early, as small settlements failed in the 13th century to attract the numbers of settlers needed for their survival, while the latest desertions are likely to have been as late as the 17th or 18th century. The presence of later medieval tower houses (small turriform castles) on the sites of deserted settlements with early-13th-century foundation dates, such as Oughterard, Co. Kildare, and Boulick, Co. Tipperary, indicates continued occupation of those sites into the 15th century at least. The absence of information on settlement desertion in medieval Ireland is a significant handicap for Irish scholars who attempt to map change in the rural landscape.

Newtown Jerpoint is one of a small number of deserted medieval nucleated settlement sites in Ireland with exceptional preservation. Work carried out on the site so far has revealed much about its history. Key questions about the site, and by extension about medieval nucleated settlements and their desertion, remain to be answered, but a strategy for answering those questions now exists. A 4-year programme of research on the town and its agricultural hinterland from the Middle Ages to more recent times has begun. The programme is a collaboration between Teagasc (the state agency providing

research, advisory services, and education in agriculture, horticulture, food, and rural development in Ireland), the Heritage Council, and UCD School of Archaeology. One has to hope that other research projects will focus on other sites of comparable importance in Ireland, saving them – as failed to happen at Kiltinan – from needless destruction. We pointed out at the start of this paper that Robin Glasscock's 1971 papers marked the start of the study of 'DMVs' in Ireland. The study has been at something of a standstill since then. We hope that the programme of research at Newtown Jerpoint kick-starts a new phase of research.

References

- Aston, M. 1985:*
Interpreting the landscape: landscape archaeology and local history. London.
- Bangerter, R. 2012:*
Underwater archaeological investigation River Nore crossing point and Little Arrigle river, medieval settlement of Newtown Jerpoint, Thomastown, Co. Kilkenny, 11E0296ext. Unpublished Heritage Council grant-assisted project R02764.
- Barry, T. B. 1987:*
The archaeology of medieval Ireland. London.
- Barry, T. B. 1998:*
Socio-economic aspects of Irish medieval settlements. *Ruralia II*. Praha, 78-86.
- Bolger, T. 2017:*
Colonising a royal landscape: the history and archaeology of a medieval village at Mullamast, County Kildare. TII Heritage 6. Dublin.
- Bradley, J. 1985:*
Planned Anglo-Norman towns in Ireland, in: Clarke, H. – Simms, A. (eds), *The comparative history of urban origins in non-Roman Europe*. British Archaeological Reports International series 255. Oxford, 411-467.
- Bradley, J. 1998:*
Rural boroughs in medieval Ireland: nucleated or dispersed settlements. *Ruralia III*. Praha, 288-293.
- Cotter, E. – MacCotter, P. – O'Keefe, T. 2015:*
A blow to the temple: the 'monastic castle' at Rincrew (Co. Waterford) reinterpreted, *Journal of Irish Archaeology* 24, 163-178.
- Empey, C. A. 1983:*
Medieval Knocktopher: a study in manorial settlement, Part 2, *Old Kilkenny Review* 2:5, 441-452.
- Eogan, J. – Kelly, B. 2016:*
New roads to medieval Wexford, in: Doyle, I. W. – Browne, B. (eds), *Medieval Wexford: essays in memory of Billy Colfer*. Dublin, 211-240.
- Foley, C. 1989:*
Excavation at a medieval settlement site in Jerpointchurch townland, County Kilkenny, *Proceedings of the Royal Irish Academy* 89C, no. 5, 71-126.
- Gardiner, M. – O'Connor, K. 2017:*
The later medieval countryside lying beneath, in: Stanley, M. – Swan, R. – O'Sullivan, A. (eds), *Stories of Ireland's past: knowledge gained from NRA roads archaeology*. TII Heritage 5. Dublin, 133-152.
- Glasscock, R. 1971a:*
The study of deserted medieval settlements in Ireland (to 1968), in: Beresford, M. – Hurst, J. G. (eds), *Deserted medieval villages*. Gloucester, 279-291.
- Glasscock, R. 1971b:*
I: Gazetteer of deserted towns, rural-boroughs, and nucleated settlements in Ireland, in: Beresford, M. – Hurst, J. G. (eds), *Deserted medieval villages*. Gloucester, 292-296.
- Graham, B. J. 2000:*
Urbanisation in Ireland during the High Middle Ages c.1100-to c. 1350, in: Barry, T. (ed.), *A history of settlement in Ireland*. London/New York, 124-139.
- Hall, D. N. – Hennessy, M. – O'Keefe, T. 1985:*
Medieval agriculture and settlement in Oughterard and Castlewarden, Co. Kildare, *Irish Geography* 18, 16-25.
- Harrison, D. 2004:*
The bridges of medieval England: transport and society 400-1800. Oxford.
- Hurley, M. F. 1987:*
Kilkeragh, Co. Kilkenny, Corn-drying kiln and settlement site, in: Cleary, R. M. – Hurley, M. F. – Twohig, E. A. (eds), *Archaeological excavations on Cork – Dublin gas pipeline (1981-82)*. Cork Archaeological Studies no. 1. Cork, 88-100.
- MacCotter, P. 2008:*
Medieval Ireland: Territorial, political and economic divisions. Dublin.
- Martin, G. 1981:*
Plantation boroughs in medieval Ireland, with a handlist of boroughs to c. 1500, in: Harkness, D. – O'Dowd, M. (eds), *The town in Ireland*. *Historical Studies* 13, 25-53.
- McCutcheon, C. 2006:*
Medieval pottery from Wood Quay, Dublin, *Medieval Dublin excavations 1962-1981*. series B, vol. 7. Dublin.
- Munby, J. 2007:*
Newtown Jerpoint, County Kilkenny, Heritage Conservation Plan, the Heritage Council, Kilkenny. http://www.heritagecouncil.ie/content/files/newton_jerpoint_conservation_plan_2007_5mb.pdf (23-03-2018).
- Murtagh, B. 2007:*
The medieval parish church and graveyard of St

- Nicholas, Newtown Jerpoint, *Old Kilkenny Review* 49, 118-129.
- Ó *Cíobháin, B. 2007:*
The River Nore – an Fheoir, *Old Kilkenny Review* 59, 69-70.
- O’Conor, K. 1998:*
The archaeology of medieval rural settlement in Ireland. *Discovery Programme monographs* 3. Dublin.
- O’Keeffe, T. 2006:*
The built environment of local community worship between the late eleventh and early thirteenth centuries, in: Fitzpatrick, E. – Gillespie, R. (eds), *The parish in medieval and early modern Ireland: Community, territory and building*. Dublin, 124-146.
- O’Keeffe, T. 2015:*
Medieval Irish buildings, 1100-1600. Dublin.
- Otway-Ruthven, A.J. 1965:*
The character of Anglo-Norman settlement in Ireland, in: McCracken, J. L. (ed.), *Historical Studies V: papers read to the Irish conference of historians*. London, 75-84.
- Pilsworth, W. J. 1958:*
Newtown Jerpoint, *Old Kilkenny Review* 10, 31-35.
- Roberts, B. K. 1996:*
The great plough: a hypothesis concerning village genesis and land reclamation in Cumberland and Westmorland, *Landscape History* 18, 17-30.
- Waterman, D. M. 1968:*
Rectangular keeps of the thirteenth century at Grenan (Kilkenny) and Glanworth (Cork), *Journal of the Royal Society of Antiquaries of Ireland* 98, 67-73.

The Anglo-Scottish Western March: A landscape in transition

Caron Newman*

Abstract

The popular image of the borderlands, between England and Scotland in the Middle Ages, is one dominated by violence in a sparsely populated desolate landscape. The view of the Anglo-Scottish border as a largely unsettled area has influenced landscape management, particularly in the 20th century, with the creation of extensive areas of forestry plantation. Recent archaeological work in a small part of the border, in the modern English county of Cumbria, is beginning to reveal another perspective. Using a 1603 survey in conjunction with archaeological landscape survey, the late medieval landscape can be reconstructed, revealing a denser settlement pattern of farmsteads and hamlets, surrounded by large fields, many of which were cultivated. The process of settlement abandonment and shrinkage was just beginning in the early 17th century, but the main period of desertion seems to be linked to after the pacification of the borderlands, when agricultural improvement and landscape-scale reorganisation would have been more achievable. The survey shows that the popular image of the borderlands is overly simplistic, and that it is the result of complex processes that requires greater understanding of its historic development.

Keywords: *Borderlands, settlement, abandonment, landscape survey, Anglo-Scottish, late medieval.*

Résumé

La Région Frontalière Occidentale Anglo-Ecossaise: Un Paysage en Transition

L'image populaire de la région frontalière, entre l'Angleterre et l'Ecosse pendant le Moyen Age, est celle d'une domination de la violence dans un paysage désolé et peu peuplé. La perception de la frontière anglo-écossaise comme une zone en grande partie non habitée a influencé la gestion du paysage, surtout pendant le 20e siècle, avec la création de vastes zones de plantations forestières. Des travaux archéologiques récemment réalisés dans une petite zone frontalière située dans le Cumbria, un comté anglais moderne, ont commencé à révéler une autre perspective. En utilisant un levé qui date du 1603 en parallèle avec une étude archéologique du paysage, il est possible de reconstruire le paysage du Moyen Age. Cette reconstruction révèle un modèle d'occupation plus dense, comprenant des fermes et des hameaux, entourés de grands champs dont beaucoup étaient cultivés. L'abandon et la rétraction des implantations a commencé au début du

* McCord Centre for Landscape
School of History, Classics and
Archaeology
Newcastle University
Newcastle upon Tyne, NE1 7RU
United Kingdom
caron.newman@newcastle.ac.uk

17e siècle, mais la principale période de désertion semble avoir eu lieu après la pacification de la région frontalière, quand l'amélioration de l'agriculture et la réorganisation à l'échelle du paysage aurait été plus réalisable. L'étude montre que l'image populaire de la région frontalière est trop simpliste et qu'elle est le résultat de processus complexes qui demande une meilleure compréhension du développement historique.

Mots-clés: *Les région frontalières, implantations, l'abandon, enquête du paysage, anglo-ecossais, haut Moyen Âge.*

Zusammenfassung

Die westliche britisch-schottische Grenzregion: Eine Landschaft im Übergang

Das allgemein verbreitete Bild des Grenzgebietes zwischen England und Schottland im Mittelalter ist geprägt von Gewalt in einer schwach besiedelten marginalen Landschaft. Diese Sicht auf die englisch-schottische Grenzregion als ein weitgehend unbesiedeltes Areal hat die Bewirtschaftung der Landschaft besonders im 20. Jahrhundert beeinflusst und zur Anlage

Introduction

The popular image of the lands between England and Scotland during the medieval period is overwhelmingly one of near-constant conflict. The frequent state of war between the countries is often conflated with raiding that arose from the 15th century. The reality was that the Anglo-Scottish border was not fixed until the middle of the 12th century, and relations between the two nations were mostly peaceful until the 13th century. For the remainder of the Middle Ages, the countries were frequently in a state of war, but they were not constantly fighting. Border raids became a problem only from the 15th century; often this resulted from feuding between local kindred groups and had nothing to do with nationality. By the end of the medieval period, conflict was common, even if only on a local scale and, as a result, the border in the Middle Ages is often depicted as a desolate landscape, dominated by families of marauding raiders, who burned and slaughtered their way across the borderlands (*MacDonald Fraser 1971, 4; Moffatt 2007*).

The modern landscape of the Anglo-Scottish border, consisting in England of the north-eastern corner of the county of Cumbria, and the northern and north-western parts of Northumberland, is mainly rolling upland or upland fringe, dominated by moorland and permanent grazing land. It is sparsely populated, with a settlement pattern of isolated farms and hamlets linked by minor

großer Areale mit Baumplantagen geführt. Neue archäologische Untersuchungen in einem kleinen Teil des Grenzgebietes, in der heutigen englischen Grafschaft Cumbria beginnen eine andere Perspektive anzudeuten. Die Verknüpfung einer Vermessung aus dem Jahr 1603 mit archäologischen Beobachtungen, erlaubt es, die mittelalterliche Landschaft zu rekonstruieren, so dass nun ein dichteres Besiedlungsmuster sichtbar wird, welches von Höfen und Weilern geprägt ist, die von großen teilweise landwirtschaftlich genutzten Feldern umgeben sind. Eine Reduzierung des Siedlungswesens begann zwar im frühen 17. Jahrhundert, aber die Hauptperiode des Wüstungsprozesses scheint mit der Befriedung des Grenzgebietes zusammenzuhängen, als landwirtschaftliche Verbesserungen und Flurbereinigungen eher umsetzbar waren. Die Untersuchungen zeigen, dass das allgemein verbreitete Bild des Grenzgebietes zu einfach ist. Um die historische Entwicklung besser zu verstehen, muss die Komplexität der Prozesse betrachtet werden.

Schlagwörter: *Grenzgebiet, Siedlung, Wüstung, Landschaftsarchäologie, Britisch-Schottisch, spätes Mittelalter.*

roads and lanes (*Natural England 2014*). Historically, it was a region defined by river valleys, in Scotland Annandale, Eskdale, and Liddesdale and in England Tynedale, Redesdale, and Coquetdale. The region is distant from centres of power, agriculturally marginal, and has a low population density, hence it has been used for military training, large-scale coniferous forestry plantation, and water storage in the form of reservoirs. On the English side of the border, much of the region is contained within a national park. Land-management decisions by governmental and non-governmental agencies have been based on the apparent isolation and wild nature of the area. Such management decisions are a consequence of cultural preconceptions about borderlands, and a lack of understanding of past land use. One of the most obvious manifestations of this attitude was the planting of Kielder Forest in the 20th century, an extensive plantation that spans the county boundary between Cumbria and Northumberland. The forest is the largest planted coniferous woodland in northern Europe (*Natural England 2014, 6*), and has had a massive impact on the historic landscape of the borderlands. Despite ongoing afforestation and conservation policies to use the area as a carbon store through the restoration of blanket bog, there is little understanding of the nature and processes of historic land use. Relatively few archaeological sites have been recorded or investigated,

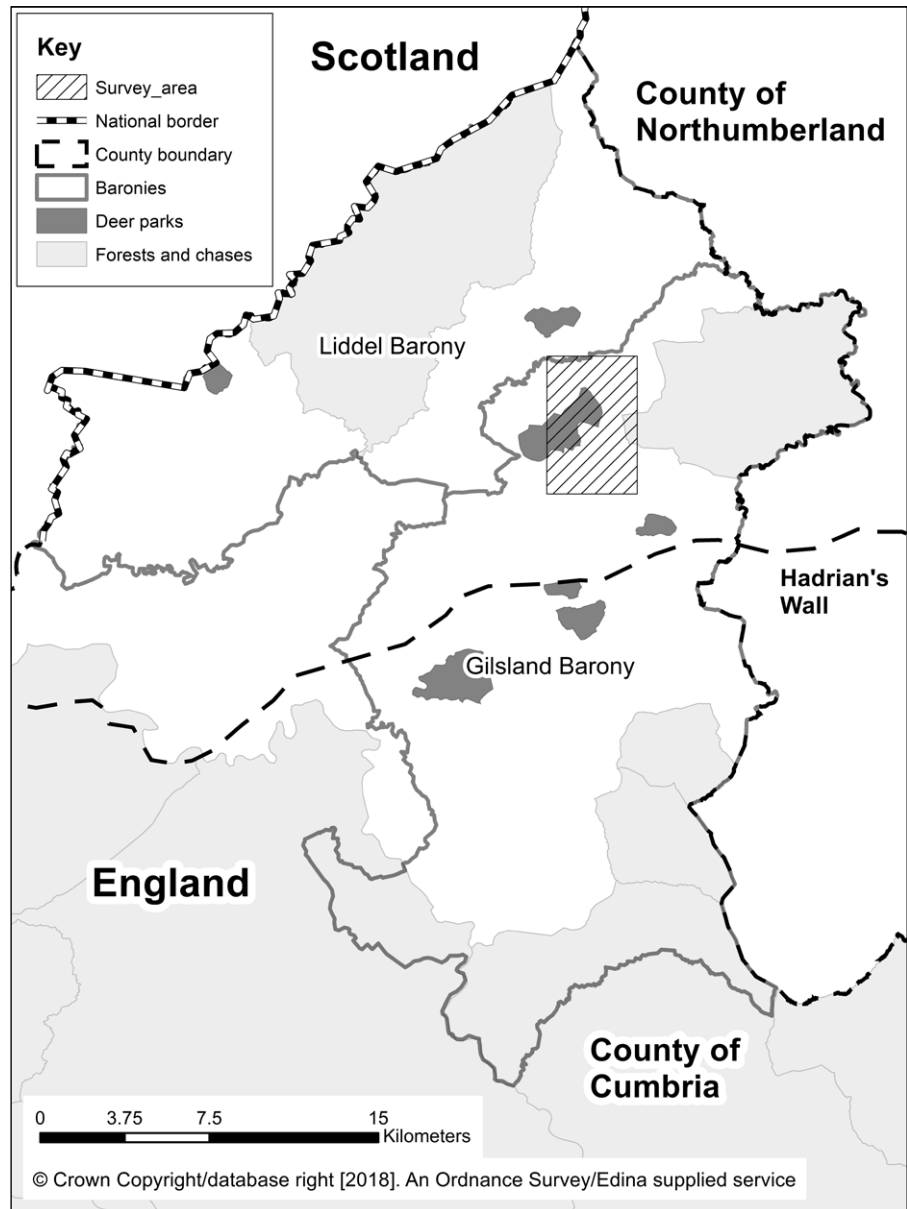


Fig. 1: The Anglo-Scottish border in the late medieval period. The borderlands were dominated by large baronies, with several hunting forests, chases, and deer parks. The survey area is located close to the northern boundary of the Barony of Gilsland and includes part of the extensive Askerton deer park (© Caron Newman, map background: Crown Copyright/database right).

especially in Cumbria in comparison to the frontier zone of Hadrian's Wall to the south, and previous landscape analyses suggests that in Cumbria at least there has been a complex process of landscape change since the end of the Middle Ages (Newman – Newman 2009, 46; Newman 2014, 191-194).

To better understand the medieval landscape and its subsequent transformation, with a view to informing future land-management decisions, in 2016 a small team of staff and students from Newcastle University carried out a rapid archaeological survey across a small upland fringe area of the Anglo-Scottish border, covering 11 km². The survey area lies within the historic English county of Cumberland, now part of the modern county of Cumbria, north of Hadrian's

Wall and to the east of the city of Carlisle (Fig. 1). In the medieval period it formed the Askerton lordship in the north-west part of the Barony of Gilsland. Existing archaeological and historical data were collated, and additional information was gathered from online satellite photography and walkover surveys, supplemented by documentary evidence. Sites were recorded in the field using a handheld GPS and the results plotted onto a Geographical Information System (GIS). The following paper reports the results of this single, small case study. The results can be set in a border-wide context, however, through comparison with other case studies from Northumberland and the Scottish side of the border (Dixon 2014; Peters 2016; RCAHMS 1994).

Historical background

Medieval Cumberland was dominated by large and powerful baronies, reflecting close royal and seigniorial control of land near to the Scottish border (*Winchester 1987*, 2-3). There were two major English baronies along the border itself, within the Western March, both established by the early 12th century (Fig. 1): Liddel Barony to the west (*Winchester 1987*, 16; *Graham 1913*), and the Barony of Gilsland to the south-east (*Ferguson 1894*, 160). The survey area is within Gilsland Barony. The dominance of such large and powerful baronies had a significant effect on the development of the landscape from the medieval period. The land-management strategies of powerful landholders were influenced by the environmental nature of the landholdings, including the presence of extensive upland moorland and lowland mosses. Land controlled directly by baronies tended to be either close to the baronial seat or, as along the border, in the less densely settled and extensive areas of upland (*Winchester 1987*, 19-20). North of Hadrian's Wall, the nature of baronial control is a key to land use in the medieval period with the designation of large areas as forest or chases (Fig. 1). The special laws, for the promotion and protection of hunting by the seigniorial classes, allowed the lords to tightly control the borderlands. Gilsland Barony contained three legal forests: Askerton North Moor, Bruthwaite, and Geltsdale. Askerton North Moor was almost wholly moorland with very little tree cover (*Winchester 2004*, 28-29). In addition to the forests, there were several large deer parks. The survey area includes the very large deer park of Askerton, which was in existence by 1285 (*Armstrong et al. 1950*, 102). It remained in use as a deer park into the post-medieval period, and is still marked as High Park and Low Park on Ordnance Survey maps, though by the mid-17th century the park appears to have been leased as a single farm (*Hudleston 1958*). The bounds of the park can be traced in modern field boundaries and earthworks, and its extent can be mapped with some confidence. The forests and parks were a physical symbol of a delegation of royal power to the barons.

The land north of Hadrian's Wall in Cumberland in the medieval period had an overwhelmingly dispersed settlement pattern. The lower-lying parts of this area appear to have been relatively well settled. An *Inquisitions Post Mortem* for Nichol Forest of 1276 demonstrates that farmland and settlement were concentrated particularly along the lower reaches of the main river valleys (*Graham 1913*, 39), and individual farmsteads had enclosed land held in severalty, known as forland (*Graham 1913*, 47). Gilsland Barony north of the wall seems to have had a similar landscape, and the 1603 survey of the barony records a dispersed settlement pattern of hamlets and farmsteads (*Graham 1934*).

The archaeological evidence

Of the 9 farmsteads named in the 1603 survey that are within the survey area, only 4 survive today, with the deserted 5 all being within Askerton Park (Fig. 2). Settlement within the survey area that lies outside the park appears to have shrunk rather than been deserted completely: for example, the hamlets at Rinnion Hills and Greensburn (Fig. 2) now survive as individual farmsteads. Rinnion Hills in 1603 was a settlement with 6 tenements (*Graham 1934*, 5). The standing farmhouse appears to be of 18th-century date, but possibly occupies the location of 2 earlier tenements. In the small field to the south of the farmhouse, low earthworks may be the remains of 2 more tenements, but the most obvious evidence for settlement shrinkage lies to the east of the farmhouse, where substantial earth-fast stone foundations, some of which may be the remains of a tower, may relate to the other 2 tenements in the hamlet (Fig. 3). The surrounding field pattern is obscured by multiple phases of earthen boundaries, but with a clearly defined area of ridge and furrow to the south-east of the settlement. The ridge-and-furrow earthworks are on land slowly converting to moorland.

Evidence for the medieval field pattern can be seen in the many relict earthen boundaries within the survey area, with the field pattern appearing to observe and incorporate the remains of Askerton Park pale (Fig. 2). The park came into existence in the late 13th century (*Boynnton 2003*). The earthen banks of former field boundaries are substantial, ranging between 3 m and 4 m wide, and the boundary to Askerton deer park, which is well-preserved along much of its length, measures up to 6 m wide, though in most places its internal ditch has been lost. Although some of these relict boundaries run for hundreds of metres, the field patterns are fragmentary and difficult to discern, and there are several phases of activity. Changes to field boundaries are probably best illustrated by the division between Gillalees Farm (probably Over Gillalees in the 1603 survey) and the deserted site of Nether Gillalees. The two lay on either side of the Askerton deer park boundary, with Nether Gillalees inside the park. The park pale is still visible as a substantial bank, but the boundary has been replaced several times (Fig. 4). A small earthen bank lies around 10 m inside the deer park boundary, perhaps marking the limits of the Nether Gillalees farmstead inside the park, with the gap between originally occupied by the internal park pale ditch. In the post-medieval period, the older boundaries seem to have been replaced by a drystone wall, which itself was replaced by a post-and-wire fence in the 20th century.

Areas of broad ridge-and-furrow earthworks indicate that the settlements practised arable cultivation, possibly organised as infield-outfield systems, which was common on poorer ground in Cumberland (*Elliott 1959*), and that

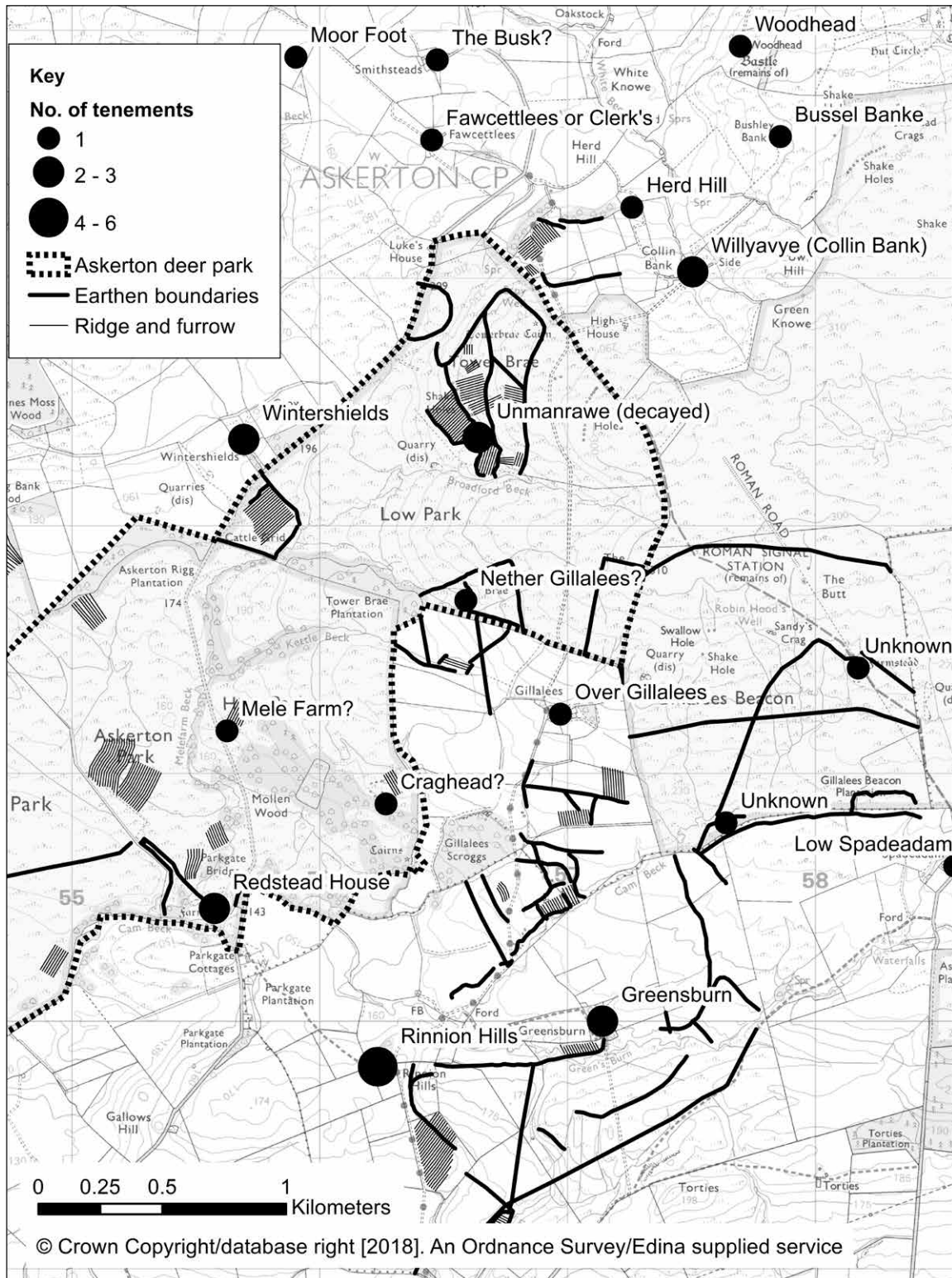


Fig. 2: The medieval settlement pattern of the survey area. Today it is wholly dominated by individual farmsteads but, in 1603, there were a number of farmsteads that were subsequently deserted, and some of the surviving farmsteads were once hamlets of up to 6 tenements. The settlements recorded in 1603 almost certainly reflect the late medieval pattern. Associated with the settlements are several phases of relict field boundaries and areas of broad ridge and furrow, indicating that cultivation formed part of a mixed-farming system (© Caron Newman, map background: Crown Copyright/database right).



Fig. 3: The stone-fast foundations of a substantial building at Rimmion Hills. In the background, behind the field wall, are the earthwork remains of another substantial structure. Today, Rimmion Hills has only a single farmstead, but in 1603, there were 6 tenements, of which these would have been 2 (© Caron Newman).



Fig. 4: The field pattern within the survey area has undergone several changes, including the realignment or replacement of field boundaries. Here, the park pale to Askerton deer park can be seen to the right of the drystone wall as a rush-covered low bank, with the earthen boundary to the farm known as Nether Gillalees to the left. At some point, the ditch to the park pale was lost and it, along with the farm boundary, were replaced by the drystone wall. It, too, became redundant, and was replaced by a post-and-wire fence (© Caron Newman).

farming was based on more than stock rearing. Both the field boundaries and areas of ridge and furrow now lie within either moorland or unimproved pasture, at a height of between 150 m to 250 m above sea level in areas now considered unsuitable for cultivation (Fig. 2). Some of the best-preserved earthworks lie on the rough grassland slopes of the hill known as Tower Brae, at 250 m above sea level (Fig. 5). Here, relict field boundaries define an area of around 22 ha, and within them were separate fields enclosing broad ridge and furrow. At the southern end of this complex are the substantial earthwork remains of 3

structures, which have been interpreted as a tower house, a smaller building possibly a barn, and a sunken, keyhole-shaped structure thought to be a corn dryer. The earthwork remains of 2 other buildings lie about 100 m east across an area of ridge and furrow. From the description in the 1603 survey, the 2 sets of remains appear to have been 2 tenements called Unmanrawe (*Graham 1934, 7*), both of which are described as decayed or wasted and having lately been in the possession of Anthony Edward Armstrong. A map of the manor of Askerton, which accompanied the written survey, features Armstrong's name along with the

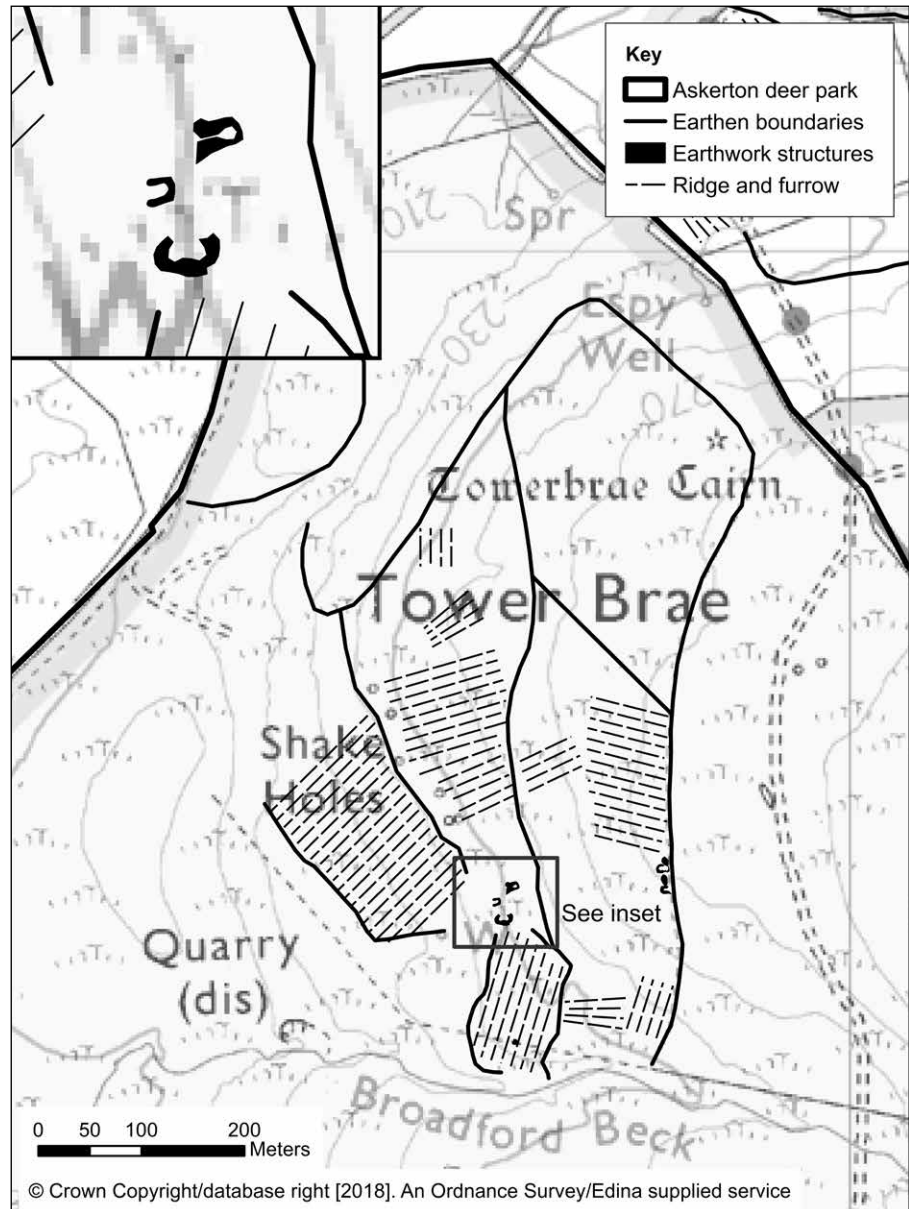


Fig. 5: The earthwork remains of a tenement known as Unmanraue in 1603, when it was described as 'decayed'. The farm lies at 200 m above sea level, and the ground cover is now rough moorland. The broad ridge-and-furrow earthworks clearly show, however, that the land was once cultivated, possibly in an infield-outfield system (© Caron Newman, map background: Crown Copyright/database right).

depiction of a tower (*Description and platt of the Lordship of Askerton 1603*, manuscript map). The use of the terms 'wasted' and 'decayed' suggests that the tenements had been occupied relatively recently, possibly during the tenancy of Armstrong.

Dating the archaeological remains

Two farmsteads consisting of single-celled buildings within defined enclosures were noted to the east of Over Gillalees and north of Low Spadeadam (marked as 'unknown' in Fig. 2), neither of which could be identified in the 1603 survey and may already have been abandoned. Unmanraue had been deserted by 1603. The other settlement earthworks identified by field survey relate to steadings in

existence in 1603 (*Graham 1934*). Rentals dated between 1652 and 1660 indicate that the 3 sites identified as being the steadings of Nether Gillalees, Mele Farm, and Redstead House had all been abandoned. Craghead or Cragthrop was still tenanted in 1652 (*Hudleston 1958*). Excluding the sites to the east of Over Gillalees and Unmanraue, which were deserted before 1603, and Craghead which was deserted after 1652, all the other desertions and shrinkages dated to the early 17th century. The settlements' origins are more difficult to pinpoint, but it seems likely that they are contemporary with the enclosure system into which they fit, and this seems to be at least of 13th-century date in its earlier phases. A late 13th-century origin for this settlement pattern corresponds with the establishment of hill-farming communities elsewhere in northern England (*Winchester*

2000, 16). The steadings within the deer park suggest that farming was taking place within its boundaries. It has been observed that Askerton Park at 543 ha in extent had the character of an enclosed chase rather than a deer park (Newman 2014, 254).

Discussion

What caused the settlement shrinkage and desertion within the study area, as noted in the archaeological remains and indicated in the documentary evidence? The area can be considered marginal for arable viability, and climatic deterioration from the mid-14th century may have led to abandonment. At Alnhamshales, Northumberland, the nucleated settlement there may have come to an end in the 16th century for these reasons (Dixon 2014) and there are other examples from Northumberland. The steadings to the east of Over Gillalees may have been victims to similar pressures. More widely, however, a harsh environment did not prevent population growth and settlement expansion in the northern English uplands in the later medieval period, culminating in overexploitation of resources that placed settlements at risk 'in the subsistence crises of the late sixteenth and early seventeenth century' (Winchester 2000, 16). It is possible that such stresses lay behind the failure of Unmanrawe seemingly around 1600. The Border uplands are considered distinctive, however. Here the turmoil of Border lawlessness is regarded as having restricted settlement before the 17th century, confining permanent settlement to the main river-valley sides with only shielings higher up the side valleys in areas like North Tynedale and Redesdale (Winchester 2000, 17). Certainly, this is the pattern observed in a survey undertaken at Deadwater at the northern end of North Tynedale, where permanent settlement of the higher lands seems not to have happened until the 18th century (Peters 2016). In the study area, however, at a lower elevation than the Deadwater part of North Tynedale, Border lawlessness does not appear to have restricted settlement before the later 16th century and was not responsible for the observed desertions.

The main period of settlement shrinkage and desertion postdates the pacification of the borderlands in the early 17th century. The pacification of the Border after the 1603 union of the monarchies of England and Scotland led to the removal of whole families considered to be troublemakers and facilitated the replacement of customary tenures with leasehold (Spence 1977). This latter outcome of the pacification enabled the replacement of subsistence agriculture with commercial cattle farming. The results of this appear to be observable in the mid-17th century Naworth accounts, where the steadings within Askerton Park, excluding Craghead, had been replaced by one leasehold holding known as the Parkes first mentioned

in 1648 (Hudleston 1958, 7), presumably situated at the farmstead now known as Parkgate.

This survey of a small part of the borderland suggests that the sparsely populated moorland landscape seen today was not a product of medieval warfare and raiding, but evolved in the post-medieval period from a more-settled farming landscape. In the study area, today's low-elevation moorland was once divided into steadings mostly belonging to the Armstrong clan. This settled landscape appears to have been established by the later 13th century and whilst there were some modifications over the subsequent centuries, it seems to have survived substantially intact until the early 17th century, when changes brought about resulting from the pacification of the Borders led to a reduction in the number of steadings. This survey also indicates that, whilst the nature of the archaeological remains comprising substantial earthwork boundary banks and evidence of stone-founded buildings is similar throughout the moors of the Anglo-Scottish border, the stories they tell are specific to their locations. At Southdean, for example, on the Scottish side of the border the remains found by survey were very similar – boundary banks, farmsteads, and towers – but the story of settlement expansion and contraction was different (RCAHMS 1994). There, a 13th-century settlement and agricultural pattern remained relatively stable until it was considerably altered through agricultural improvement in the 18th century (RCAHMS 1994, 10-14). This current survey, along with others undertaken since that at Southdean, have shown that its claim to uniqueness (RCAHMS 1994, 17) are not justified based on the character of the archaeological remains, but also show that the same interpretation cannot be applied wherever such remains survive.

To an extent, this survey, along with other landscape-scale surveys in Coquetdale and the College Valley in Northumberland (Shipley 2010), suggests that rural life, at least on the English side of the border, was not greatly different to contemporary upland farming elsewhere in northern England. The late medieval settlement and agricultural pattern was impacted from the 17th century by agricultural 'improvement' and to an extent by extractive industries. Even so, the distinctive nature of the Border society and the consequences of its pacification did in some areas, such as parts of the Barony of Gilsland, create divergence in the early 17th century, with a significant reduction in population and broadly the creation of the sparse farming settlement pattern visible today.

The present-day landscape between Hadrian's Wall and the Scottish border with Cumbria appears to be one dominated by moorland, much of it recently forested. Its apparent empty character is of relatively recent creation and does not indicate a wilderness with a lack of cultural heritage. This heritage requires to be understood to inform land-management decision-making. As argued

at the time of the Southdean survey, further historic landscape survey is required throughout the Anglo-Scottish border zone (*RCAHMS 1994*, 17). Such survey helps to define identity through a shared cultural heritage, and thus where historic landscapes extend across borders, shared borderland identities may be anticipated. Modern sociopolitical developments, such as the division in land-use and heritage policies between England and Scotland, can obscure historical patterns, as can land-management decisions made because areas are considered underused, peripheral, and liminal.

Acknowledgements

I would like to thank the Newcastle Institute for Social Renewal and Cumberland and Westmorland Antiquarian and Archaeological Society, who provided financial support for the field survey. Thanks are also due to the team of students who helped to carry out the survey, and to Kimberley Colman and Richard Newman for helping with student supervision. Richard also edited the report's final draft.

References

Armstrong, A. M. – Mawer, A. – Stenton, F. M. – Dickens, B. 1950:
The place-names of Cumberland. English Place-Name Society, 21-23. Cambridge.

Boynton, G. R. 2003:
Calendar of patent rolls. University of Iowa Libraries. <http://sdrc.lib.uiowa.edu/patentrolls/> (31-01-2018).

Description and platt of the Lordshipp of Askerton, 1603:
HNP/C/713/003. Cumbria Archives, Carlisle.

Dixon, P. 2014:
Survey and excavations at Alnhamshelles deserted medieval village, on the Rowhope Burn, Alnham Moor, Northumberland, *Archaeologia Aeliana* 5th series 43, 169-220.

Elliott, G. G. 1959:
The system of cultivation and evidence of enclosure in the Cumberland open fields in the 16th century, *Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society*, new series 60, 85-104.

Ferguson 1894:
The History of the County of Westmorland. London.

Graham, T. H. B. 1913:
The annals of Liddel, *Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society*, new series 13, 33-54.

Graham, T. H. B. 1934:
The Barony of Gilsland: Lord William Howard's Survey taken in 1603. Cumberland and

Westmorland Antiquarian and Archaeological Society, Extra Series 26. Kendal.

Hudleston, C. R. 1958:
Naworth estate and household accounts 1648-1660. Surtees Society 168. Durham.

Macdonald Fraser, G. 1971:
The steel bonnets. London.

Moffatt, A. 2007:
The reivers. Edinburgh.

Natural England 2014:
National Character Area Profiles. <https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles> (31-01-2018).

Newman, C. 2014:
Mapping the medieval and post medieval landscape of Cumbria. PhD thesis, Newcastle University. Newcastle.

Newman, C. – Newman, R. 2009:
A guide to using the Cumbria Historic Landscape Characterisation Database for Cumbria's planning authorities. Cumbria County Council. <https://www.cumbria.gov.uk/planning-environment/countryside/historic-environment/histlandcharacter.asp> (31-01-2018).

Peters, C. 2016:
Land at Deadwater Farm, Northumberland. Heritage Impact Assessment. Wardell Armstrong. <https://doi.org/10.5284/1040339> (16-04-2019).

RCAHMS 1994:
Southdean Borders an archaeological survey. Royal Commission on the Ancient and Historical Monuments of Scotland. <http://orapweb.rcahms.gov.uk/wp/00/WP003946.pdf> (16-04-2019).

Shipley, J. P. 2010:
Concealed communities: The history and archaeology of Upper Coquetdale and the College Valley during the late medieval and post medieval periods. PhD thesis, Newcastle University. Newcastle upon Tyne.

Spence, R. T. 1977:
The pacification of the borders 1593-1628, *Northern History* 13, 59-160.

Winchester, A. J. L. 1987:
Landscape and society in medieval Cumbria. Edinburgh.

Winchester, A. J. L. 2000:
The harvest of the hills. Rural life in Northern England and the Scottish Borders, 1400-1700. Edinburgh.

Winchester, A. J. L. 2004:
Moorland forests of medieval England, in Whyte, I. D. – Winchester, A. J. L. (eds), *Society, landscape and environment in upland Britain*, supplementary series 2, Society for Landscape Studies, 21-36.

Rural landscapes of north-eastern Rus' in transition

From the large unfortified settlements of the Viking Age to medieval villages

*Nikolaj Makarov**

Abstract

This paper discusses the phenomenon of the large unfortified nucleated settlements that constituted the backbone of the settlement network in Suzdal' Opolie, the heartland of north-eastern Rus' in the late Viking Age, and which strongly influenced subsequent rural development. The special significance of these sites, which offer rich evidence of wealth, trade activities, and prestige consumption, has been recognised in the past decade through large-scale field surveys and excavations. I suggest that, despite settlement transformations and the decline of the majority of large settlements in the late 11th and early 12th centuries, it was the Viking Age patterns of nucleated villages that provided the blueprint for settlement organisation in Suzdal' Opolie in the High Middle Ages and the modern period.

Keywords: *Rural settlement network, Viking Age, Medieval Rus', large unfortified settlements, nucleated villages, medieval dwelling sites, landscape transformations, power relations, Rurik dynasty.*

Résumé

Paysages ruraux de la Russie de Nord-Est en transition: des grands habitats ouverts non fortifiés de l'époque des Vikings aux villages médiévaux

L'article discute le phénomène des grands habitats ouverts non fortifiés, dont le réseau constituait la base du système de peuplement au cœur de la Russie de Nord-Est – Suzdal'skoye Opolie – à l'époque des Vikings, qui a beaucoup influencé le développement rural subséquent et les aspects sociaux dans l'organisation spatiale. Les prospections systématiques de grande envergure, ainsi que les fouilles archéologiques entreprises ces derniers dix ans, ont clairement prouvé l'importance de ces habitats en tant que centres d'accumulation de richesses ainsi que des élites locales, dont la richesse se base souvent sur l'économie commerciale. Vu les résultats de nos recherches on peut conclure que, malgré le déclin de la plupart des grands villages ouverts non fortifiés à la fin du XIe / début du XIIe siècle, le système du peuplement à l'époque des Vikings a formé la base de l'organisation de l'espace et des habitats de la région de Suzdal'skoye Opolie au Moyen Âge tardif et au début de l'époque moderne.

* Institute of Archaeology,
Russian Academy of Science
Dm.Ulianova 19
Moscow 117036
Russia,
MakarovNA@iran.ru

Mots-clés : *systeme de peuplement rural, époque des Vikings, Russie médiévale, grands habitats ouverts, habitats médiévaux unfortifiés, villages groupés, transformations des paysages, rapports d'autorités, dynastie des Riourikides.*

Zusammenfassung

Rurale Landschaften der nordöstlichen Rus' im Wandel: von den großen unbefestigten Siedlungen der Wikingerzeit zu den Dörfern des Mittelalters

Im vorliegenden Artikel wird das Phänomen der großen unbefestigten Siedlungen diskutiert, welche die Grundlage des Siedlungssystems im Zentralbereich der Nordöstlichen Rus' (Suzdaler Opol'e) in der Spätvikingerzeit bildeten und in vielerlei Hinsicht die Richtung der späteren Besiedlungsentwicklung sowie soziale Aspekte der Raumorganisation vorgaben. In den letzten Jahren erkannte man aufgrund systematisch angelegter großflächiger Begehungen sowie Ausgrabungen die Sonderstellung der großen unbefestigten Siedlungen des 10.-11. Jhs. als Zentren des Wohlstandes sowie Wohnorte der lokalen Eliten, deren wirtschaftliche Position zum großen Teil auf Handel zurückzuführen ist. Die Gesamtheit der gewonnenen Daten ermöglicht den Schluss, dass die in der Wikingerzeit entstandenen Siedlungsmodelle trotz des Niedergangs und Verfalls eines bedeutenden Teils dieser großen unbefestigten Siedlungen am Ende des 11. und am Anfang des 12. Jhs. auch weiterhin die Basis für die Organisation der Siedlungsstrukturen des Spätmittelalters sowie der frühen Neuzeit im Suzdaler Opol'e bildeten, welche ihrerseits aus großen Dörfern mit mehreren Höfen bestanden.

Schlagwörter: *ländliches Siedlungsnetzwerk, Wikingerzeit, Mittelalterliche Rus', unbefestigte Siedlungen, mittelalterliche Dörfer, offene Siedlungen, Landschaftsveränderungen, Herrschaftsbeziehungen, Rurikiden.*

In common with other parts of Europe, rural settlement structures in medieval Rus' present a complex picture of continuity and transformation in their spatial organisation of sites and cultural landscapes. Vast territories of Rus' lying in the forest zone – from the Upper Dnieper region and the Volga-Oka interfluvium in the south to the Baltic Sea and Northern Dvina basin in the north – are widely recognised as areas of large-scale agrarian colonisation. This process began in the Viking Age and developed until the 15th century, with extensive forest cutting and the formation of new settlements in the virgin lands. However, recent archaeological research has found evidence of Viking Age and medieval remains in

Резюме

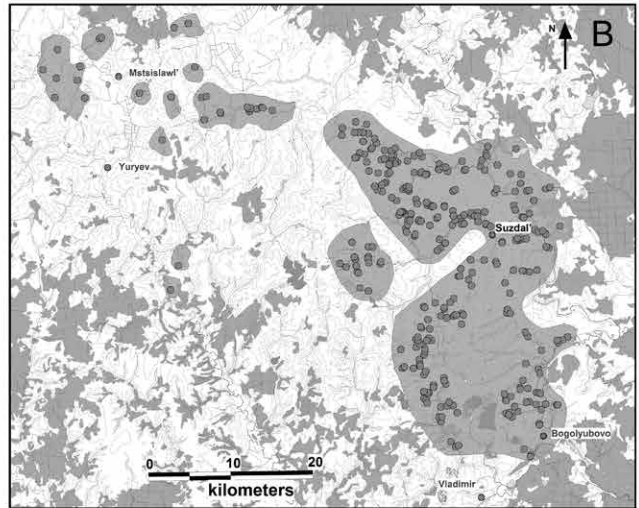
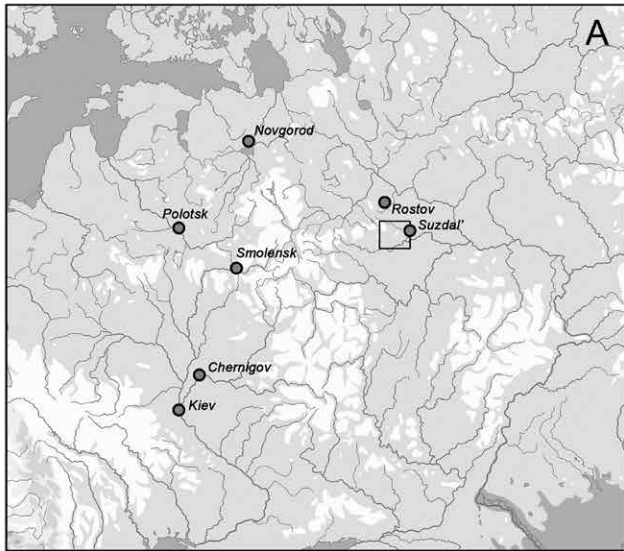
Сельские ландшафты Северо-Восточной Руси: преемственность и изменения. От больших неукрепленных поселений эпохи викингов к средневековым селам

В статье рассматривается феномен больших неукрепленных поселений, сеть которых составляла основу системы расселения в центре Северо-Восточной Руси (в Суздальском Ополе) в эпоху викингов и во многом определила дальнейшее направление развития расселения и социальные аспекты пространственной организации. Особое значение больших неукрепленных поселений X-XI вв. как центров накопления богатств и местопребывания социальной элиты, в экономике которых значительную роль играла торговля, отчетливо проявилось в последнее десятилетие в результате широких систематических обследований этих памятников и раскопок. Совокупность накопленных материалов позволяет сделать вывод, что несмотря на упадок и запустение значительной части больших неукрепленных поселений в конце XI – начале XII вв., модели расселения, сложившиеся в эпоху викингов, послужили основой для организации поселенческих структур позднего средневековья и раннего нового времени в Суздальском Ополе, в которых основными составляющими были крупные многодворные села.

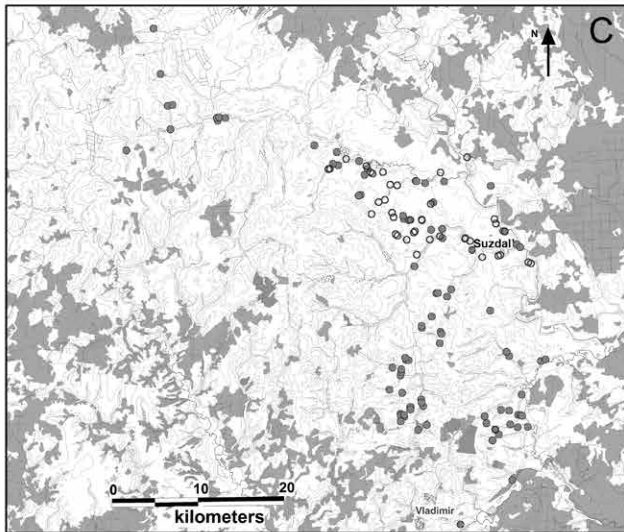
Ключевые слова: *Сельское расселение, эпоха викингов, средневековая Русь, большие неукрепленные поселения, села, селища, изменения ландшафтов, властные отношения, Рюриковичи.*

the considerable number of historical villages and parish centers first mentioned in late medieval and early modern documents. As such, these findings point to settlement continuation and the long-term stability of dwelling sites.

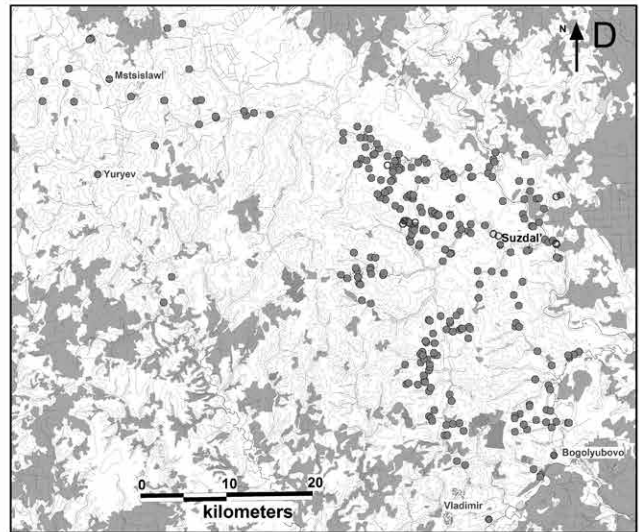
The general concept of rural settlement development in northern Rus' is based on the premise that colonisation started in the Viking Age with the formation of large nucleated settlements (mostly on rivers and lakes) and changed significantly between the late 13th and 14th centuries. They spread to much wider territories, including watersheds for example, and the small hamlet (Russian: 'derevnya') became the dominant settlement form. This concept was first advanced by historians and historical



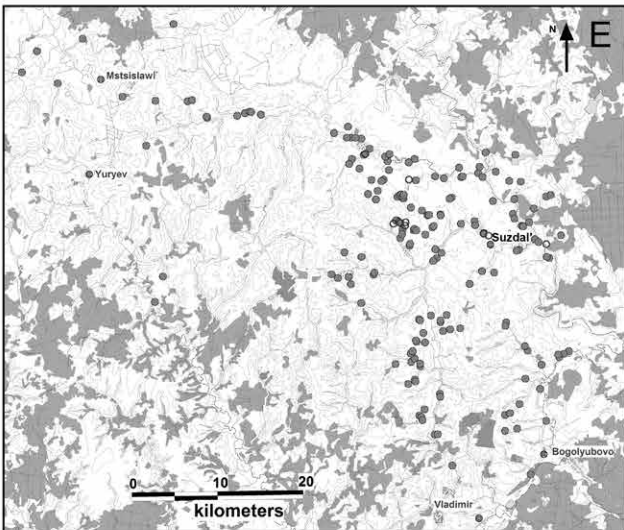
● - a ■ - b



● - a ○ - b



● - a ○ - b



● - a ○ - b

Fig. 1: Settlement development in Suzdal' Opolie in the 10th-15th centuries – A) Rus' with the main urban centers, AD 900-1100; B) Suzdal' Opolie region with dwelling sites of AD 900-1500: a – sites of AD 900-1500, b – surveyed areas; C) Suzdal' Opolie, dwelling sites of AD 900-1100: a – sites with reliable chronological attribution, b – sites with tentative chronological attribution; D) Suzdal' Opolie, dwelling sites of AD 1150-1250: a – sites with reliable chronological attribution, b – sites with tentative chronological attribution; E) Suzdal' Opolie, dwelling sites of AD 1250-1500: a – sites with reliable chronological attribution, b – sites with tentative chronological attribution (© Nikolaj Makarov).

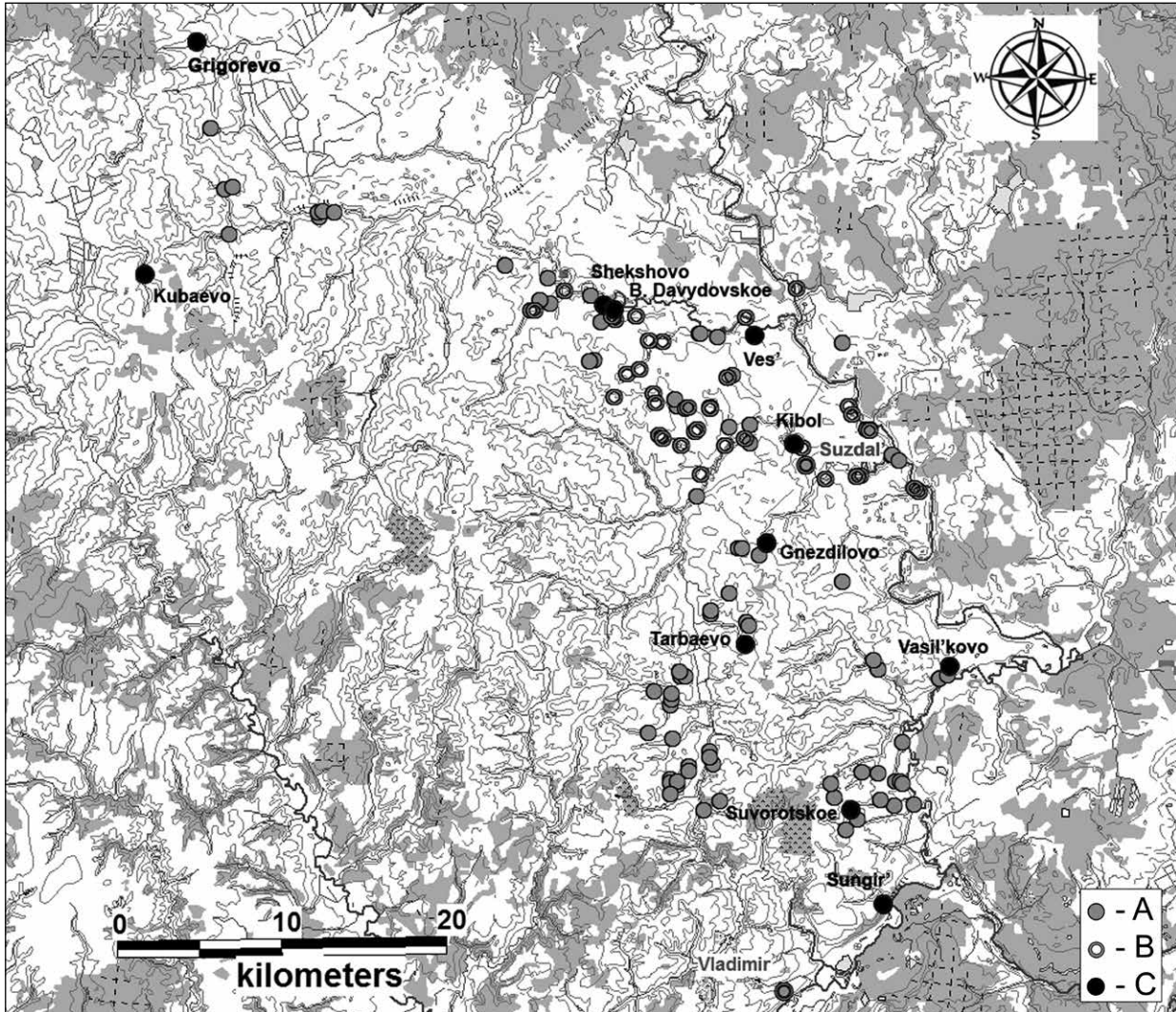


Fig. 2: Settlement network, AD 900-1100 in Suzdal' Opolie – A) dwelling sites dating to AD 900-1100; B) dwelling sites, possibly settled in AD 900-1100; C) "Large unfortified settlements," singular sites, or site clusters dating to AD 900-1100 (© Nikolaj Makarov).

geographers in the late 19th and early 20th centuries (*Lubavskij 1996, 184-186; Veselovskij 1936*). Initially, it was based on evidence found in cadaster registers and land charters of the late medieval and early modern periods, and thus proved to have a solid foundation verified through the detailed analysis of documentary sources. Russian medieval written sources contain two main terms to designate rural settlements. The term 'selo' is known from the earliest period and was applied to all forms of non-urban settlements in agrarian landscapes, but most commonly to large ones, which often had parish churches and manors. The term 'derevnya' was introduced in the 14th century and was used exclusively to refer to hamlets and the cultivated plots of land connected to them. In the beginning, these hamlets were often single farmsteads dispersed in cleared areas of forest (14th to 15th centuries)

that subsequently grew into settlements with several households. The first reference to 'derevnya' as a specific type of settlement dates back to 1339, in the will of Ivan I Kalita, prince of Moscow. While this term originated in north-eastern Rus', it soon gained wider currency, thus marking the transition to the dispersed settlement pattern across Rus' as a whole in the post-Mongolian period (*Veselovskij 1936; Kochin 1965, 102-128; Kopanëv 1951; Makarov 2013, 371-372*).

Archaeology has contributed considerably to the development of this concept since the 1960s, particularly in the 1970s-1990s (*Sedov 1960; Chernov 1991; Makarov – Chernov 2008*). Archaeological investigations provide evidence of pre-Mongolian settlement structures with large clustered dwelling sites and reveal settlement dispersion in the 14th and 15th centuries,

thereby corroborating the pattern known from land documents, as well as from numerous recorded cases of the abandonment of dwelling sites settled in the Viking and post-Mongolian periods and the late 13th-14th centuries. According to the findings of archaeological surveys of rural landscapes, the period between the late 13th and 14th centuries is recognised as the time of expansion of dispersed settlements into outlying areas and the prevalence of the new pattern of hamlets and single farmsteads. This period is also characterised by the collapse of a number of the clustered villages that had flourished between the 10th and early 13th centuries. (Makarov 2000; 2004; 2012; Chernov – Ershova 2013).

However, archaeological surveys in different areas of medieval Rus' reveal a considerable diversity of regional settlement patterns. This is not surprising, given the geographical scale of the country and the variety of natural environments. There are wide variations in settlement organisation and settlement dynamics. Patterns in certain regions differ markedly from that which is regarded as the primary model with the transition from the clustered villages to dispersed structures.

The purpose of this paper is to discuss settlement transformation and continuation in Suzdal' Opolie, the region regarded as the center of north-eastern Rus' in late Viking and medieval times, from the 10th to the 13th century (Fig. 1A; Fig. 2). This region is of particular interest, due to its prominent historical status afforded by the grand princely power on the Upper Volga, and to the current state of research into ancient dwelling sites and historic landscapes, which have received much scholarly attention in recent decades. I focus on the sizable number of unfortified dwelling sites that formed the framework of the settlement structure in this region in the Viking Age, and on the later transformations in local areas where these settlements had been established.

Suzdal' Opolie: The heart of north-eastern Rus'

The region of Suzdal' (Suzdal' Opolie), along with Rostov on Nero Lake, constituted the core area of north-eastern Rus' (Fig. 1; Fig. 2). Up until the 12th century, vast swathes of the Volga-Oka interfluvium (to which the term north-eastern Rus' was later applied) were considered to be on the periphery of the Rus' state, which had its center in Kiev, and remained under the rule of the youngest sons of the Kievan princes. The conflict of 1096-1097, when the two branches of the princes' family launched a large-scale military campaign to gain control of Suzdal' and parts of the Volga-Oka interfluvium, signaled the increasing importance of the region. Its status changed during the reign of prince Yuriy Vladimirovich Dolgorukij (1108-1155), with the rising economic power of north-

eastern Rus' and the growing political ambitions of its rulers. The first reference to the town of Suzdal' was in a chronicle of AD 1024. For nearly 50 years, from AD 1108, it was the residence of the princes in north-eastern Rus'. Later, when the prince's residence was transferred to neighboring Vladimir, Suzdal' preserved its symbolic position as a power center and its privileged status, playing a key role in the subsequent consolidation and expansion of the state (Sedova 1997). The name Suzdal' was applied to both the town and the area between the Volga and the Klyazma; the term 'Suzdalian' remained in use up until the end of the 12th century as a demonym for all settlers of north-eastern Rus'.

From an archaeological perspective, Suzdal' Opolie is a cultivated plain of approximately 3,600 sq. km and currently cleared of forest, which provides ideal conditions for systematic surface surveys. 'Opolie' is a Russian term used to refer to a 'field region'. Since the 15th century the geographical name 'Suzdal' Opolie' has been used in reference to the distinctive character of the agricultural landscape in contrast with its surrounding woodlands. Beginning in 2001, the 340 Iron Age and medieval dwelling sites were surveyed and mapped in Suzdal' Opolie by researchers at the Institute of Archaeology of the Russian Academy of Sciences (Fig. 1B). With few exceptions, these sites are unfortified settlements with thin cultural horizons (c. 30-60 cm), yielding a high concentration of artefacts (especially ceramics) in the plough-soil. Excavations have been conducted at 9 dwelling sites. Altogether, the settlement sites in the Suzdal' Opolie have produced numerous and diverse finds (including more than 13,000 metal artefacts), but opportunities for the precise dating of particular contexts are limited, since the stratified deposits are often destroyed or irreversibly mixed by ploughing. The cultural landscapes and the state of preservation of the sites have much in common with the conditions in Denmark and southern Sweden, although ploughed deposits in Suzdal' typically contain many more potsherds. Large-scale geomagnetic prospections and ¹⁴C datings of the samples from test pits and drillings appear to account for an important part of these data, which contribute considerably to a deeper understanding of the character of the cultural landscape and its transformation. The number of material finds has increased significantly since it was first presented at the Ruralia Conference in 2011 (Makarov 2013). At present, Suzdal' Opolie is the most thoroughly surveyed region in the Volga-Oka interfluvium. As such, it presents much more comprehensive evidence of the dynamics and organisation of settlement than any other part of north-eastern Rus' (Makarov – Shpoljanskij – Fedorina 2013).

The availability of a large archaeological database offers excellent opportunities to gain insights into settlement dynamics and changes in the spatial distribution of the

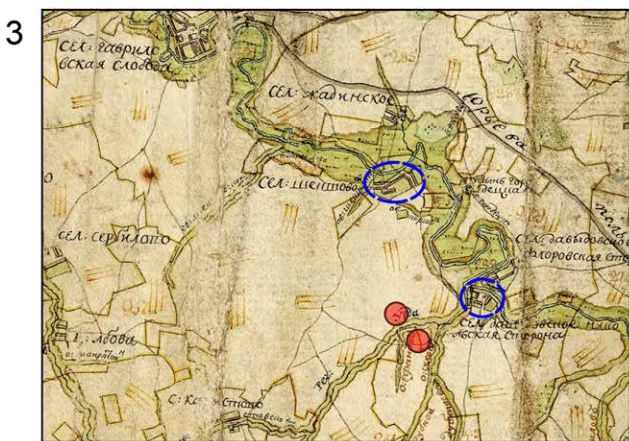
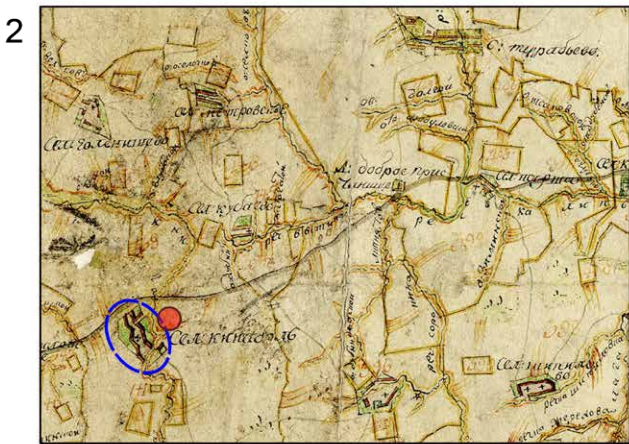
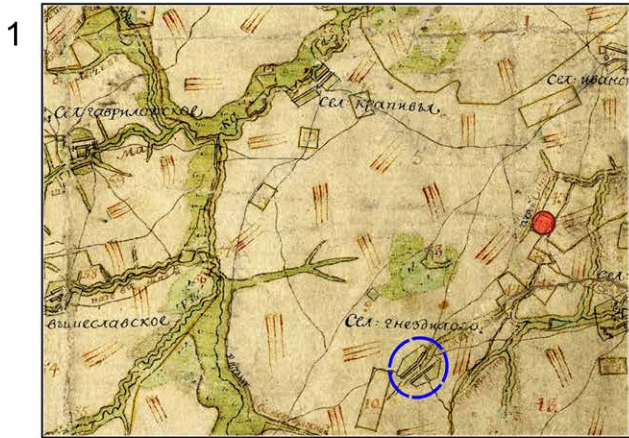


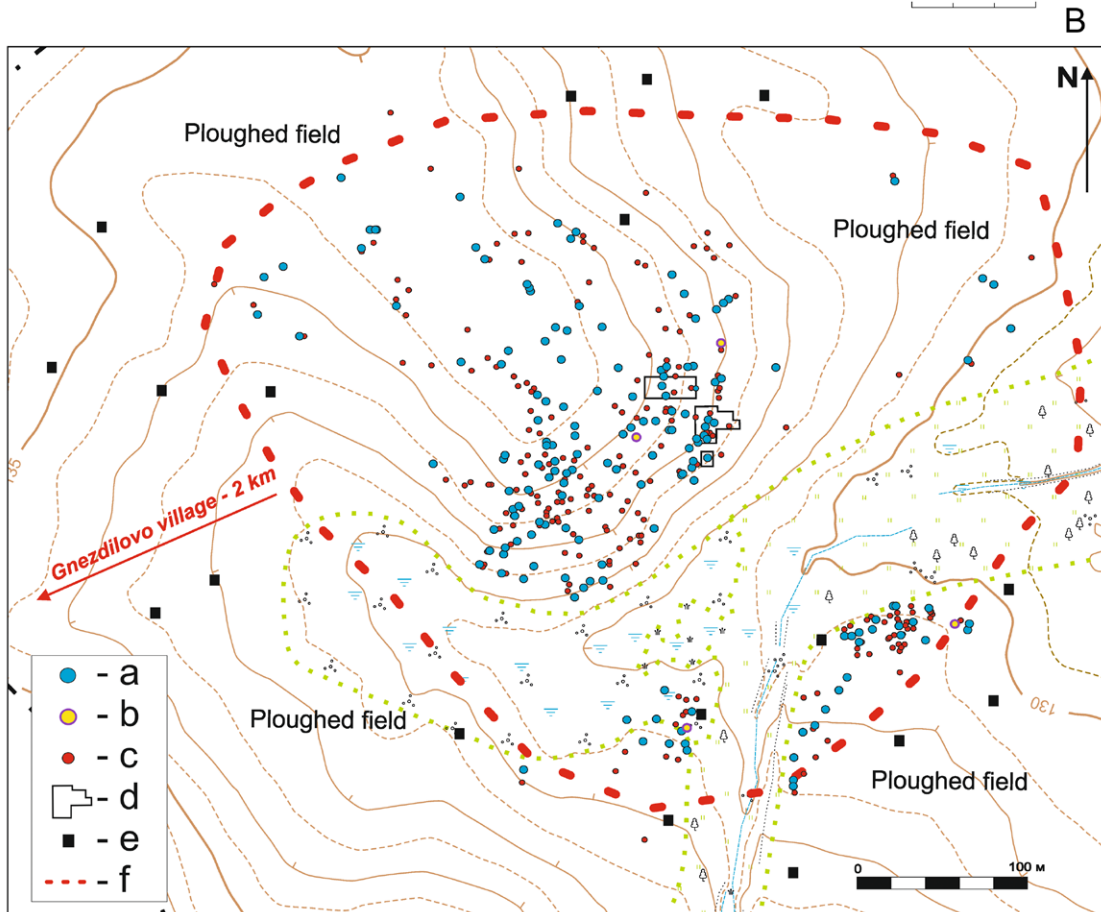
Fig. 3: 'Large unfortified settlements' of AD 900-1100 and historical villages that developed as their successors on the Cadaster Maps of Suzdal and Juriev districts of Vladimir province, 1770-1780s – 1) Gnezdilovo local area; 2) Kubaevoo local area; 3) Shekshovo local area: a – 'Large unfortified settlements', AD 900-1100; b – historical villages, first mentioned in written sources c. AD 1400-1500 (© Nikolaj Makarov).

● - a
○ - b

sites from the Viking Age to the late medieval period. Find materials can be clustered into 3 groups relating to 3 chronological periods. The period of the 10th-11th centuries is represented by 88 dwelling sites which comprise a network of nearly 90 km in length, from the north-west to the south-east (Fig. 1C). Between the middle of the 12th and the first half of the 13th century, the number of the sites increased threefold to 278 and the settled area expanded further (Fig. 1D). The last of the 3 periods, from the second half of the 13th to the 15th century, is marked by a considerable decrease in the number of sites to 183 (Fig. 1E), with the abandonment of a significant proportion of the settlements, albeit with no evidence of major changes in settlement structure.

Archaeological data reveal the formation of a new settlement network in Suzdal' Opolie that started in the 10th century and lasted until the end of the 12th, by which time almost all the land in the region with its fertile black soil (similar to the 'chernozem' of the southern steppe regions) was settled and cultivated. Colonisation developed on forested territories, perhaps in addition to some minor clearings and meadows that were sparsely inhabited in the 1st millennium AD, and transformed the landscape into field land, which was used for intensive farming. Dwelling sites in Suzdal' Opolie varied greatly in size. However, settlement structure was formed by large dwelling sites, often with several sites clustered in one unit. The nucleated network first emerged in the 10th century and remained dominant format until the early modern period. Late medieval cadastral registers describe Suzdal' Opolie as a network of settlements termed 'selo', consisting of 20-50 households, with very few references to hamlets ('derevnya') (Chernenko 2008, 81-141). Hamlets, located on the ravine systems in the watersheds, emerged in Suzdal' in the late 11th century at the latest to supplement the clustered villages. Most were abandoned in the 13th and 14th centuries. Generally speaking, Suzdal' Opolie is a territory that manifests strong settlement continuation, in which most of the early modern villages date back to the 10th and 11th centuries. Thus, with its enduring preponderance of clustered villages and stability of established structures, Suzdal', in the heart of north-eastern Rus', exhibits atypical settlement patterns.

Fig. 4 (opposite page): Gnezdilovo 2 dwelling site. A) Artefacts from the surveys, 2014-2015 – 1-15, 21-23, 25-28, 31-33: non-ferrous metal; 18-20, 24: silver; 29-30: iron; 16-17: iron and non-ferrous metal; B) distribution of the artefacts across the site: a – AD 900-1125; b – AD 1150-1250; c – artefacts with broad chronological attribution; d – excavation trenches; e – test pits; f – area of the dwelling site with medieval occupational deposits (© Nikolaj Makarov).



Large unfortified settlements of the 10th and 11th centuries

The key elements of the settlement network that emerged in Suzdal' Opolie in the 10th century were those sites that could be defined as 'large unfortified settlements'. These are large unfortified sites or site clusters with a surface area of between 4 and 15 hectares. They bear evidence of trade, craft production, agrarian activities, prosperity, and markers of differentiation in social status. Ten settlements or settlement clusters (composed of several adjoining sites) belonging to this category were identified in Suzdal' Opolie. Five more possible cases were identified, but the evidence remains unclear. A large area of chronologically consistent occupational deposits was identified, but did not reveal a sufficiently large set of artefacts to draw conclusions concerning the character and scale of trade, craft production, and consumption of prestige goods. Intriguingly, these 'large unfortified settlements' are concentrated in a relatively small area, and the distance between neighbouring sites varies from 6 to 14 km (Fig. 2). Hence, their subsistence must have been based on the intensive exploitation of farmlands with limited boundaries in close proximity, with no view towards expansion (Makarov – Fedorina, 2015).

The material culture of the large unfortified settlements of Suzdal' Opolie (Fig. 4A; Fig. 5A) had much in common with that of sites known to be early urban hubs, which were centers of long-distance trade on water routes or emporia. This pattern is characterised by the finds of Kufic, Western European, and Byzantine coins, weights, and fragments of scales (Fig. 4A, 9-11, 15-20; Fig. 5A, 7), metal-belt garments (Fig. 4A, 12-14, 22-23; Fig. 5A, 5), pieces of silver dress ornaments with stamped ornamentation, and various artefacts (costume decorations, weapons) indicating long-distance communication. There is relatively little first-hand evidence of the agricultural economy of large unfortified settlements. However, the large concentration of cereals (wheat, barley, millet, rye) and weeds in the macrofossil remains (Lebedeva 2017), as well as ploughing marks and cultivated field horizons covered with occupational deposits and pollen profiles indicating total deforestation of the landscape from the 10th century, suggest that cultivation was highly intensive. Analysis of osteological remains reveals the substantial role of domestic meat species and the gradual increase of goat bones in collections in the 11th and 12th centuries, which replaced those of cattle and pigs (Javorskaja 2016; 2017). This may be explained by the lack of meadows needed for cattle breeding in a landscape where the land was used intensively for cereal cultivation. The phenomenon of the massive unfortified sites is thus connected with a distinctive model of a complex society and economy integrating trade, craft, and agriculture, which emerged and developed in the non-urban settlements.

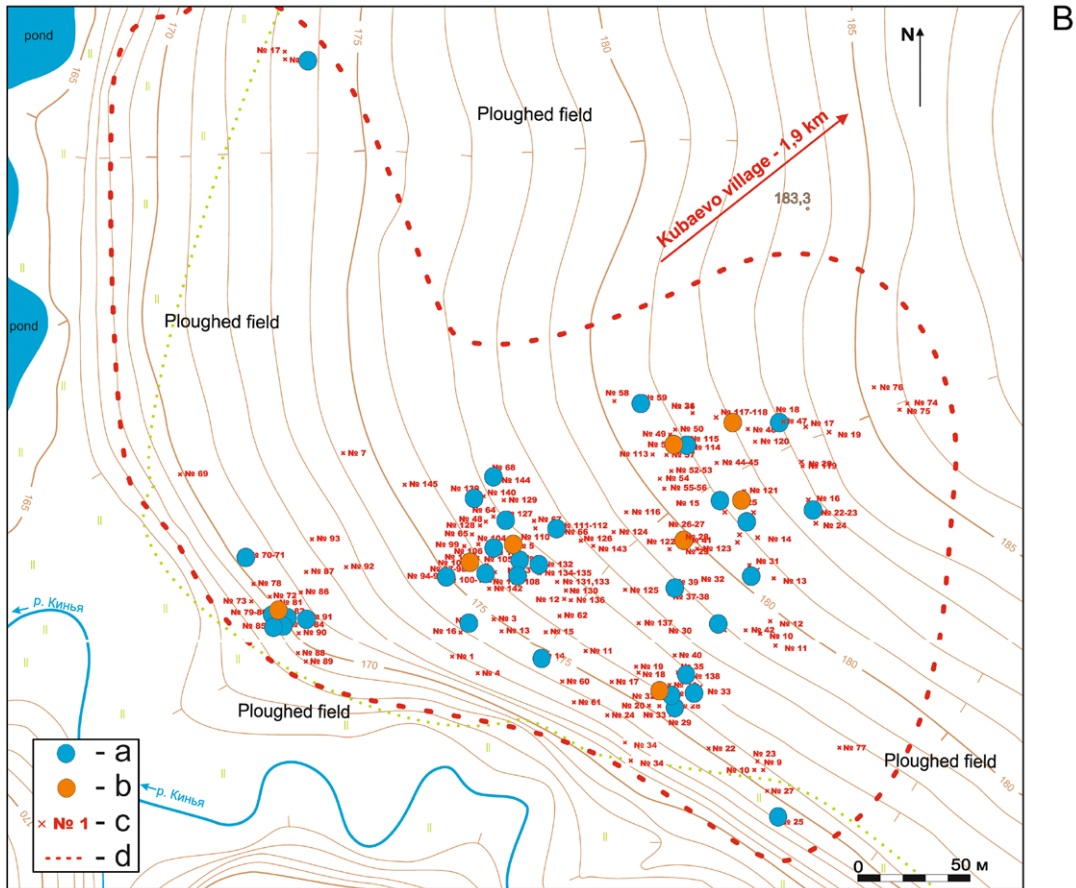
All of the large unfortified settlements of Suzdal' Opolie offer evidence of occupation and intensive economic activity from the 10th century to the end of the 11th. Reliable data of occupation in the 9th century were only recovered at one site (Ves' 5). As such, they are consistent with the settlement type of the late Viking period. Evidence of cultural patterns and lifestyle represented at these sites ceased soon after AD 1100. However, while some of the sites were abandoned in the early 12th century, most remained inhabited in the later period, in the form of settlements of another type with a quite different cultural shape and economic background. Of the 10 large unfortified settlements which were precisely documented in Suzdal' Opolie (Fig. 2), 1 fell into decline and was almost completely deserted by the early 12th century (Gnezdilovo 2), and 6 survived until the middle of the 13th (Tarbaevo, Suvorotskoe 8, Shekshovo 2, Bol'shoe Davydovskoe 2, Vasil'kovo, Grigorevo 1, Kubaevo 7), mostly sharply decreasing in settled areas. Meanwhile, 3 settlements survived until late modern times or have continued to develop today, following the desertion of some parts of the clusters. The transformations of these settlements from the 11th to the 12th century and their 'afterlife' in the medieval period are of particular interest in the context of the study of the origin of the settlement pattern with clustered villages in Suzdal' Opolie and social organisation in north-eastern Rus' in the Viking Age and the medieval period.

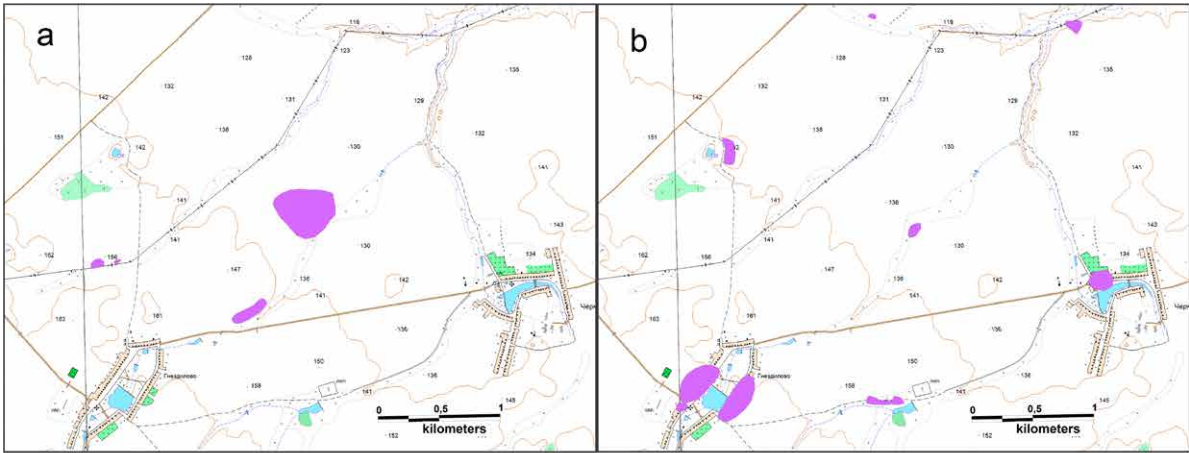
Case studies: Gnezdilovo, Kubaevo, Shekshovo, Vasil'kovo, Tarbaevo

We now consider several cases that display a range of examples of the transformation of Viking Age settlements. They once formed the framework of Suzdal' land communities and generated wealth and prosperity.

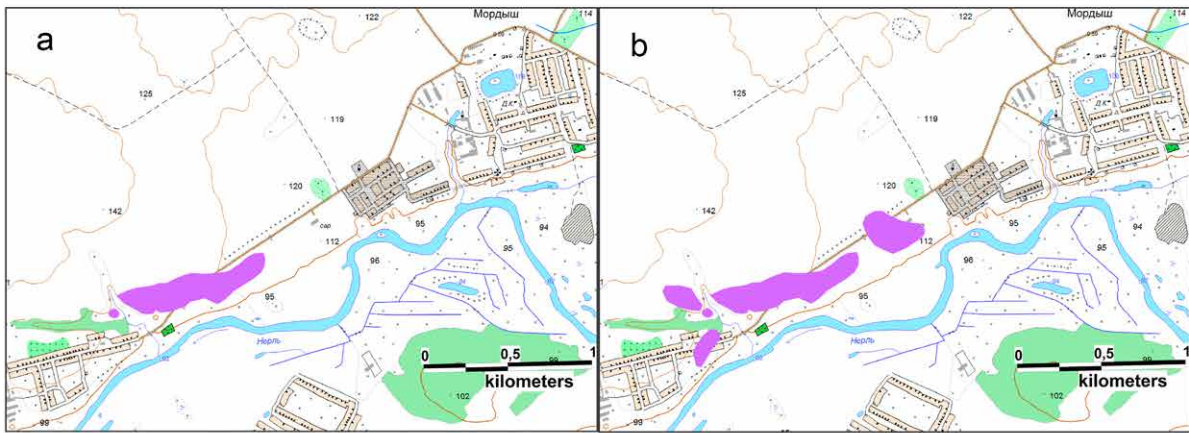
Lying at a distance of 6 km from Suzdal' town, Gnezdilovo 2 is one of the most extensively studied Viking Age settlements in the region. Investigations were launched in 1978 by V. Lapshin, who initiated one of the first projects to focus exclusively on the excavations of medieval rural settlements in north-eastern Rus'. The excavations lasted until 1987 and covered an area of nearly 1000 sq. m (Lapshin 1989; Goriunova – Lapshin 2004). Surveys conducted in recent years have added a considerable amount of new data to our knowledge of the site and the local area. A clustered dwelling site of over 12 ha was located at the top of the ravine system

Fig. 5 (opposite page): Kubaevo 7 dwelling site. A) Artefacts from the surveys, 2015-2016 – 1-6, 8-10: non-ferrous metal; 7: iron and non-ferrous metal; B) distribution of the artefacts across the site: a – AD 900-1125; b – AD 1150-1250; c – artefacts with broad chronological attribution (© Nikolaj Makarov).

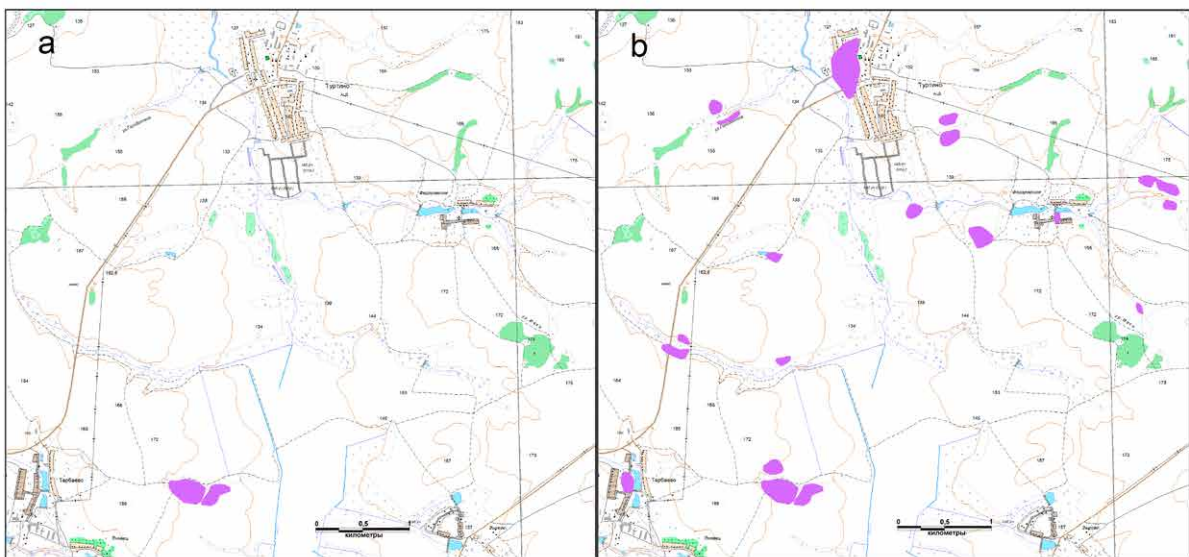




1



2



3

Fig. 6: Transformations in local areas with large unfortified settlements, AD 900-1250: 1) Gnezdilovo local area – a: AD 950-1100, b: AD 1150-1250; 2) Vasilkovo local area – a: AD 950-1100, b: AD 1150-1250; 3) Tarbaevo local area – a: AD 950-1100, b: AD 1150-1250 (© Nikolaj Makarov).

(Fig. 4B; Fig. 6: 1a). Occupational deposits display a high concentration of Viking Age remains: the artefact collection represents nearly 400 items from the excavations and more than 400 from the surveys conducted in 2014-2015 (Fig. 4A). Ornaments, tools, and utensils from Gnezdilovo 2 are consistent with the kinds in use in the 10th and 11th centuries. The collection includes Kufic, Byzantine, and German coins, weights, and belt garments. Eleven ¹⁴C dates confirm a chronological timespan between the 10th and the early 12th century, with the exception of 3 that extend into the middle of the 12th century (*Goriunova – Lapshin 2004*, 64). Four sites in the vicinity of the clustered settlement (Fig. 6: 1a) have yielded very modest evidence of habitation and activity in the 10th to the 11th centuries (including ceramics, single finds of metal ornaments, and coins), and can be interpreted as small hamlets or temporary sites.

Indications of later settlement at the Gnezdilovo 2 dwelling site are sparse (Fig. 4B). It is represented by a few metal artefacts from the surveys (2 bells, a bead, a cross pendant, and a knife (Fig. 4A, 31-33) and ceramics, which were mostly collected on the south-eastern periphery of the site (in the locality separated from the central part of the settlement by a stream). The chronological distribution of the artefacts obtained through the surveys supports the observations regarding the abandonment of a significant part of the site in the early 12th century, based on records from excavations (*Lapshin 1989*). Gnezdilovo 2 is therefore an example of a sizable unfortified dwelling site that nearly collapsed at the beginning of the 12th century.

The local area, however, was not abandoned. Twelfth- to 13th-century deposits were documented on the area of the present-day Gnezdilovo village, which appears in records from the 16th century (1542). Finds of 12th- and early-13th-century ceramics were recorded at the 4 hamlets in the ravine systems in the vicinity (Fig. 6: 1b). The village area of the site has not yet been surveyed in detail, but it appears to be quite extensive. It could therefore be concluded that the large clustered settlement moved to the new location in the early 12th century.

Two more examples that evidence the decline or sharp decrease in activities at sites that were once large unfortified settlements after AD 1100 AD include the Kubaev 7 (Fig. 5) and Grigorevo 1 sites surveyed in 2014-2016. Their artefact collections are smaller than that from Gnezdilovo 2 (184 and 169 items, respectively), albeit sufficiently representative to reveal the balance of the chronological groups of the late Viking and post-Viking periods. The sets of Viking Age artefacts include Kufic and West-European coins, weights, a belt garment, cross pendants, fragments of penannular brooches, fragments of Borre-style pendants, and finger rings with stamped decoration. In both cases, these sets contrast with the rather modest collections of accessories and utensils

of the mid-12th to the first half of the 13th century. In Kubaev 7, the later period is represented by 8 metal objects (including a bell pendant, a bead, and an icon pendant; Fig. 5A: 8-10; Fig. 5B). This is a case in which the shift of the settlement to a nearby location in the high medieval period is vividly documented. Kinobol, a clustered village with two parish churches mentioned in land charters dating back to the 16th century (1566), is located quite close to the Viking Age site of Kubaev, on the opposite bank of the small river (Fig. 3: 2). The artefact collection from Grigorevo 1 comprises 7 items of types found dating to the mid-12th to the early 13th century, including reliquary crosses. Surveys in this local area are not complete, and it is unclear whether the Grigorevo 1 settlement had a successor in the 12th century.

The Shekshovo cluster of sites (Fig. 2) is the most significant unfortified settlement of the late Viking period in Suzdal' Opolie (the total area of the two sites with cultural deposits dating to the 10th and 11th centuries is 15 ha). It is also the most comprehensively surveyed local area in which large-scale excavations have been conducted. The picture of settlement transformations and its chronology are based on various data including ceramics, metal, glass, bone artifacts, and around 30 ¹⁴C dates (*Fedorina – Krasnikova 2012; 2015*). Viking Age colonisation in Shekshovo developed in the form of a large settlement consisting of 2 parts on both banks of the small River Urda in the first half of the 10th century. The settlement network of the 10th and 11th centuries in the local area also included 7 other dwelling sites that yielded finds of handmade ceramics, but most of these present modest sets of artefacts that are not comparable with the collection from the central site, which comprises over 2,700 objects (from both surveys and excavations). The distribution of the archaeological finds dating to the 10th and 11th centuries, the results of trial excavations in different parts of the sites, and geophysical prospections with test drilling of anomalies served to confirm that the dwellings occupied the greater part of the area that was intensively used for habitation, trade, and production. Shekshovo has yielded a very wide range of artefacts relating to trade, warfare, long-distance contacts, and prestige consumption (from Kufic coins to Scandinavian metalwork) (*Makarov 2017*). The find materials of the 10th and 11th centuries make up the bulk of the collection. Artefacts and ceramics of the 12th century are less numerous at the central site, but are widespread at the 2 dwelling sites that developed on its periphery. There is no clear indication of the decrease in the settled areas in the 12th century, but the finds dating to this period do not include artefacts that can be regarded as markers of the greater wealth and higher social status of the inhabitants. In the 12th century, settlement development in the Shekshovo locality is characterised by the expansion of hamlets in the ravine systems, as

well as by the formation of the 2 large settlements close to the old center (Fig. 3: 3). These villages with parish churches, Shekshovo and Bol'shoe Davydovskoe, were first mentioned in documents from the 15th century and were defined as 'selo'. Both villages have survived until the present day. The old site established in the Viking period fell into decline no later than the mid-13th century.

Two more local clusters of sites – Vasil'kovo and Tarbaevo (Fig. 6: 2, 3)–provide evidence of the successful development of Viking Age regional centers in diverse landscapes, on the river terraces and the watersheds, until the mid-13th century (after which they ceased to function as significant unfortified settlements with their distinctive features, specific cultural pattern, and associated lifestyle). Vasil'kovo is an example of the formation of an extensive agglomeration consisting of 5 sites (23 ha in total) on the bank of the River Nerl' in the 12th and 13th centuries, set against the background of a sizable unfortified settlement (Vasil'kovo 1), which emerged in the 10th century (Fig. 6: 2). All but 1 of the dwelling sites in this local area fell out of use in the mid-13th century. The exception is the village Vasil'kovo (dwelling site Vasil'kovo 2) mentioned in charters dating to the early 16th century (1506). This case represents the transition from the old settlement structure, which was succeeded by a historical village in late medieval times. Tarbaevo is an example of the formation of a sizable unfortified settlement (Tarbaevo 5-6, no less than 7 ha) in the watersheds of a ravine system in the 10th century and the development of a network of hamlets in the vicinity of a central site in the 12th century (Fig. 6: 3). The nucleated village located on the site previously occupied by the Viking Age settlement retained its dominant position in the local area through the 12th century, but dramatically decreased in size in the 13th century to become a small hamlet. It had no successors in the settlement network from the late 13th to the 14th century, which changed to a dispersed structure consisting of hamlets without a central village. Observations concerning settlement organisation and dynamics in this local area are based on reliable records, including an artefact collection from the surveys (more than 800 items), data from the test pits, and extensive geophysical prospections, as well as 3 ¹⁴C dates.

The Kibol 5 dwelling site (Fig. 2) is one of the rare cases of long-term settlement continuation, as the sizable unfortified settlement developed into an historical village that exists today. Viking Age deposits at the Kibol 5 site were partly destroyed by the structures of the modern period, by recent building activities, and intensive agrarian land use. However, large-scale excavations disclosed occupational layers and structures dating to the late 10th to 11th centuries with impressive sets of artefacts (glass beads, a belt garment, a bronze axe amulet, a crucifix pendant) and handmade ceramics in close proximity to the parish church, indicating the

direct connection between the Viking and medieval settlement layouts.

Discussion

The majority of the dwelling sites that formed the most significant elements of the settlement network in the Suzdal' area in the late Viking Age did not survive into the high medieval and early modern periods. Recent investigations prove that these were the sites that accumulated wealth and power in the late 10th-11th centuries, when the Suzdal' area first emerged on the historical scene. Inhabitants of these sites constituted wealthy and ambitious communities and should have been the driving force behind the political rise of Suzdal'. There seems to have been 2 periods of the decline of the sites: the first saw a decrease in the settled areas and the second a shift of the clustered settlements to new locations. The transformations of the early 12th century were explicitly recorded at the Gnezdilovo 2, Suvorotskoe 8, Shekshovo 2, Grigorevo 1, Kubaevo 7, and Ves' 5 dwelling sites. The second crisis period, as recorded at the Tarbaevo 5-6-7, Suvorotskoe 8, Shekshovo 2, Bol'shoe Davydovskoe 2, Vasil'kovo 1, Ves' 1, and Kibol 3 sites, dates to the mid-13th century. Vladimir Lapshin was the first scholar to point out the abandonment of a number of the large clustered dwelling sites on Suzdal' land on the basis of his excavation campaigns at Gnezdilovo (*Lapshin 1989, 70*). Investigations of recent decades have produced a much more reliable basis to support this observation. In both periods, transformations resulted not in the abandonment and depopulation of settled local areas, but in the shift of regional centers (0, 5-2 km) and the restructuring of the settlement network. There is only 1 documented case (Tarbaevo) where the clustered village had no successor after the mid-13th century. However, it is evident that the transformation of the established villages, which had accumulated wealth and probably maintained social order in the region, constituted dramatic events in the local history of the area, and there must have been compelling reasons behind the restructuring.

It should not be assumed that the transformations were connected to environmental problems, changes, and innovations in land use and cultivation or to the introduction of new forms of settlement organisation. Indeed, there is no evidence to suggest that the settlers of the new dwelling sites founded between the 12th and late 13th centuries privileged specific types of landscapes that were previously virgin lands, or that they tried to introduce alternative agrarian practices. The expansion of the hamlets in Suzdal', as was the case elsewhere, created better access to the land plots lying far from the clustered villages and afforded better conditions for their agrarian exploitation. However, in the densely populated territories

of Suzdal' Opolie, hamlets were not an alternative to clustered villages but rather supplemented their network.

In terms of political events that could cause transformations, recall that from the end of the 11th to the beginning of the 12th century, the history of Suzdal' was punctuated by military tensions, political conflicts, and power struggles. This resulted in the introduction of a new administrative system, under the auspices of which the prince's permanent residence was located in Suzdal' town. The struggle for the lands of the Volga-Oka region between the two branches of the Ruric family princes began in AD 1096, and for the first time in its history, Suzdal' was at the center of the conflict. Suzdal' town was captured several times by competing military forces and finally burned to the ground. When Prince Mstislav, the son of Vladimir Monomach, regained control of north-eastern Rus', his warriors overwintered in the unfortified settlements of Suzdal' land (referred to 'selo' in the chronicles) rather than in the town (*Polnoe sobranie 1997*, 238). This appears to suggest that unfortified settlements with their superior resources provided better opportunities for accommodation and control of the country than the urban center, or, possibly, that they needed more control. In AD 1107, Suzdal' was attacked by the Volga Bulgarians. According to the chronicle records, they failed to capture the town but destroyed the hinterland and demolished rural settlements in Suzdal' land (*Polnoe sobranie 1997*, 350). Around AD 1108, Prince Jurij Dolgorukij, the younger son of Monomach, established his residence in Suzdal' and became the first ruler of Rostov-Suzdal' land who remained in this part of Rus' permanently. We have no evidence of the prince's conflicts with the regional elite in the chronicles at that time. However, it is quite likely that the expansion of the prince's power and his intention to strengthen Suzdal' town as the center of the region were somehow connected with the restructuring of those settlements where the local elite had been concentrated in earlier times. And it is not surprising that Gnezdilovo 2, the site closest to the town, was the most strongly affected as a result of this activity.

The dramatic effect that the Mongol attacks of the 13th century had on north-eastern Rus', especially the first military campaign of 1237-1238, is well-documented in written sources and archaeological data recovered from the towns of Rostov-Suzdal' land. The archaeological evidence of the destruction and subsequent long-term abandonment of the town territories is extremely vivid in Vladimir and Yaroslavl (*Engovatova 2012*, 230-265). Suzdal' was captured and burned by the Mongols in 1238, but up until now, archaeology had failed to detect direct records of these events. Archaeological investigations of recent decades, however, have produced evidence in Suzdal' of the settlement's decline in the large areas inside the town ramparts from the mid-13th century. It

is difficult to estimate the scale of destruction in the rural areas going by written sources. One should bear in mind that the settlement network in the deforested landscapes in the vicinity of Vladimir and Suzdal' was vulnerable to cavalry attacks and the wealthy, large clustered villages could have been easy targets for the Mongols.

Although only a minority of the large unfortified settlements of the late Viking Age survived in the heart of north-eastern Rus', the settlement patterns that formed at that time became the decisive factor in the rural settlement organisation in Suzdal' land in the longer term. Clustered villages, which developed into the type of settlement in Suzdal' that was dominant for centuries, originated in the large unfortified settlements of the 10th and 11th centuries. Dark, fertile soils, similar to the chernozems of Southern Russia (in contrast to the poor soils of the neighboring regions of the Volga-Oka basin), created the background for the stability of this type of settlement organisation. Thus, rural settlement development in the core area of north-eastern Rus' followed a distinctive trajectory that was different from the general pattern attested throughout the Volga-Oka basin, with the prevalence of the dispersed model from the second half of the 13th century on. Additional archaeological data collected by further investigations in Suzdal' Opolie would probably clarify in detail aspects (*e.g.* trade and craft production) of the transformation of these sites, which emerged as the centers of complex societies and diverse economic activities, into the agrarian settlements composed of households of peasants and local landowners.

References

- Chernenko, D. L. 2008:*
Землевладение и хозяйственно-демографические процессы в Центральной России XVII-XVIII вв. (опыт региональной типологии). Вологда: «Древности Севера». 224 с.
- Chernov, S. Z. 1991:*
Археологические данные о внутренней колонизации Московского княжества в XII-XV вв. и происхождение волостной общины//Советская археология, № 1, 112-133.
- Chernov, S. – Ershova, E. 2013:*
Internal colonization in Russia during the 13th and 14th centuries: three hamlets of the pre-manorial period, in: Klápště, J. (ed.), Hierarchies in Rural settlements. Rurality IX. Gotzis, 387-406.
- Engovatova, L. V. 2012:*
Археология древнего Ярославля. М., 295.
- Fedorina, L. N. – Krasnikova, L. M. 2012:*

- Средневековое поселение Большое Давыдовское 2 под Суздаlem// РА. 2012. № 4, 99-110.
- Fedorina, L. N. – Krasnikova, L. M. 2015:*
Средневековое расселение в Шекшовском микрорегионе// Археология Владимиро-Суздальской земли. Материалы научного семинара. Вып.5. М. 147-158.
- Goriunova, V. M. – Lapshin, V. L. 2004:*
О появлении раннекруговой керамики в Северо-Восточной Руси, Археология, история, нумизматика, этнография Восточной Европы. Сборник статей памяти проф. И.В. Дубова. Спб., СПбГУ, 55-72.
- Javorskaja, L. V. 2016:*
Археозоологические материалы суздальских селищ в контексте изучения хозяйства Северо-Восточной Руси: первое обобщение, КСИА, 2016, вып.245, 206-225.
- Javorskaja, L. V. 2017:*
Средневековое поселение Кибол V: основные результаты археозоологического исследования коллекции костных остатков животных из раскопок 2013 г.// Аналитические исследования лаборатории естественнонаучных методов. М, вып.4, 252-264.
- Kochin, G. E. 1965:*
Сельское хозяйство на Руси в период образования Русского централизованного государства. Конец XIII-начало XVI вв. Москва-Ленинград.
- Koranev, A. I. 1951:*
История землевладения Белозерского края XV-XVI вв. М.-Л., 255.
- Lapshin, V. A. 1989:*
Археологический комплекс у с.Гнездилово под Суздаlem//КСИА, № 195, 66-71.
- Lebedeva, E. Y. 2017:*
Археоботанические свидетельства о земледелии на сельских поселениях Суздальского Ополя в VII-XIII вв., Аналитические исследования лаборатории естественнонаучных методов. М, вып.4, 265-292.
- Lubavskij, M. K. 1996:*
Обзор истории русской колонизации с древнейших времени и до XX в. М., 688.
- Makarov, N. 2000:*
Medieval rural settlement in Northern Russia: Nucleated villages and hamlets in the Beloozero-Kubenskoe region between 900 and 1250 A.D., in: Klápště, J. (ed.), Conference Ruralia 3, Maynooth, 3rd-9th September 1999. Ruralia III. Praha, 202-216.
- Makarov, N. 2004:*
Rural settlement and landscape transformations in Northern Russia, A.D. 900-1300, in: Hines, J. – Lane, A. – Redknap, M. (eds), Land, sea and home. Proceedings of a conference on Viking-period settlement, at Cardiff, July 2001. Maney, 55-73.
- Makarov, N. 2012*
The Minino Project: The investigation of a group of medieval sites in the Beloozero region of northern Russia, in: Brisbane, M. – Makarov, N. – Nosov, E. (eds), The archaeology of medieval Novgorod in context. Studies in Centre/Periphery Relations. Oxford, 40-57.
- Makarov, N. – Chernov, S. (eds) 2008:*
Сельская Русь в IX-XVI веках. М, «Наука».
- Makarov, N. 2013:*
Social elite at rural sites of Suzdal region in North-Eastern Rus', in: Klápště, J. (ed.), Hierarchies in rural settlements. Ruralia IX. Gotzis, 371-386.
- Makarov, N. A. – Shpoljanskij, S. V. – Fedorina, A. N. 2013:*
Земля и город: средневековые селища в округе Владимира-на-Клязьме, Российская археология, 4, 58-74.
- Makarov, N. A. – Fedorina A. N. 2015:*
Феномен «больших поселений» Северо-Восточной Руси X-XI вв., Краткие сообщения Института археологии, вып. 238, 115-131.
- Makarov, N. 2017:*
Viking Age weaponry from the Volga-Oka confluence: A scabbard chape from Shekshovo in Suzdal Opolie. Interaktion ohne Grenzen. Beispiele archäologischer Forschungen am Beginn des 21. Jahrhunderts, Band.2. Schleswig, 663-670.
- Polnoe sobranie 1997:*
Полное собрание русских летописей. Т. I. Лаврентьевская летопись. М.
- Sedov, V. V. 1960:*
Сельские поселения центральных районов Смоленской земли. VIII-XV вв., Материалы и исследования по археологии СССР, вып. 92. 157.
- Sedova, M. V. 1997:*
Суздаль в X-XV вв. М. с.
- Veselovskij, S. B. 1936:*
Село и деревня в Северо-Восточной Руси XIV-XVI вв. Известия государственной академии истории материальной культуры. Вып.139.

Change in rural settlement in eastern Central Europe from the Early to the Later Middle Ages¹

Elisabeth Nowotny*

Abstract

Micro-scale analyses are discussed with reference to the transformation of house types, addressing the shift to ground-level buildings and the uniting of different functions in one building. Settlement form (meso-scale) – the internal structure of the settlements (the emergence of farmsteads) and village morphology – is also analysed. Settlement desertion and relocation are discussed with reference to the distribution of settlements in the landscape (macro-scale). Possible underlying causes are also examined, among these being social and political changes.

Keywords: *Eastern Central Europe, rural settlement, house types, settlement form, village morphology.*

Résumé

Transformation des campagnes dans l'est de l'Europe centrale en haut Moyen Âge jusqu'au Moyen Âge tardif

Sont discutés des « micro-études » réalisés quant à l'évolution de la maison, menant vers une construction de plein pied et intégrant de plus en plus des fonctions différentes sous un même toit. Par la suite, les structures de l'habitat sont regardées de près au niveau d'une « méso-étude », comme par exemple l'émergence des fermes et la structure morphologique des villages. Au niveau « macro-étude » font l'objet la disparition ainsi que le déplacement des villages et leur répartition dans l'espace rural. Ensuite, des raisons sociales et politiques probables étant à la base de ce processus sont éclairées.

Mots-clés: *L'est de l'Europe centrale, milieu rurale, types de maison, formes d'habitat, morphologie de village.*

* Zentrum für Museale
Sammlungswissenschaften,
Donau-Universität Krems

Postal address:
Abteilung Kunst und Kultur,
Landessammlungen Niederösterreich
Schloss Asparn/Zaya, Schlossgasse 1
2151 Asparn an der Zaya
Austria
elisabeth.nowotny@donau-uni.ac.at

1 To avoid misunderstandings regarding terminology, it should be pointed out that there are important differences in the chronological terms used in Austria, on the one hand, and in Moravia/Bohemia on the other. In Austria, the Early Middle Ages refers to the 6th-10th centuries, the High Middle Ages to the 11th-mid-13th centuries, and the Late Middle Ages to the 13th-15th centuries.

Zusammenfassung

Wandel im ländlichen Siedlungsbild in Ostmitteleuropa vom Früh- bis zum Spätmittelalter

Am Mikro-Level wird der Wandel der Hausformen im ländlichen Raum Ostmitteleuropas besprochen. Im Laufe der Zeit wird vermehrt ebenerdig gebaut und verschiedene Funktionen werden in einem einzigen Gebäude vereint. Weiterhin werden die Siedlungsformen (Meso-Level) – genauer die innere Struktur der Siedlungen (z. B. das

Aufkommen von Gehöften) und Dorfformen – verfolgt. Am Makro-Level werden das Wüstfallen und die Verlegung von Siedlungen und die Verteilung der Siedlungen in der Landschaft dargestellt. In Folge werden die möglichen zugrundeliegenden sozialen und politischen Ursachen diskutiert.

Schlagwörter: *Ostmitteleuropa, ländliches Milieu, Hausformen, Siedlungsformen, Dorfformen.*

Introduction

This paper investigates changes in the archaeological record of rural settlements, taking an explicitly multiscale approach that examines the micro-scale (house types), the meso-scale (internal structure of settlements and village form), and the macro-scale (distribution of settlements in the landscape). These transformations are often interlinked, partially depending on and being a precondition for each other. The possible underlying causes will be discussed. The aim of this paper is to outline a general development. Placed in the context of eastern Central Europe, the settlement of Mitterretzbach in northern Lower Austria will be used as a basis to discuss the various changes occurring in rural settlement in eastern Central Europe – more precisely in Austria, Moravia, Bohemia, and Slovakia – from the Early to the Later Middle Ages. Mitterretzbach was excavated between 1999 and 2005 (*Lauerermann – Drost 2005; Nowotny 2015*) by the Lower Austrian Museum of Prehistory. The site was settled in several phases, from the Late Neolithic period until the High Middle Ages.

Historical background²

After the relinquishment of the Roman Danube provinces, Germanic groups settled in this region. In the 6th and 7th centuries, Slavic groups immigrated to eastern Central Europe. In 568, the Longobards ceded their territories to the Avars. After the Avar wars of Charlemagne, the territories west of the River Enns were colonised by the church and the Bavarian-Frankish secular nobility. In the 9th century, the (Great) Moravian Empire was a powerful opponent to the Carolingian Empire. During this period, the Hungarian tribes appear on the historical map, settling in the Carpathian Basin. They were one of the factors linked to the demise of Great Moravia at the beginning of the 10th century. With the battle of Pressburg in 907, vast territories in today's Lower Austria were temporarily lost for the Frankish Empire until reintegration from

955 onwards. In the following period, the Holy Roman Empire was founded and the Hungarian kingdom was established in the east. The eastern march (Lower Austria) was systematically colonised. As a consequence of the investiture conflict in the late 11th century, the Babenberg counts were strengthened, and Austria became an independent duchy in 1156. Royal manors lost their political role, and the first territorial centres of power emerged. In Bohemia (and adjacent territories), the dynasty of the Přemyslides had increasingly gained power since the late 9th century, which led to the establishment of the kingdom of Bohemia inside the Holy Roman Empire in the early 13th century. The struggle for power between Přemisl Ottokar II, who had followed the Babenbergs in their rule, and Rudolf of Habsburg culminated in the battle on the Marchfeld 1278. Here the latter triumphed and gained the duchy of Austria and Styria. In the following centuries, more and more duchies and territories came under the rule of the Habsburgs. In the early 14th century, the Bohemian throne went to the Luxembourgs. In the following century, religious conflicts between Catholics and the Protestant movement of the Hussites caused a long civil war.

Micro-scale

At the Lower Austrian site of Mitterretzbach (*Nowotny 2015*), four Early Slavic pit houses and a large number of postholes, which will be addressed later, were unearthed. In the early Slavic period the typical dwellings in the research area are pit houses (*Nowotny 2016*), which are square (Fig. 1/1) or slightly rectangular (Fig. 1/2) in shape. Often there is an oven situated in one of the corners. The walls are constructed with the help of posts or in log construction, with their footings inside or outside the pit. In the north of eastern Central Europe irregular elongated-oval pits are the main residues of buildings, most probably ground-level houses (*Milo 2014*, 41). In more western, Germanic areas, most buildings were erected at ground level during this period, while sunken buildings were connected with handicraft activity (*Milo 2014*, 37–40, 322; for Bavarian areas: *Fries-Knoblach 2006*).

² Brunner 1994; Willoweit 2006; Wolfram 2003.

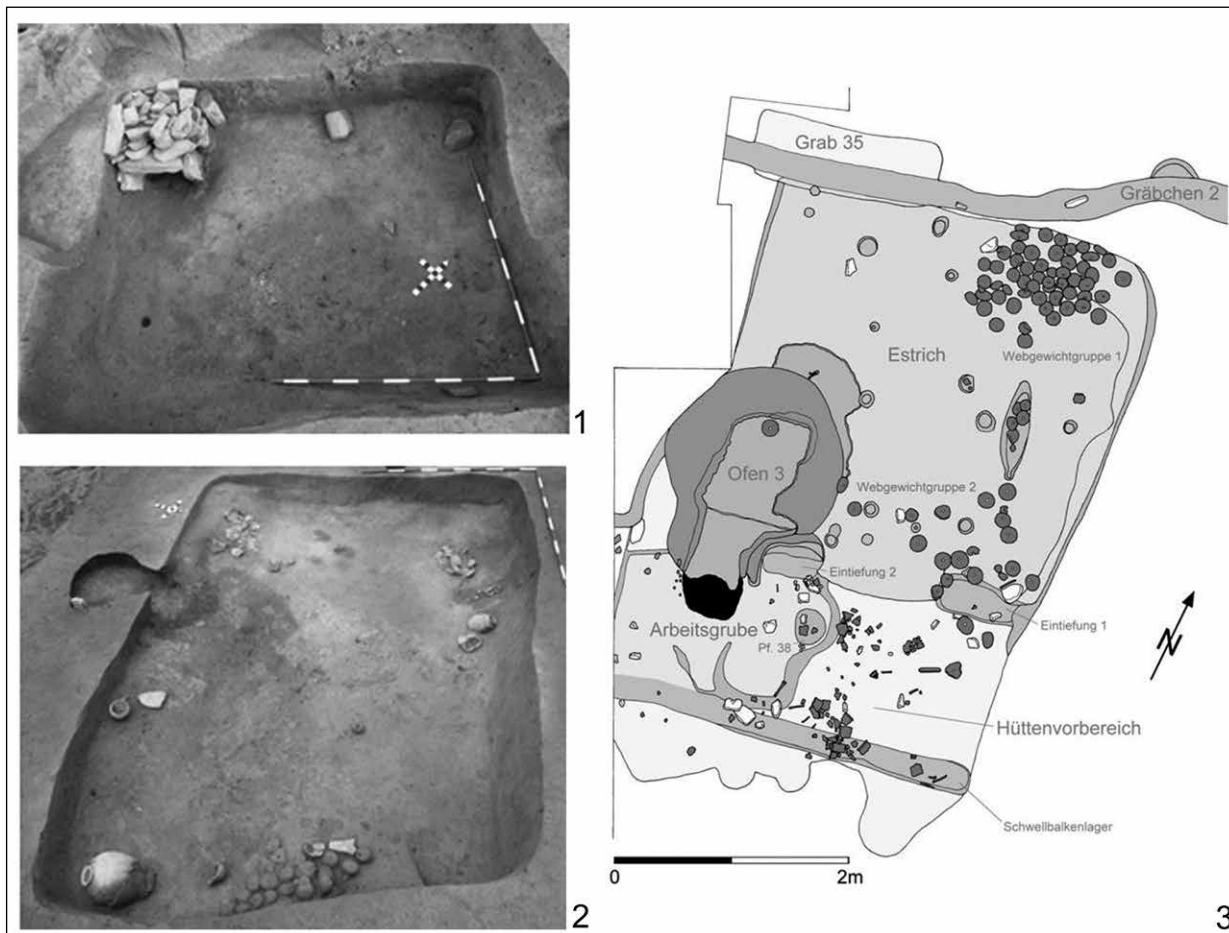


Fig. 1: Short-term development of house types in Thunau, Lower Austria: 1. quadratic pit house with a stone oven in a corner; 2. rectangular pit house with a cupola oven dug into the surrounding soil; 3. pit house, heatable from the outside (© Martin Obenaus, Silva Nortica).

As the Early Middle Ages progressed in eastern Central Europe, pit houses continued to serve as the main dwellings. An example is the 9th/10th-century settlement at Thunau in the valley of the River Kamp. In addition, a short-term change is apparent at this site (Obenaus 2015, 11-13, fig. 8 f.). While pit houses of the earlier phase were square (Obenaus 2011, 11f.), mostly with ovens made of stone in the corners, houses of the later phase were rectangular with one or two covered ovens dug into the surrounding loam at the sides of the pit. A pit house heated from the outside, and thus smoke-free, represents a singular finding that might indicate an additional development (Fig. 1/3).

While ground-level buildings began to play an important role at central sites in the research area from the 9th century onwards (Milo 2014, 46), the decrease in pit houses at rural settlements (for southern Moravia: Ruttkay 2002, 269; see also Klápště 2012, 190) generally took place in the 11th century, although these developments vary greatly from one region to another (Klápště 2007, 230). Reliable statements are difficult, as

settlements often did not leave comprehensive traces and are thus difficult to date.

At Mitterretzbach (Nowotny 2015), the examination of the large number of postholes brought building layouts to light. Their typological classification, orientation, and positional and stratigraphic relations, as well as the finds, led to their assignment to different settlement phases. Within the medieval period, a group of ground-level buildings is dated to the High Middle Ages (11th century) (Fig. 2). These are four- or six-post structures, long buildings with a row of ridge posts and buildings with wall slots. Some of them are likely to have been residential and some were outbuildings. A single pit house with unclear function was also placed in this phase.

This phase of Mitterretzbach demonstrates a stage of development at which ground-level buildings were in the majority, but the detached buildings had yet to develop into the wings of larger complexes. This is the case in the 13th/14th-century village of Hard (Felgenhauer-Schmiedt 2008) (Fig. 4/1; 5/2), where the farmhouses consisted of several rooms. The foundations were built

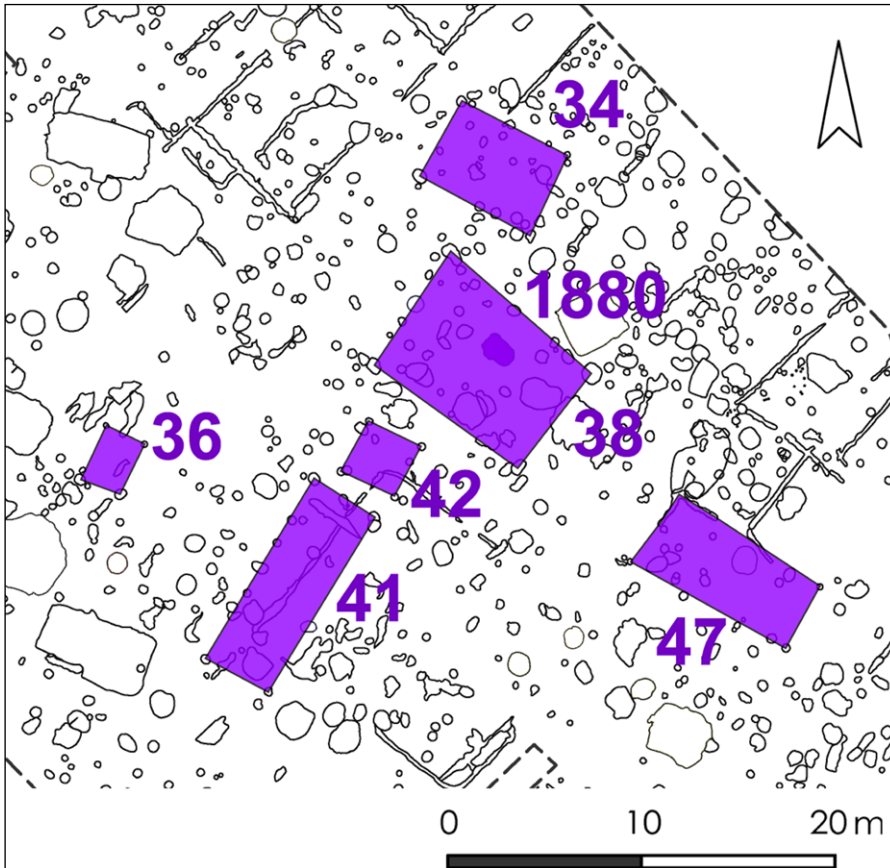


Fig. 2: A high medieval farm-type structure consisting of several ground-level buildings in post construction, Mitterretzbach, Lower Austria (© Elisabeth Nowotny after Franz Drost).

of stone without the use of mortar and, in two cases, the walls were entirely made of stone. The two-room houses are seen as houses with one room for living and one for storage; while houses with three rooms might have consisted of an entrance, storage area, and living room; and four-room layouts are seen as houses that also incorporated a stable.

A divergent development took place in the Weinviertel, in the north-eastern part of Lower Austria. Here, the dominance of buildings in post construction continued until the Late Middle Ages, for both residential buildings and for outbuildings (Krenn 2012, 164-166).

In Bohemia and Moravia, multipartite (often three-room) residential houses became more popular than one-room houses. Examples are found at the archaeological sites at Mstěnice, south Moravia (Nekuda 2000, 361; Klápště 2012, 299) and Svídna, central Bohemia (Klápště 2012, 275 f.). They developed in different ways, beginning with what were originally independent residential buildings and storage rooms or granaries, as can be observed in Mstěnice (Klápště 2012, 299 f.) and in Pfaffenschlag (Nekuda 1975, 249).

To sum up: Over the course of time, domestic accommodation shifted from pit houses to ground-level buildings. Subsequently, different activities increasingly

took place in the same building instead of being divided among separate structures.

Building techniques had a major impact on the conservation of the structures. In Svídna, the base portions of the walls were built of hard chalk bound by clay, while the outbuildings were presumably built in a way that left no archaeological traces, perhaps of timber and mud (Klápště 2011, 108 with literature).

Bystřec in northern Moravia shows the development of building techniques through time. It existed from the middle of the 13th century until the early 15th century. Here buildings were at first constructed with posts, which were gradually replaced by walls of timber and earth set on stone foundations (Klápště 2011, 106-108 with literature).

The causes of the often-slow implementation of innovations, for example in building techniques, may have been 'a strong local building tradition, a good supply of certain building materials, the landowners' involvement, social differentiation or farming practice' (Klápště 2012, 105). It is highly likely that local conditions had a strong impact on building techniques, rather than being determined mainly by a time-specific general development (which is also a construct of today's research). This was also apparent in the case of the Lower

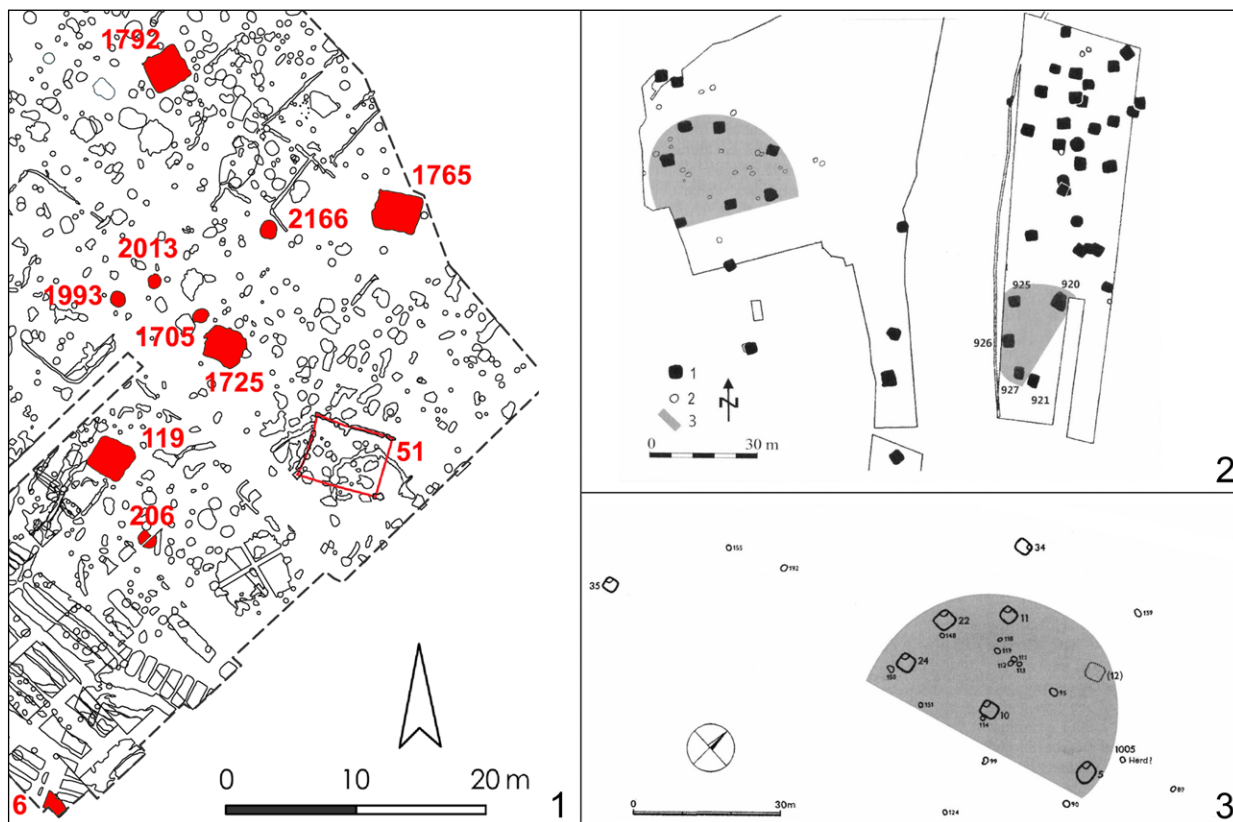


Fig. 3: Early Slavic semicircular arrangements of houses: 1. Mitterretzbach, Lower Austria; 2. Roztoky, Bohemia; 3. Březno, Bohemia (1. © Elisabeth Nowotny after Franz Drost; 2 and 3. Milo 2014 after Kuna – Profantová 2005 and Pleinerová 2000).

Austrian Waldviertel and Weinviertel, as stated above (see also Krause – Kühnreiter 2014, 232 f.).

Meso-scale

At the meso-scale, settlement form is of primary interest. This comprises the internal structure of the settlements (for example, the emergence of farmsteads) as well as the shape of the village.

Internal structure of the settlements and the emergence of farmsteads

In the Early Slavic phase of Mitterretzbach (Fig. 3/1) the sunken dwellings were organized in a row and oriented more or less identically, but with one set at an angle. While in Lower Austria only erratic settlement patterns (Felgenhauer-Schmiedt 2009, 76) had hitherto been known from this period, this semicircular arrangement of houses has sometimes been identified for settlements of the Prague-type culture, *i.e.* of the Early Slavic period (Fig. 3/2, 2) (compilation: Kuna – Profantová 2005, 335 f., 133 f. fig. 42 f.).

These arrangements may have existed as a settlement oriented around an open space (*Platzdorf*) (Pleinerová

1975, 26) or as singular homesteads within a clustered village (Dostál 1985, 85, fig. 19, 124). Because of the question of the contemporaneity of these buildings, and the small size of the excavated area of the settlements, it is difficult to make assertions about the form of settlement. In a recent critical revision, Peter Milo only regards one representative of each kind as plausible (Milo 2014, 275-282, 307).

The absence of independent farm-type complexes in rural settlements is seen as one of the main differences in the archaeological record of rural areas between western and eastern Central Europe in the early medieval period (Milo 2014, 302, 315-321, 636). In our research area, we find only hints of autonomous economic units as well as of economically specialised areas within settlements on some sites of the middle/latter part of the Early Middle Ages (Milo 2014, 321).

The development towards clearly enclosed yards was anticipated at early medieval central places (among others the Burgwälle), but on rural sites farmsteads enclosed by fences are only visible in the High Middle Ages (Milo 2014, 315-321, spec. 321; Klápště 2007). There is only one early example from the Czech lands, at Mštenice, which – in Phase III in the 11th century –

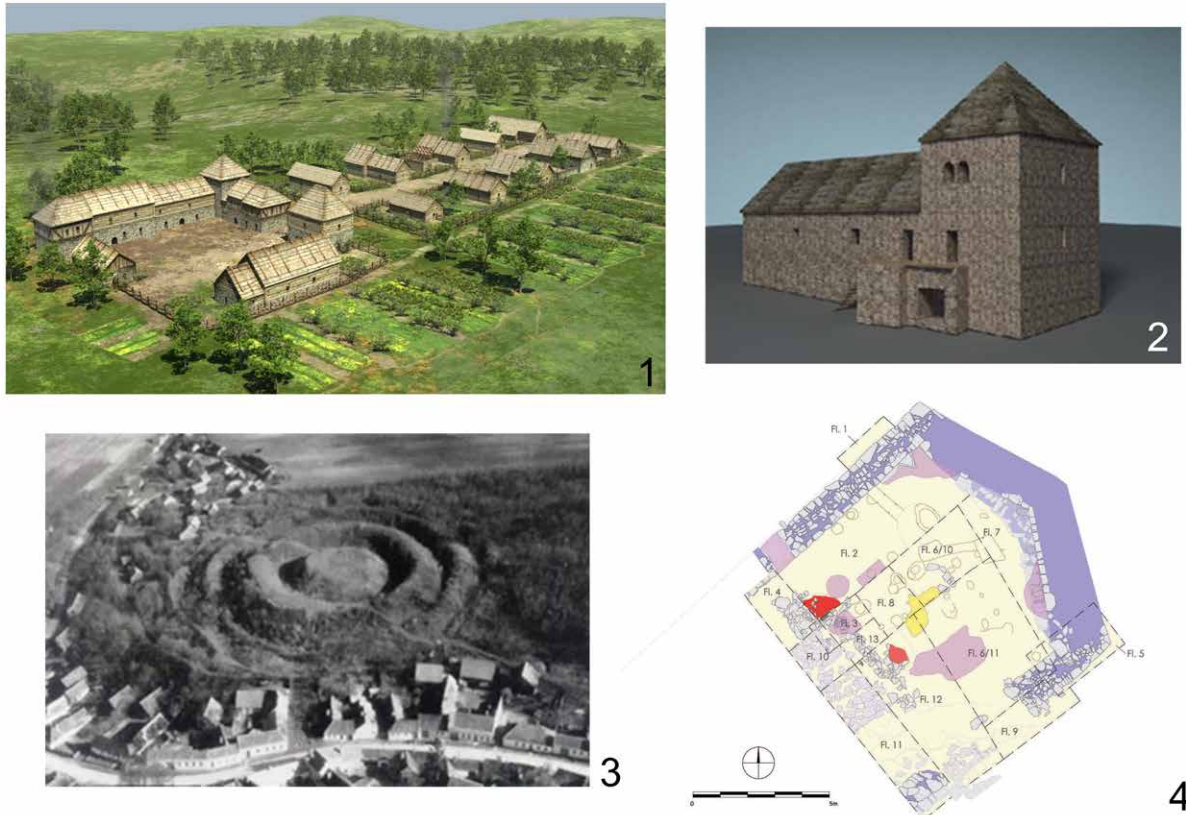


Fig. 4: Presence of leadership in respectively close to villages in Lower Austria: 1. The manor farm in the unit of the village of Hard; 2. The stone building of Kleinhard; 3. The Hausberg (motte) of Gaiselberg; 4. The lowland castle of Ödengroßau (graphic: 1. © Seven Reasons after Sabine Felgenhauer-Schmiedt; 2. Felgenhauer-Schmiedt 2008; 3. Felgenhauer-Schmiedt 2013; 4. Felgenhauer-Schmiedt 2008).

features several small enclosed farmsteads (*Klápště 2007*, 230), of approximately 20 m², a rather irregular layout, and several outbuildings. Some scholars have rejected this interpretation because of a lack of evidence (*Klápště 2012*, 191). Generally, the preservation conditions of ground-level buildings, which had emerged by the High Middle Ages, impede archaeological assessments (*Klápště 2012*, 191).

The 11th-century group of buildings at Mitterretzbach (Fig. 2) is the first systematically excavated farm-type structure of this period in Lower Austria. The posthole buildings are largely similarly orientated and some of them are aligned with each other. Because of this spatial relationship to each other, they are interpreted as belonging to the same steading or farm-type complex (of at least 32 x 37 m in size), despite the absence of a surrounding fence. Another building c. 52 m away may be part of another settlement unit. Farmsteads of comparable structure are more common further westwards than in the surrounding areas.

Development in the following period can be sketched by looking at the village of Hard (Fig. 4/1; 5/2) with its plots, some of which were shut off by stone

walls (*Felgenhauer-Schmiedt 2008*, 74). Information about outbuildings is lacking, as the plots themselves were not investigated.

Farmsteads in the more eastern part of the Weinviertel – from 1600 m² up to 2500 m² (including the adjacent garden plot)–seem to have been distinctively larger than in the adjacent regions of Moravia and north-western Lower Austria (Waldviertel). However, no regular building structure has been found (*Krenn 2012*, 179), apart from marginal buildings with gable or eave facing the street or square. This is probably due to the incomplete excavation of the villages.

In Bohemia and Moravia, the treatment of space changed in the 13th and 14th centuries as the layouts of homesteads became more stable and comprised a relatively firmly marked-out piece of land, which favoured the use of more-durable building material/techniques, particularly stone (see above) (*Klápště – Smetanka 1996*, 335). Farmsteads consisting of a multipartite residential house, a courtyard, and various outbuildings became characteristic during the Later Middle Ages; some of the farmsteads in Svídna provide examples (*Klápště 2012*, 279 f.) (Fig. 5a).

Village shape and field forms

In terms of archaeology, the greatest challenges when talking about settlement form are the partial excavation of sites and the often poor or insufficient dating of finds. This applies to the example of Mitterretzbach.

In the early medieval period (*Milo 2014*, 260-314, esp. 304 f., 329) the dominant settlement type in eastern Central Europe is the clustered village, which comprises about two-thirds of the sites. These typically seem to have been rather small settlements, sometimes referred to as hamlets (*Gringmuth-Dallmer 1996*, 26; *Brather 2016*, 206). Linear settlements (for example parts of Roztoky, Bohemia) and dispersed settlements (also sparse ones; for example Kraków-Nowa Huta Site No. 1, Poland) are also known and occur about equally often. Milo states that all the named types seem to have been present throughout the whole of the Early Middle Ages, and that no changes occurred over the centuries (*Milo 2014*, 303-305 Tab. 11, 12; Diagr. 10, 11). An inner social structure of these settlements is difficult to characterise (*Brather 2016*, 205). In western, Germanic areas the assessment of the village form is much easier; here closed clustered villages are more clearly dominant (*Milo 2014*, 329).

Examples of a (probable) linear village at high medieval sites are Gang, Lower Austria (*Felgenhauer – Felgenhauer 1969*) and the first phase of Pfaffenschlag, in southwest Moravia (*Nekuda 1975*, 243; 262), the latter being recently critically reviewed (*Klír 2008*, Anm. 93; *Klápště 2012*, 302 Anm. 212). For Mstěnice, southern Moravia, Nekuda postulates a clustered village consisting of several homesteads (*Nekuda 2000*, 350 f., 36) at this time, while critics talk of an ‘unclear mosaic of remains of wood-and-clay buildings’ (*Klápště 2012*, 299; for a review, see also *Procházka 2002*).

The farmsteads of late medieval Hard (Fig. 4a; 5b) were situated in two rows beside a road, with a village green between them and the manor farm. It is thus labelled a type of dead-end road village (*Sackgassendorf*) by the excavator Sabine Felgenhauer. It was thus proven that the presence of a second row of houses was not a development dating only from the end of the medieval period onwards, as had been suggested before by researchers of deserted villages (*Felgenhauer-Schmiedt 2008*, 39, 148 with literature).

The village of Hard was newly laid out around the middle of the 13th century, and thus we can see the implementation of a regular layout during an expansion stage, rather than at the time of settlement foundation (*Felgenhauer-Schmiedt 2009*, 80). This calls into question the generalization that villages with a regular layout, especially Anger-villages (two rows of houses separated by a linear village green), were generally founded systematically from the beginning of colonization in the 11th century onwards. This idea is based on the mapping of different settlement and *field forms* in the 19th-

century Franciscan cadastre and the presumption of their originality. The cadastre shows regular villages dominating in the areas of colonization, whereas on the ‘old settlement land’, we find mainly hamlets and clustered villages. Generally, the division in Hufen and the implementation of Gemarkungen was a precondition for the augmentation of the yield (*Gringmuth-Dallmer 2006*, 111 f.).

The high and late medieval deserted medieval villages of the Weinviertel provide examples of the reconstruction of the village form (Anger- or linear village) from LiDAR scans and the Franciscan cadastre, and only minimally by on-site archaeology. Due to the lack of structures in the early phases and hints for displacement (*Krenn 2012*, 183-185), these sites cannot help to solve the question of the emergence of regular villages. Krenn (2012, 185) relates the distances between them to their methodical installation in the course of a structured colonization.

For the northern Waldviertel, systematic field survey led to the model of a different development of the two rows of a village, which is still to be verified by archaeology (*Krause – Kühnreiber 2014*, 235).

In Moravia and Bohemia, the layouts with village greens in different shapes became dominant in the 13th century (*Klápště 2012*, 285). An example is the completely investigated village of Pfaffenschlag. In Mstěnice, 17 farmsteads were arranged along 2 sides of the elongated village green from the 2nd half or end of the 13th century onwards (*Klápště 2012*, 299).

In the Drahaný highlands in central Moravia, which were first settled in the 13th and 14th centuries, the short double-row forest field village (*Waldhufendorf*, comprising 6 to 8 homesteads) was the main village form (*Klápště 2001*, 31 f.). Half of the villages were abandoned in the 15th century.

For Slovakia it has been stated that ‘up to the 14th century scattered forms of settlement are especially known, consisting of groups of houses situated in larger areas within the settlement’s arable land’ (*Čapolvič – Habovštiak 1996*, 270).

Macro-Scale

Abandonment

The structure of the landscape changed in the advancing Middle Ages, due to the abandonment of villages and the formation of towns (*Felgenhauer-Schmiedt 2008*, 148; *Krause – Kühnreiber 2014*, 236 f., 244 f.). The abandonment of rural settlements was induced by the interaction of different natural causes and human actions, such as economic reorientation, war, and the collapse of prices (*Felgenhauer-Schmiedt 2008*, 146 f.), and proceeded in parallel with population aggregation at central sites (*Krause – Kühnreiber 2014*, 237).

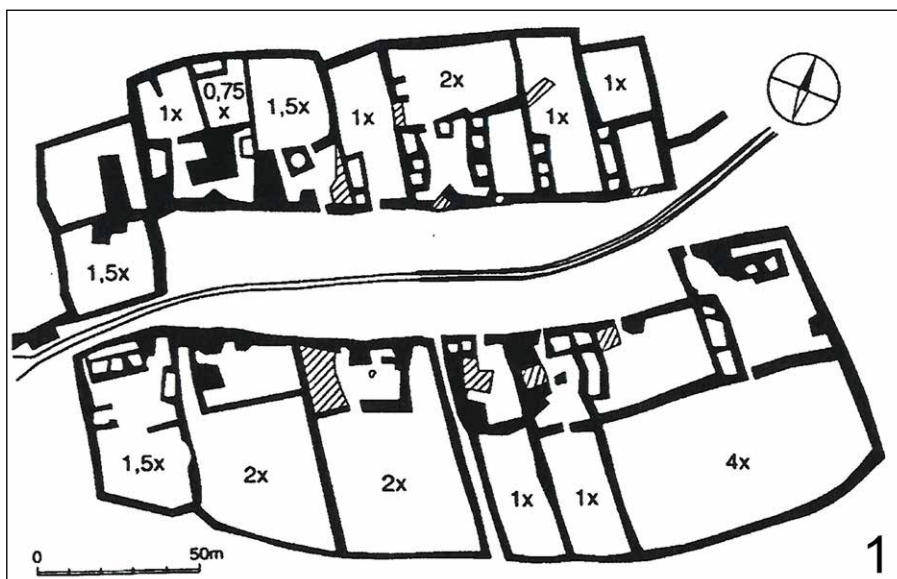


Fig. 5: Different sizes of houses and parcels connected to a differentiated social structure in the village itself: 1. Svidna, Bohemia; 2. Hard, Lower Austria (1. Klápště 2012 after Smetánka; 2. © Seven Reasons after Sabine Felgenhauer).

Relocation

In early and high medieval ages, several settlements in Moravia and Bohemia (Nekuda 2000, 349 f.), Slovakia (Čaplovič – Habovštiak 1996, 270) and Lower Austria (Felgenhauer-Schmiedt 2009, 80; Krenn 2012) were relocated in their immediate surroundings. These have been labelled ‘dynamic settlements with continuity of space’ (Klápště 2007, 231). This relocation is – unsurprisingly – typical for rural settlements, whereas the (partly fortified) central sites of the 9th and 10th centuries were (together with the reused Roman sites) the first settlements to remain in the same position for their entire period of existence (Herold 2012, 78).

Changes

In a long-term perspective, the shift from the exercise of authority over an association of people in unstable small dominions in the Early and High Middle Ages to control over larger territories in the Late Middle Ages (Weltin

1990 with literature) was decisive. The latter may be connected to colonization reaching its limits, provoking a reorganization of space and power (Felgenhauer-Schmiedt 2013, 228). It may be reflected in the archaeological record by stable villages with regulated open fields and through the replacement of the high number of small castles that had spread as a result of the intensive medieval colonization by a few big castles. The majority of small castles were supplanted by lightly fortified or unfortified manors (of the lower nobility or officials). An example is Hard (Figs. 4/1, 5/2), which reflects the change from a fortified house to a late medieval manor (farm) (Felgenhauer-Schmiedt 2013, 227).

Social change is one impact factor in the settlement landscape, and may be reflected in differentiation among settlements. At the start of the Early Middle Ages, we know only simple villages. This corresponds to the situation in other areas connected to the Early Slavs. Together with

the rather poor material culture, this has led researchers to postulate a reasonably egalitarian society (*Klápště* 2012, 188). On the other hand, the example of the Bavarian area shows that rural settlement need not reflect social differentiation, even if it obviously existed (*Felgenhauer-Schmiedt* 2013, 5 Anm. 2 with Literature).

As the Early Middle Ages progressed, an archaeologically identifiable differentiation among settlements developed in the eastern border regions of the Frankish Empire, in terms of central places (*Herold* 2012), which is connected to the (re-)organization of the elites.

It is not before the High Middle Ages that the presence of leadership becomes archaeologically apparent in the villages. This is linked with the formation of the (lower) nobility (*Felgenhauer-Schmiedt* 2012, 78; *Nekuda* 2000, 355, 361). The various pieces of archaeological evidence for the presence of leadership (*Nekuda* 1985; *Felgenhauer-Schmiedt* 2013) are stone buildings without any fortification, fortifications (lowland castles or mottes), and a manor as part of the village (Figs. 4/1, 5/2).

In the village itself, different sizes of farmsteads (parcels as well as houses) were connected to social structure (*Klápště* 2012, esp. 276 fig. 66; *Felgenhauer-Schmiedt* 2008, 138). This is the case, for example, in late medieval Svidna (Fig. 4/2) and Hard (Figs. 4/1, 5/2).

An example of the mutual relationship between political/social development and settlement transformation comes from Bohemia, where the 12th century saw the rise of the phenomenon of private colonization by temporal and spiritual overlords, which may have led to more-dispersed forms of settlement. The overloading of the social capacity of the settlements ended in the minor landed gentry splitting off (*Klápště* 2001, 29 f.).

The majority of phenomena resulting from the high medieval colonization (including the transformation of vast areas into agriculturally intensively cultivated landscapes) are similar in some regions of Central Europe, yet occur at different times (*Krause – Kühtreiber* 2014, 257 ff.; see also *Gringmuth-Dallmer* 2006). As a specific of the eastern Austrian colonisation, the importance of a broad aristocracy and the almost complete lack of centrally directed measures regarding space has been emphasised (*Krause – Kühtreiber* 2014, 260).

With regard to the organizing principles of rural economy, the manorial system had become a main factor for the structuring of space, socially, economically, and juridically (*Felgenhauer-Schmiedt* 2013, 6). The question of whether and to what extent it existed in the area of investigation in early medieval times cannot be answered at the current state of research (*Herold* 2016, 117). The relatively firmly marked-out piece of land belonging to a homestead is seen as the basis for this development (*Klápště* 2001, 32 f.). The so-called demesne system (*Fronhofsystem*) based on levy is replaced by the rent assessment system

(with autonomous farmers) in the course of the High and Late Middle Ages (*Felgenhauer-Schmiedt* 2013, 225 with fn. 32). The implementation of the *emphyteuse* brought restructuring mainly in the Slavic territory (*Felgenhauer-Schmiedt* 2008, 155 fn. 528). The transformation of the economic system had become necessary to increase the carrying capacity of the settlement area and thus meet the rising socio-economic demands (*Klápště* 2001, 30). These transformations took place later than in the rest of Europe (*Klápště* 2001, 33).

An example for the reflection in the archaeological record is the 13th/14th-century manor at Hard (*Felgenhauer-Schmiedt* 2008; *Felgenhauer-Schmiedt* 2013, 15f., 19) (Fig. 4/1) which, when no longer part of the demesne system, met the new demands and developed its new role by conversions and additions to the building (*Felgenhauer-Schmiedt* 2013, 18 f.).

Topographic transformations

Early Slavic communities preferred mainly low-lying land for settlement (Bohemia: *Kuna – Profantová* 2005, 319 f.; Moravia: *Měřínský* 2002, 63 f., Slovakia: *Fusek* 1994, 309, Lower Austria: *Nowotny* 2016, 171 fig. 1).

Gradual long-term settlement growth in the Early and High Middle Ages led over time to settlement of those areas most suitable for agriculture; less-favourable areas were settled in later medieval times (for the Czech areas, see *Klápště* 2001, 31; Slovakia, see *Čaplovič – Habovštiak* 1996, 270; Lower Austria publications dealing with settlement or landscape archaeology of regions as a whole are still missing; see *Krause – Kühtreiber* 2014, 235 f.).

Concluding summary

The settlement of Mitterretzbach in north-eastern Austria is a rather typical Early Slavic settlement of Eastern Central Europe with sunken dwellings in a semicircular arrangement, representing a settlement laid out around an open space. Clustered villages are generally predominant in this period. Over the course of Early Middle Ages, central sites emerged and the shift to ground-level buildings began, becoming prevalent on rural sites in the High Middle Ages. Enclosed farmsteads, a phenomenon that appeared much earlier in western Central Europe, also become archaeologically evident during this period. In Mitterretzbach, a high medieval farm-type structure consisting of ground-level buildings in post-construction was identified, representing the latest settlement phase on this site. This demonstrates a stage of development – generally observable in the research area – at which ground-level buildings had become the main building type. Village layouts also become more regular, which is often linked to colonization.

In the Late Middle Ages, detached buildings developed into multipartite houses, and stone became more common as a more durable building material, which is connected to the increasing stability of layouts of homesteads and plots of land. Layouts with village greens in different shapes are now dominant. Moreover, the abandonment of rural settlements and the increasing concentration on central sites was a late medieval phenomenon.

Of the different changes affecting the settlement landscape, the shift in the Late Middle Ages from the exercise of authority over an association of people to authority over territories was of major importance. In the rural milieu, this is reflected by the existence of stable villages with regulated open fields. An important economic transformation is the replacement of the demesne system (*Fronhofsystem*) by the rent assessment system in the course of the High and Late Middle Ages, taking place comparatively late in the European context.

References

- Brather, S. 2016:*
Grubenhäuser und Haushalte: Zur Sozialstruktur frühmittelalterlicher Siedlungen in Ostmitteleuropa, in: Bollók, A. – Csiky, G. – Vida, T. (eds), *Zwischen Byzanz und der Steppe: archäologische und historische Studien. Festschrift für Csanás Bálint zum 70. Geburtstag*, Budapest, 195-208.
- Brunner, K. 1994:*
Herzogtümer und Marken: Vom Ungarnsturm bis ins 12. Jahrhundert. *Österreichische Geschichte 907-1156*. Wien.
- Čapolovič, D. – Habovštiak, A. 1996:*
The situation of archaeological research of Middle Ages: agricultural settlements in the territory of Slovakia, *Ruralia I. Pam. Arch. Suppl 5*, 269-276.
- Dostál, B. 1985:*
Břeclav-Pohansko III: Časně slovanské osídlení. *Opera Universitatis Masarykianae, Facultas Philosophica 261*. Brno.
- Felgenhauer-Schmiedt, S. 2008:*
Hard: Ein Wüstungskomplex bei Thaya im niederösterreichischen Waldviertel. *Archäologische Forschungen in Niederösterreich 6*. St. Pölten.
- Felgenhauer-Schmiedt, S. 2009:*
Archäologie ländlicher Siedlungen des Mittelalters in Niederösterreich, in: Felgenhauer-Schmiedt, S. – Csendes, P. – Eibner, A. (eds), *Lebenswelten im ländlichen Raum: Siedlung, Infrastruktur, Wirtschaft, Beiträge zur Mittelalterarchäologie in Österreich 25*, 69-88.
- Felgenhauer-Schmiedt, S. 2012:*
Herrschaftszentren und Adelssitze des 10. bis 13. Jahrhunderts im nördlichen Waldviertel: der Beitrag der Archäologie, in: Birngruber, K. – Schmied, Ch. (eds), *Adel, Burg und Herrschaft an der „Grenze“: Österreich und Böhmen. Studien zur Kulturgeschichte von Oberösterreich 34*. Linz, 57-82.
- Felgenhauer-Schmiedt, S. 2013:*
Zur Präsenz von Herrschaft im Dorf, *Ruralia IX*, 5-22.
- Felgenhauer, F. – Felgenhauer, S. 1969:*
Die Wüstung Gang, Gemeinde Eckartsau, p.B. Gänserndorf, Niederösterreich: Probegrabung und Versuch einer Wüstungsanalyse, *Archaeologia Austriaca, Beiheft 10*, 25-67.
- Fries-Knoblach, J. 2006:*
Hausbau und Siedlungen der Bajuwaren bis zur Urbanisierung, *Bayerische Vorgeschichtsblätter 71*, 339-430.
- Fusek, G. 1994:*
Slovensko vo včasnოსlovanskom období [Die Slowakei in der frühslawischen Zeit]. *Archeologica Slovaca Monographiae 3*. Nitra.
- Gringmuth-Dallmer, E. 1996:*
Landwirtschaftliche Siedlungen im östlichen Deutschland zwischen frühem und hohem Mittelalter, *Ruralia I, Pam. Arch. Suppl. 5*, 17-28.
- Gringmuth-Dallmer, E. 2006:*
Die hochmittelalterliche Ostsiedlung in vergleichender Sicht: Siedlungsforschung, Archäologie – Geschichte – Geografie 24, 99-121.
- Herold, H. 2012:*
Fortified settlements of the 9th and 10th centuries AD in Central Europe: structure, function and symbolism, *Medieval Archaeology 56*, 60-84.
- Herold, H. 2016:*
The natural environment, anthropogenic influences and supra-regional contacts at 9th- to 10th-century fortified elite settlements in Central Europe, in: Christie, N. – Herold, H. (eds), *Fortified settlements in Early Medieval Europe: defended communities of the 8th to 10th centuries*. Oxford, 107-120.
- Klír, Th. 2008:*
Osídlení zemědělsky marginálních půd v mladším středověku a raném novověku [Besiedlung und landwirtschaftliche Nutzung marginaler Böden im späten Mittelalter und der frühen Neuzeit]. *Dissertationes archaeologicae Brunenses/Pragensesque 5*. Praha.
- Klápště, J. 2001:*
Bohemia and Moravia: High Medieval Settlement, in: Crabtree, P. J. (ed.), *Medieval archaeology: an encyclopedia*. *Routledge encyclopedias of the Middle Ages 4*. New York/London, 31-35.
- Klápště, J. 2007:*
Das frühmittelalterliche Dorf in Böhmen und Mähren: Glanz und Elend des aktuellen Forschungsstandes, in: Jeute, G. H. – Schneeweiß, J. – Theune, C.

- (eds), *Aedificatio terrae: Beiträge zur Umwelt und Siedlungsarchäologie Mitteleuropas. Festschrift Eike Gringmuth-Dallmer zum 65. Geburtstag. Internationale Archäologie – Studia honoraria* 26. Rahden, 229-238.
- Klápště, J. 2011:*
Investigating rural settlement, in: Carver, M. – Klápště, J. (eds), *The archaeology of Medieval Europe 2: Twelfth to sixteenth centuries. Acta Jutlandica Humanities Series 9/1002.* Aarhus, 97-109.
- Klápště, J. 2012:*
The Czech lands in medieval transformation: east Central and Eastern Europe in the Middle Ages 17. Leiden/Boston.
- Klápště, J. – Smetanka, Z. 1996:*
The archaeology of medieval villages in Bohemia and Moravia (Czech Republic), *Ruralia I. Pam. Arch. Suppl* 5, 331-338.
- Krenn, M. 2012:*
Wüstungsforschung und Denkmalpflege in Niederösterreich: Anforderungen und Aufgaben der archäologischen Denkmalpflege am Beispiel mittelalterlicher Siedlungsstrukturen. *Fundberichte aus Österreich Materialhefte A* 20. Horn.
- Krause, H. – Kühnreiter, Th. 2014:*
Hochmittelalterliche Transformationsprozesse und ihre Wirkung auf das Siedlungsbild Ostösterreichs, in: Gringmuth-Dallmer, E. – Klápště, J. (eds), *Tradition – Umgestaltung – Innovation: Transformationsprozesse im hohen Mittelalter. Praehistorica* 31/2. Prag, 221-268.
- Kuna, M. – Profantová, N. 2005:*
Počátky raného středověku v Čechách. *Archeologický Ústav AVČR. Praha.*
- Lauerermann, E. – Drost, F. 2005:*
KG Mitterretzbach, *Fundberichte aus Österreich* 44, 468.
- Měřínský, Z. 2002:*
České země od příchodu Slovanů po Velkou Moravu I. Naklad Libri. Praha.
- Milo, P. 2014:*
Frühmittelalterliche Siedlungen in Mitteleuropa: Eine vergleichende Strukturanalyse durch Archäologie und Geophysik. *Studien zur Archäologie Europas* 21. Bonn.
- Nekuda, V. 1975:*
Přáfensschlag: Zaniklá středověká ves u Slavonice. *Mittelalterliche Ortswüstung bei Slavonice.* Blok. Brno.
- Nekuda, V. 1985:*
Hrádek – tvrz – dvůr – předsunutá opevnění. *Prameny k dějinám a kultuře Moravy* 1. Brno.
- Nekuda, R. 2000:*
Mstěnice 3. Raně středověké sídliště. *Zanikla středověká ves u Hrotovic. Prameny k dějinám a kultuře Moravy* 7. Brno.
- Nowotny, E. 2015:*
Die früh- bis hochmittelalterliche Siedlung von Mitterretzbach, Niederösterreich. *Archäologische Forschungen in Niederösterreich N.F.* 1. Krems.
- Nowotny, E. 2016:*
The archaeology of early Slavic settlements in Lower Austria, in: Biermann, F. – Kersting, Th. – Klammt, A. (eds), *Die frühen Slawen – von der Expansion zu gentes und nationes. Beiträge zur Ur- und Frühgeschichte Europas* 81/1. Beiträge der Sektion zur slawischen Frühgeschichte des 8. Deutschen Archäologiekongresses in Berlin, 06.-10. Oktober 2014. Langenweissbach, 171-180.
- Obenaus, M. 2011:*
Die neuen Forschungen in der Talsiedlung von Thunau am Kamp (Ein Zwischenbericht), in: Macháček, J. – Ungerman, Š. (eds), *Frühgeschichtliche Zentralorte in Mitteleuropa. Studien zur Archäologie Europas* 14. Bonn, 529-549.
- Obenaus, M. 2015:*
Die frühmittelalterliche Talsiedlung von Thunau am Kamp: Grabungen 2004 bis 2014, *Archäologie Österreichs* 26/1, 9-21.
- Pleinerová, I. 1975:*
Březno. Vesnice prvních Slovanů v severozápadních Čechách [Březno, ein Dorf der fruehesten Slawen in Nordwestböhmen]. Prag.
- Pleinerová, I. 2000:*
Die altslawischen Dörfer von Březno bei Louny. *Prag/Louny.*
- Procházka, R. 2002*
Besprechung von: Vladimír Nekuda: Mstěnice. *Zaniklá středověká ves u Hrotovic* 3. Raně středověké sídliště, *Archeologické rozhledy* 54/4, 947-950.
- Ruttka, M. 2002:*
Ländliche Siedlungen des 9. bis 11. Jahrhunderts im Mitteldonauegebiet, in: Henning, J. (ed.), *Europa im 10. Jahrhundert: Archäologie einer Aufbruchzeit. Mainz am Rhein,* 267-282.
- Weltin, M. 1990:*
Der Begriff des Landes bei Otto Brunner und seine Rezeption durch die landesgeschichtliche Forschung, *Zeitschrift der Savigny-Stiftung für Rechtsgeschichte, Germanistische Abteilung* 107, 339-376.
- Willoweit, D. 2006 (ed.):*
Reiche und Territorien in Ostmitteleuropa: Historische Beziehungen und politische Herrschaftslegitimation. München.
- Wolfram, H. 2003:*
Grenzen und Räume: Geschichte Österreichs vor seiner Entstehung. *Österreichische Geschichte* 308-907. Wien.

Late medieval transformation of the rural landscape

A model of *melioratio terrae* on the examples of the land of Nysa-Otmuchów and the Kaczawskie Foothills, Silesia, Poland

*Maria Legut-Pintal**

Abstract

The late medieval colonisation and transformation of the settlement network of lands located east of the Elbe River is considered a milestone in urban planning, but it is also a great phenomenon in the terms of rural planning. The aim of this paper is to show the results of studies on the transformation of villages and the settlement network in the territory of Nysa-Otmuchów, located in the southern borderland of historical Silesia, held by the bishops of Wrocław. The data will be compared with settlements in the Kaczawskie Foothills (Pogórze Kaczawskie), reorganized by the dukes of Wrocław. Because of an abundance of written documents, archaeological data, and well-preserved villages, these regions can illustrate the studies into critical issues related to village transformations in the period of the establishment of the feudal economy: land ownership; reorganisation of the older settlement network; forest clearances to locate new settlements; development of a parish system; and the relationships between villages, towns, castles and production centres.

Keywords: *Cultural landscape, medieval transformation, colonisation, Silesia, Poland.*

Résumé

La transformation du paysage rural au cours du Moyen Âge tardif: le modèle du melioratio terrae appliqué aux exemples du territoire de Nysa-Otmuchów et des Kaczawskie Contreforts (Pogórze Kaczawskie), Silésie, Pologne

Si la colonisation au Moyen Âge tardif et la transformation du réseau de peuplement des terres situées à l'est de l'Elbe sont considérées comme un tournant dans la planification urbaine, il s'agit aussi d'un important phénomène en rapport de planification rurale. L'objectif de cet article est de présenter les résultats des études menées sur la transformation des villages et du réseau de peuplement sur le territoire de Nysa-Otmuchów, situé dans la partie sud de la Silésie historique et tenue par les évêques de Wrocław, en comparaison aux contreforts montagneux des Kaczawskie (Pogórze Kaczawskie), zone réorganisée par les ducs de Wrocław. En raison de la quantité de documents historiques à disposition, de données archéologiques et de villages ayant conservé leur structure

* Katedra Historii Architektury
Sztuki i Techniki/ Chair of History of
Architecture, Art and Technology
Wydział Architektury Politechniki
Wrocławskiej/ Faculty of Architecture,
Wrocław University of Technology
ul. Bolesława Prusa 53/55
50-377 Wrocław
Poland
maria.legut@pwr.edu.pl

d'habitat originel, ces régions se prêtent pour l'étude des problèmes cruciaux liés à la transformation des villages à l'époque de l'établissement de l'économie féodale: la propriété des terres, la réorganisation de l'ancien réseau de peuplement, la déforestation due à la colonisation rurale, le développement du système paroissial et les relations entre les villages, les villes, les châteaux et les centres de production.

Mots-clés: *paysage culturel, transformation médiévale, colonisation, Silésie, Pologne.*

Zusammenfassung

Spätmittelalterliche Umgestaltung der ländlichen Landschaft: Modell des Melioratio terrae an den Beispielen der Neisse-Ottmachau-Region und dem Bober-Katzbach-Vorgebirge, Schlesien, Polen

Die spätmittelalterliche Besiedlung und Transformation des Siedlungsnetzes östlich der Elbe gilt als Meilenstein in der Stadtplanung, ist aber auch ein bedeutendes

Silesia as a part of the colonization movement in Europe

The changes that occurred in Silesia, a province located in between the Reich, Czechia, and Poland since the turn of the 12th century can be seen as a part of a general trend related to the colonization movement. It began in the Netherlands in the 11th century and then moved east, reaching Polabian lands, Poland, Czechia, Hungary, and even—several centuries later—Ruthenia (Gawlas 2000, 1-6; Piskorski 2005, 59). Silesian investors—dukes from the Piast dynasty, Wrocław bishops, and, to a lesser degree, monastic orders and the wealthy nobility—all took from the experiences of their western and southern neighbours. However, it appears that Silesia witnessed not only imitations of foreign patterns but also some new solutions concerning the legal and spatial organization of towns and villages (Młynarska-Kaletynowa 1980, 349-361). It is particularly interesting to look at the territories where a sort of a holistic colonization model was applied (*melioratio terrae*, Landesausbau). The model had been developed in Saxony by the Magdeburg archbishop Wichman. The idea was that rural settlements would be established at the same time as a trading settlement (a town), which supposed to be a centre of local commerce (Zientara 1975, 168-169; Gawlas 2000, 53; Piskorski 2005, 78). The idea, brought from the west, was then adapted to the local legal structure and environmental conditions and developed depending on individual needs and circumstances. For instance, from the point of view of landscape archaeology, it has been observed that Silesia in the 13th century was a place where

Phänomen in der Planung im ländlichen Bereich. Das Ziel des Beitrages ist es, die Ergebnisse der Untersuchungen über die Transformation von Dörfern und des Siedlungsnetzes auf dem Gebiet von Nysa-Otmuchów, im südlichen Grenzgebiet des historischen Schlesiens, die von den Bischöfen von Wrocław durchgeführt wurden, zu beschreiben. Die Beobachtungen werden mit der Besiedlung des Kaczawskie-Vorgebirges (Pogórze Kaczawskie) verglichen, die von den Herzögen von Wrocław reorganisiert wird. Aufgrund einer Fülle von schriftlichen Dokumenten, archäologischen Daten und gut erhaltenen Dörfern können in diesen Regionen die Umgestaltungen in der Zeit zu Beginn der Feudalwirtschaft gut dargestellt werden: Grundbesitz; Neuordnung des älteren Siedlungsnetzes; Waldrodungen zur Ansiedlung neuer Siedlungen; Entwicklung eines Pfarrsystems und der Beziehungen zwischen Dörfern, Städten, Burgen und Produktionszentren.

Schlagwörter: *Kulturlandschaft, mittelalterliche Umwandlung, Landnahme, Schlesien, Polen.*

numerous improvements were made in relation to the act of determining the area of a town, the main purpose of which was to use the available space as best as possible. This is visible (especially in smaller settlements, founded *in cruda radice*, or on previously undeveloped sites) in the shortening of the blocks of buildings adjoining the market square, in the reducing of the width of plots, and in the adjusting of the proportions of the market square (Pudetko 1959; 1960; Kozaczewski 1972; 1973). The model of towns and villages that was used in Silesia in the first decades of the 13th century was later applied to the lands situated further to the east and north (Greater Poland, Lesser Poland, Pomerania) (Zientara 1975, 131). So far, due to the insufficient research on medieval villages in Silesia, it has not been confirmed whether the Silesian experiences sparked innovations in rural development (on the current state of research on Silesian villages, see Fokt 2012, 25-109, Piekalski – Wachowski 2013, 128-129; Adamska et al. 2014, 18-27).

Current state of research

To this point the research on the changes in the cultural landscape of Silesia has been the domain of historians, whose considerations were based on written sources and who have not always exploited the potential of other fields of study, such as archaeology, historical geography and cartography, the history of architecture, art, and urban science (Kuhn 1971; 1984; Zientara 1975). A holistic approach, similar to the achievements of landscape

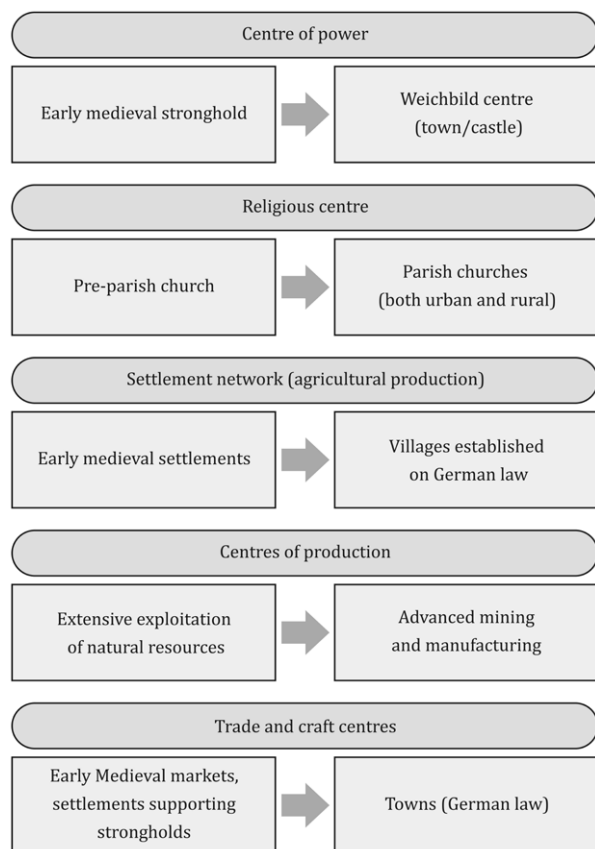


Fig. 1: Scheme of transitions of microregion's elements between the 12th and 13th centuries in Silesia (© Maria Legut-Pintal).

archaeology, which is quite popular in Western Europe, may employ modern tools (Airborne Laser Scanning – ALS, and Geographic Information System - GIS) in order to broaden the range of material applicable in this kind of study (Aston 1985). First attempts have already been made in the study of the land near Nysa and Otmuchów, where Schich and Stephan have recently made a reconstruction of changes related to colonization. However, their input into the maps was limited to the information available in written sources. They neglected archaeological and environmental data (Schich – Stephan 2015). On the other hand, in the case of the Wleń region, other sources were used—archaeological, cartographical and altitude-related—yet the full potential of historical data was to some extent overlooked (Chorowska et al. 2017).

This paper treats cultural landscape as space—a result of the historical evolution of the natural environment influenced by human beings (Myga-Piątek 2001; 2005). Inside a microregion, perceived as a designated area characterized by particular biological, economic, or cultural features, one can enumerate the basic elements of a cultural landscape. The basis for the functioning of a microregion is usually a chain of rural settlements,

whose main purpose is agricultural production (compare with Kenzler 2012, 181). The microregion's economy also consists of exploitation of natural resources (metals, rock raw materials, wood) and their processing (metallurgy, glassworks). Production centres are connected with centres of commerce and craftwork manufacture. All of this is accompanied by centres of authority and religion—and all of these different centres enter a complex web of relations as well as spatial ones. Such centres are connected inside the microregion by a network of local roads, and with other microregions by interregional trade routes. Whereas the functional structure of a microregion in the Early and High Middle Ages virtually did not change, the form and purpose of its constituents underwent a major evolution (Fig. 1).

To attempt to depict the pattern of the cultural landscape's transformation that took place across Silesia appears too complex and challenging at the current stage of research. Difficulties stemming from a synthetic approach can be, to some extent, overcome by means of a case study which, although selective in its nature, allows very specific research enquiries to be developed. Two such aspects can be deemed especially interesting from the point of view of studies of colonization and colonization-related landscape transformation. These are the microregions of settlements located at opposite ends of the Silesian Province: Nysa-Otmuchów Land, located in the central drainage basin of the Nysa Kłodzka, with its centre in Otmuchów; and a parallel area between the Rivers Kwisa and Kaczawa, including the central settlement of Wleń, located by the River Bóbr. These are the territories directly related to the beginnings of colonization initiated in the latter area by Henry I the Bearded (1201-1238), and in the former by bishop Laurentius of Wrocław (1207-1232). We do not possess a complete set of data that would enable us to reconstruct the medieval cultural landscape, but the paucity of written sources and archaeological research are in a way compensated for by spatial analyses of relatively well-identified—in contrast to other areas in Silesia—constituents of the settlement network.

The cultural landscape of the Silesian foothills in the second half of the 12th century

In order to analyse the changes made by colonization in this cultural landscape, it is essential to determine what this landscape looked like in the period preceding the 13th-century revolution. The cultural landscape of the southern frontier of the Province of Silesia at the beginning of the Late Middle Ages was a result of environmental conditions and the settlement basis of the Early Middle Ages. Settlers had preferred the fertile

areas of the Silesian Lowlands – the main settlements of the province had been established along the River Odra. There were not many settlements founded in areas of more varied terrain and characterized by worse soil and climate, and even then such places would be reached from the river valleys (e.g. *Jaworski 2005; Zientara 1975*, 107). On the whole, scholars agree that southern Silesia was populated to only a very limited extent, a thesis confirmed by scarce archaeological finds. The terrain was densely forested—it is assumed that a vast forest complex was located across the western and southern borders of Silesia, covering the Sudetes and extending along the Rivers Kwisza and Bóbr to the west (*Grünhagen 1874*, 1-10).

The former settlements most probably became a basis for the new administrative division into areas of fortified settlements (later known as *castellany* areas), consisting of a fortified settlement and a number—difficult to estimate nowadays—of villages and hamlets (*Cetwiński 1989; Młynarska-Kaletynowa 1980; Moździoch 1990* and others). The names of the central settlements of that period, located along the southern border, have been preserved in papal bulls from 1155 (*SUb, Bd. 1*, no. 28), and 1245 (*SUb, Bd. 2*, no. 287). Usually a fortified settlement was situated in the centre of an area of an approximate radius of 15 kilometres. The distance could have been slightly smaller in areas with more diverse terrain (*Młynarska-Kaletynowa 1980*, 350-351). In the foothills the economy depended not so much on agriculture as on the exploitation of resources, both renewable—like wood or furs, and non-renewable—such as metals (both base and precious), rock, raw materials, and gemstones (*Lisowska 2016*).

It comes as no surprise that the areas where one could easily find gold deposits were the first ones chosen for new settlements, e.g. the regions of such towns as Złotoryja, Lwówek Śląski, Wleń, and Głucholazy (*Każmierczyk 1977; Cembrzyński – Legut-Pintal 2014*). In the case of the microregions surrounding the towns of Wleń, Złotoryja, and Świerzawa, one is dealing with settlements that had existed in the Early Middle Ages: fortified settlements from the tribal period (9th-10th centuries) in Wleń (Łupki), Marczów, Rokitnica, and Nowy Kościół, as well as slightly younger settlements (from the 11th-12th centuries) in Wleń (Łupki), Sędziszowa, Wysocko, and Rzymówka (*Kaletynowie – Lodowski 1968; Jaworski 2005; Lisowska 2016*). It is possible that this region's potential in relation to resources had already been recognized in the Early Middle Ages. The increase in demand for non-ferrous metals resulted in an economic expansion of the region. Moreover, it is possible that the psychological effect of the so-called gold rush also helped the development of settlements in the area.

Details of the settlement centre in Otmuchów in the Early Middle Ages

The early medieval stronghold in Otmuchów—the centre of the territory of Nysa and Otmuchów—was located on the south-east frontier of Lower Silesia (*Orzechowski 1986; Wólkiewicz 2008*). It was relatively isolated from other main settlements, due to forest complexes located to the south, east, and—smaller ones—to the north and the main transport routes running along the valleys of the Rivers Nysa Kłodzka and Biała Głucholaska. The territory was separated from the southern neighbours, Bohemia and Moravia, by the high ranges of the Golden Mountains, the Opawskie Mountains and the Jeseniky Mountains, all of which also held various resources, including precious metals. Placer gold deposits were found around Głucholazy and along the Biała Głucholaska and its tributaries (*Każmierczyk 1977; Cembrzyński – Legut-Pintal 2014*).

The analysis of the location of the early medieval sites suggests that at the beginning of the colonization, the settlement centre in Otmuchów covered an area with a radius of around 15 km, with the fortified settlement of Otmuchów in the middle (*Fig. 2A*). The locations that proved most suitable for settlers were situated on the left bank of the Nysa Kłodzka, on a loess-covered upland. This is an area dense with sites dated to Early Middle Ages (9th–12th centuries). The fact that people also settled in less-favorable locations such as on the right bank of the Nysa Kłodzka, in the foothills, and most of all along the Biała Głucholaska has been testified to by surface finds, toponymy, and the excavated settlement in Nowy Świętów (*Każmierczyk et al. 1977*, 339-342; *Schich – Stephan 2015*, 214-215). This relatively small, uniform, and at the same time peripheral area constituted the emoluments of the Wrocław diocese (*Wólkiewicz 2008*). This firm ownership facilitated the established of a holistic model of *melioratio terrae*. The entire settlement reorganization was carried out by one landowner with a large economic potential and the ability to execute his rights.

The colonization model applied in the land of Nysa and Otmuchów

Old settlements served as the foundation for the new settlement activity in the land of Nysa and Otmuchów, and during the next decades functioned using the old rules (Polish law, population obliged to perform a number of duties, etc.). It had specific benefits for the diocese, of which the defensive potential seems the most crucial (*Goliński 1998*, 37). The first new settlements were founded on the borderline of the zone of the core Slavic colonization, around the newly established trading centre in Nysa (*Fig. 2B*). The incorporation of Nysa ended by the year 1223 (*SUb, Bd. 1*, no. 25). It was located about

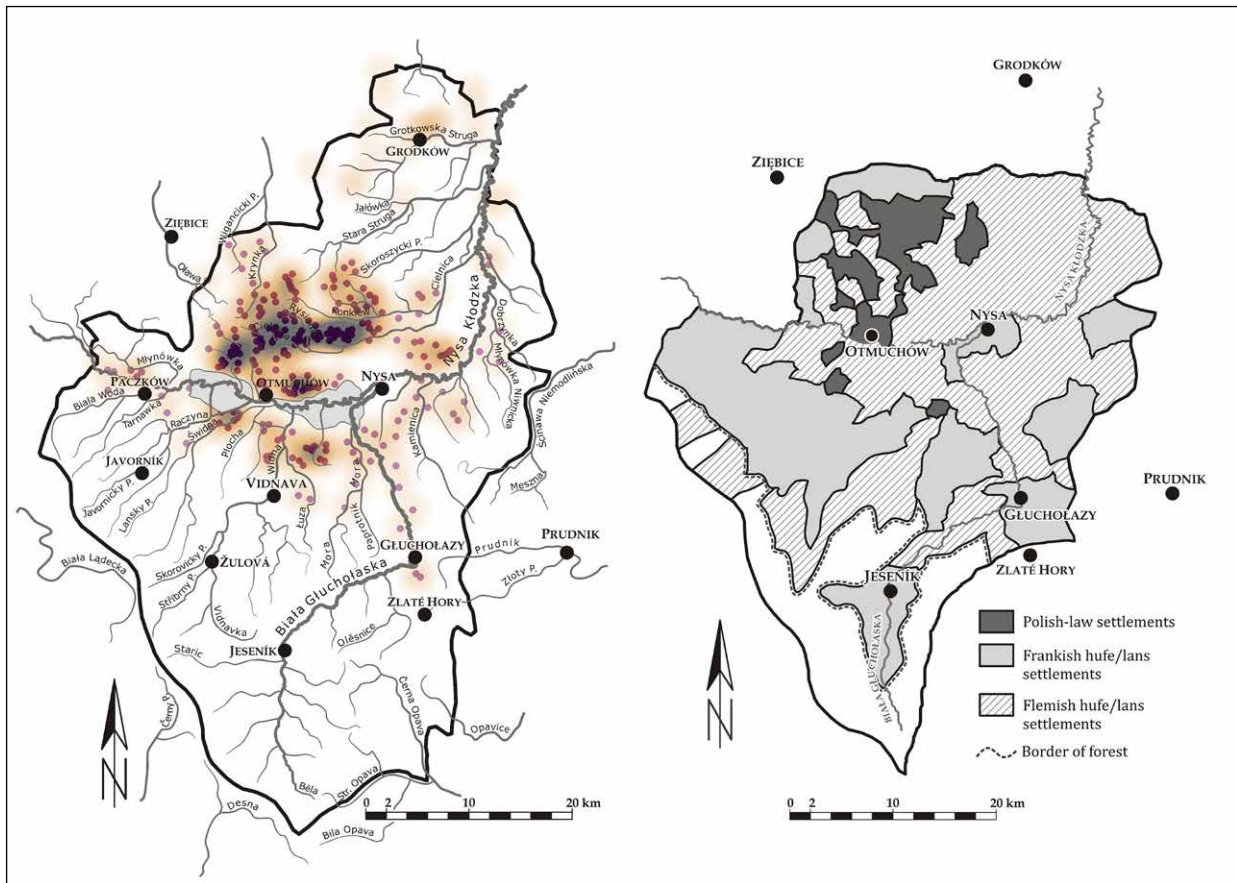


Fig. 2: A—Early medieval archaeological sites in the context of the hydrological network and later duchy borders; B—Late medieval settlement in the territory of Nysa (© Maria Legut-Pintal).

12 km from Otmuchów, in a spot that was better situated from the perspective of trade. Nysa gradually became the central settlement, continuously growing in power to the point that at the end of the Middle Ages it took over the roles previously played by Otmuchów (economic and administrative centre, and even the bishop's residence).

It was during the time of bishop Laurentius (before AD 1232) that villages were founded along the Biała Głuchowska and a trade settlement was established in Głucholazy. The fact that the expansion moved southwards was most probably connected with an occurrence of a rival settlement activity undertaken by the Czechs, which is suggested by an argument that took place ten years earlier and concerned the so-called gold pits—gold mines located to the south of Głucholazy (*SUB*, Bd. 1, no. 241; *Pfitzner* 1926, 19-20). A chain of forest villages (*Waldhufendorf*) had appeared between Nysa and Głucholazy, parallel to Biała Głuchowska. (*SUB*, Bd. 3, no. 449). The next decade witnessed the colonization of the forested areas of the foothills and the establishment of long chains of villages. These were founded not only by the incoming settlers, but also with the help of local inhabitants and people of Slavonic

origin, who received a new law, as one can see in the example of villages founded by the knights Wrocław and Smiło (*SUB*, Bd. 2, no. 352, 380).

The oldest existing document directly discussing the foundation of villages comes from 1237 and indicates that a colonization action is under way—a village head (*scultetus*) named Peter was to develop 200 *mansos* (Ger. Hufen, Pol. łany) located in the northernmost part of the Otmuchów region, along the stream Rimane (*SUB* Bd. 2, no. 128; *Pfitzner* 1926, 71). The names of the villages that came to existence may imply that they had been founded as a result of a forest-clearing action: Petersheide, Schonheide, Gross-Briesen, and Friedewalde. The founder was rewarded for his hard work by generous emoluments as the village head, which in Petersheide (nota bene named this way to honour the founder) amounted to 14 *mansos*, and in Friedewalde as much as 17 *mansos*, whereas elsewhere it was customary for a village head to receive 2-8 *mansos* (*Markgraf-Schulte* 1889, footnotes 56-58).

When new villages were being founded, their outlines were adapted to the environmental conditions. Villages located on relatively good soils usually became open-field villages with a rectangular or spindle-shaped square or a

village green (a type known as *Angerdorf*). Villages located on worse soils in forest areas and foothills usually became forest villages (*Waldhufendorf* type). The structure of village habitats was particularly well preserved in the land of Nysa and Otmuchów until the 19th century, retaining the same number of łans as had been allocated in the Middle Ages; the major changes were those in the outlines of fields and of manor-owned farms (*Szulc 1968, 32-68*).

By the end of the 13th century, colonization had reached the less-convenient locations situated in mountain valleys. Some of them were abandoned in the 14th century and settlers only returned to these areas in the modern era. The issue of settlement evolution in the territory of the bishop's principality has been addressed elsewhere (*Markgraf-Schulte 1889; Pfitzner 1926; Zuber 1972; Barciak 1992; Scholz 2011* and lately *Schich – Stephan 2015*).

In the second half of the 13th century, the Slavonic settlements began to be reorganized (the village Buków transferred to German law in 1260: *SUB, Bd. 3, no 309*). Whole villages or their parts were being transferred to German law—and the process lasted with fluctuating intensity until the 15th century, running a different course in different places. The least noticeable interference could have taken the form of a legal act, not necessarily linked with spatial transformation (for an example of partial transfer of land in Goraszowice and Słupice, see *Markgraf-Schulte 1889, footnote 289*). The most radical cases involved combining the areas of already existing settlements and incorporating in their stead new, large villages with regular outlines. The villages Nowaki and Radzikowice were located on the remains of six earlier settlements: *Nowaki, Slawneuz, Morawari, villa Vlrici, Cuchare* and *Radzicouiz* (*SUB, Bd. 6, no. 442*), and were later characterized by a regular outline and an area diverging visibly from the average area of villages of an earlier sort.

Areas that had not been reorganized earlier were turned into manor-owned farms at the dawn of the modern era. In the periods that followed there were only a few significant changes to the settlement structure of the land of Nysa and Otmuchów, except for the Nysa Kłodzka valley and the areas surrounding the towns, and a number of villages and manor-owned farms that for various reasons have since disappeared (for a series of papers on that topic, see *Lorenz 1929–1933*).

The area of Wleń's microregion in the second half of the 12th century

The territory related to the central settlement in Wleń most probably included a group of settlements situated both in the valleys of the River Bóbr and of the River Kaczawa, as well as a few settlements in their interfluves.

Early medieval sites by the Bóbr were located around Wleń and Sobota (9th–12th centuries). Other villages preceding the colonization wave were those with Slavonic names and located to the south of Wleń: Pilchowice, Nielestno, and Strzyżowiec (although archaeological survey has not registered any signs of early medieval settlements in the region, which testifies more to the imperfectness of the methods used than to the factual lack of such settlements). The area whose central settlement was Wleń probably also encompassed the villages situated to the east of the Bóbr River, connected to the second aggregation of early medieval settlements—by the Kaczawa, near Sędziszowa and Nowy Kościół. On the other hand, a group of settlements situated to the north-east of Złotoryja were most probably within the sphere of the central settlement in Legnica. The importance of Złotoryja area in the 9th and the 10th centuries is confirmed by the fortified settlements in Wysocko and Rzymówka and an earlier one in Rokitnica (*Lodowski 1976; Bykowski 1980*) (Fig. 4A).

The development model for the Kaczawskie Foothills

The area that saw settlement-related changes at the beginning of Henry I the Bearded's reign included the territories located to the south-west of his residence in Legnica. The first transformation of the area between Legnica and Złotoryja may have taken place at the time of Bolesław the Tall (1163-1201) (*Zientara 1975, 114-117; 2013, 72-75*). Just like in the area of Nysa and Otmuchów, the holistic model of *melioratio terrae* was applied here. In addition to the settlements of an early medieval origin (Wleń, Bolesławiec, Grodziec, the market in Sobota?) two new chartered towns were established—Złotoryja and Lwówek Śląski—both of which were already functioning as fully formed centres of a new kind in the second decade of the 13th century (*Młynarska-Kaletynowa 1980, 353-354*). Both of these towns had direct links to gold-mining activity, and they were soon surrounded by hundreds of hectares of fields dotted with mine shafts (*Każmierczyk 1977; Stolarczyk 2011; Cembrzyński – Legut-Pintal 2014*). At the same time, rural settlements began to be established in the foothills, moving along the smaller watercourses (at first staying away from the valleys of the main rivers, occupied by the native inhabitants of these lands). Monasteries (Cistercians from Lubiąż and Trzebnica and the Premonstratensians from St Vincent's Abbey from Wrocław) were supposed to participate in the colonization, but their contribution in no way matched that of the duke (*Zientara 1975, 185*).

The extent of the colonization is best shown by the material results. Forest villages (*Waldhufendorf*) had a standardized layout and area – 50 Franconian greater łans (Ger. Großhufen) (*Zientara 1975, 166*). They received

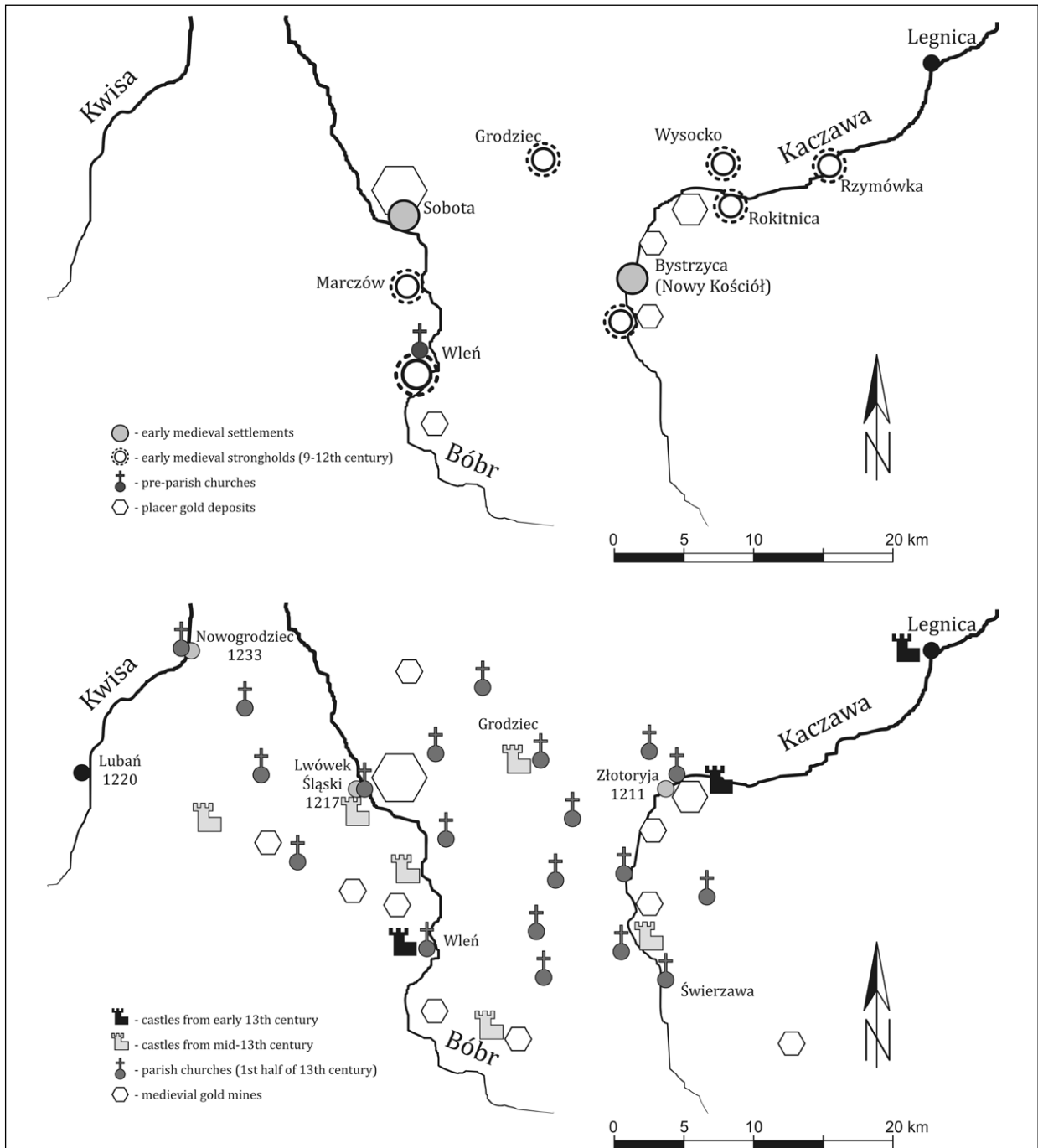


Fig. 3: A—Early medieval settlement between Kaczawa and Kwisa; B—the Kaczawskie Foothills after reorganisation in the 1st half of the 13th century. (© Maria Legut-Pintal).

parish churches very early, the interiors of some of which may suggest that the duke himself supported their construction financially (Kozaczewski 1994-1995, vol. 1, 5). In the interfluves of the Kaczawa and the Bóbr as well as further west, towards Nowogrodzic over the River Kwisa, one can find one of Poland's biggest aggregations of rural churches from the first half of the 13th century

(Kozaczewski – Kozaczewska-Golasz 2009, fig. 112; Świechowski 2009, 42). The analysis of their placement to some extent allows a reconstruction of the development of the colonization wave (Fig. 3).

Among the documents that are important from the perspective of this region's development is a certificate from 1217, issued by bishop Laurentius at the castle in

Rokitnica (Fig. 4B), in which the tithes from the Polish villages around Wleń were transferred to the church in Bystrzyca (probably Nowy Kościół) (*Appelt 1939*, 1-2). Spatial relations seem to confirm the interpretation of this document as related to the appearance of new German villages, which had their own parishes, and to the need for constructing a new church for the Polish people living in the settlements along the River Kaczawa (*Zientara 1975*, 130). It is true that large villages with churches were then founded between the Kaczawa and the Bóbr Rivers (e.g. Proboszczów, Sokołowiec, Pielgrzymka).

The advanced colonization of the area around the Kaczawa is documented by an act from 1268, in which bishop Tomasz I (1232-1268) ascribed the tithe to the canons of the Wrocław Cathedral (*SUB, Bd. 4*, no. 47). The names of over 10 villages situated in the interfluvies of the Kaczawa and the Bóbr were mentioned in this document. These may be villages founded in the time of Henry the Bearded (before 1238), which seems to be confirmed by the dating of the parish temples in Sędziszowa (old St Catherine's church, St John and St Catherine's church), Sokołowiec, and Proboszczów to the second quarter of the 13th century (*Kozaczewski 1994-1995, vol. 3*, 6, 11; *vol. 4*, 8; *Kozaczewski–Kozaczewska-Golasz 2009*, 358-362, 378-379, 432-337).

The other new structure that appeared at the time, other than towns and villages, were the centres of authority of a new kind: castles, which served as the administrative centres for the given areas. An early example is the Rokitnica castle, the seat of Henry the Bearded, located near the town and the gold-bearing areas, in a place with a long history of settlements (*Niemczyk 1976; Lesiuk – Stolarczyk 2012*, 223-242). At the same time, the old castle in Wleń was expanded (*Chorowska et al. 2009*, 235-256; *Chorowska et al. 2017*, 157-158). The network of ducal castles became denser during the 13th century; it was perhaps around the middle of the century that new structures appeared. They were built mostly from earth, wood, and clay, less frequently from stone, as for example the castle on the top of the hill of Wielisławka in Sędziszowa (*Fig. 4C*). They can be considered administrative centres for the newly colonized areas (*Boguszewicz 1999; Chorowska et al. 2009*, 152-157; 230-231). The role of castles as assisting the organization of the structure of territorial authority was much more prominent in the Kaczawskie Foothills than in the area administrated by the bishop, where—apart from the residence in Otmuchów—they played no greater part in the process of developing and governing the colonized territory. The appearance of castles in the land of Nysa and Otmuchów as well as on the border between Silesia and Moravia is related to the later activity of dukes Henry IV Probus (1270-1290) and Bolko I the Strict (1278-1301) (*Goliński 2005*, 41-53; *Boguszewicz 2010a*, 120-133, 2010b).

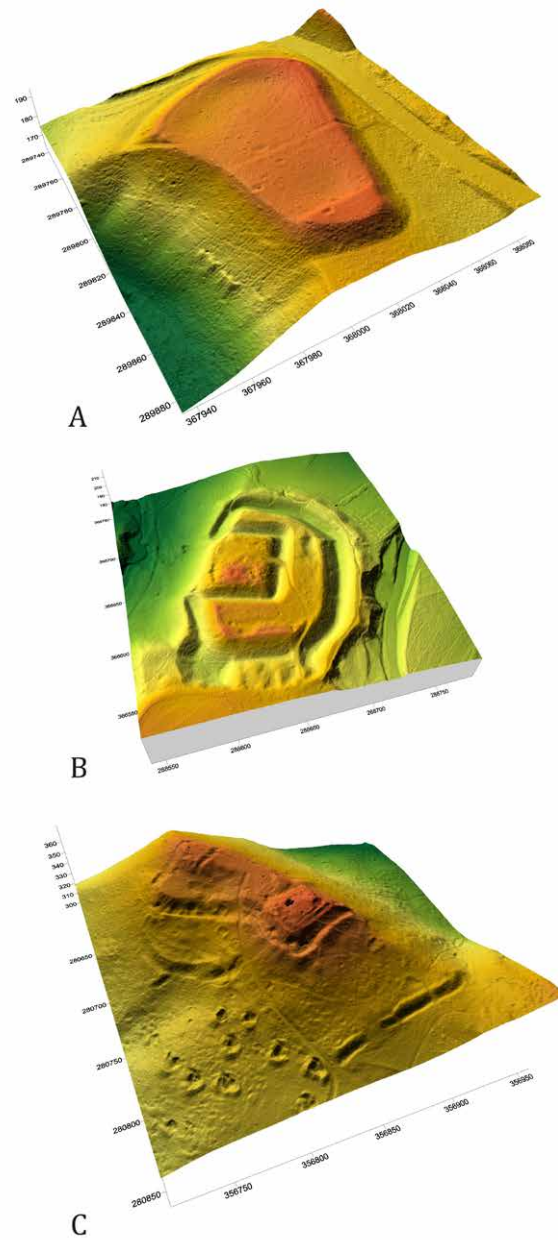


Fig. 4: A—Early medieval stronghold in Wysocko; B—early-13th-century castle in Rokitnica; C—mid-13th-century castle Wielisławka (Sędziszowa)—an example of ‘colonisation castle’, shaded relief models (© Paweł Rajski and Maria Legut-Pintal).

The Silesian model of *melioratio terrae*

The examples mentioned above suggest a holistic model of land development, the core of which was the creation of a network of different elements complementing one another; this model took a similar form in the land of Nysa and Otmuchów and in the Kaczawskie Foothills (Fig. 5). In both cases, one can observe an earlier settlement basis that at first does not undergo

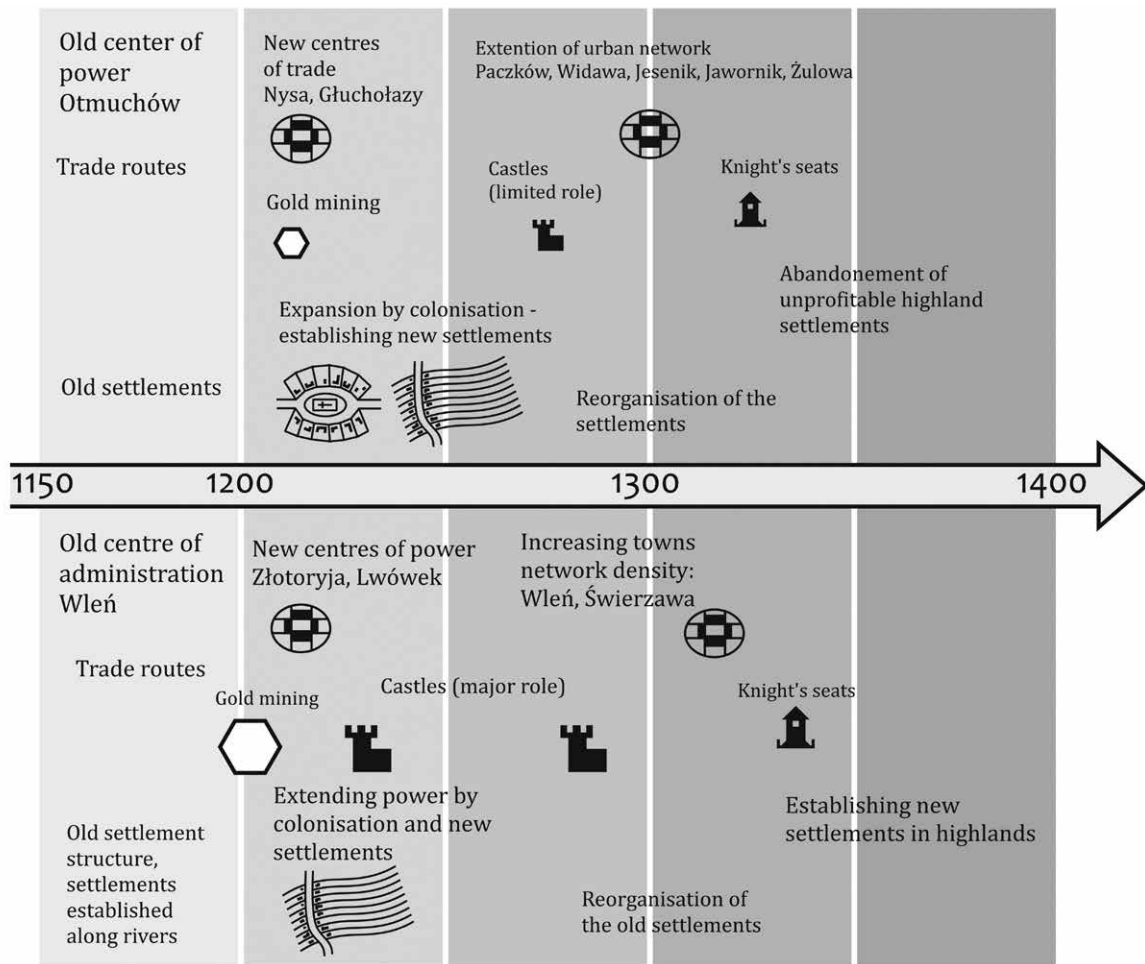


Fig. 5: A comparison of the settlement network transformations in the Nysa-Otmuchów territory (Otmuchów microregion) and the Kaczawskie Foothills (Wleń microregion). (© Maria Legut-Pintal).

reorganization. What is different is the spatial nature of the early medieval colonization, stemming from environmental conditions. In the case of the Kaczawskie Foothills, one encounters settlement enclaves, taking hold in the most suitable locations in the valleys of watercourses; as far as the land of Nysa and Otmuchów is concerned, the colonization covered a relatively large, integrated territory characterized by the presence of good soil. That is why near Nysa and Otmuchów, the new settlers first enlarged the original fortified settlement area and moved primarily to the south, reaching the valleys and slopes of the Jeseník Mountains near the end of the 13th century. The colonization in the Kaczawskie Foothills moved from the north-east (the area around Legnica) towards the south-west, cutting in between old aggregations of settlements that were related to the centre in Wleń and located mostly along the Kaczawa and the Bóbr Rivers. Then the expansion continued west, reaching the River Kwisa (Boguszewicz 2000; Ruchniewicz – Wiszewski 2015, 43)

Although written sources do not provide all the details, it appears that in terms of chronology the beginnings of both colonization waves followed a similar course, gaining momentum in the second decade of the 13th century (the incorporation of towns), and the general outline of the network of settlements came into existence before the middle of the 13th century. In the case of the land of bishops, a distinctive feature is the smaller governing role of castles, which, except for the Otmuchów residence, appear on the borders of the land of Nysa and Otmuchów only due to the interventions of the dukes (Goliński 2005; Boguszewicz 2010a, 120-133). It seems that the network of parishes was sufficient administrative support. What is understandable is that the colonization organized by the bishops did not involve the transfer of land to other religious institutions (monastic orders), an action that in the case of the Kaczawskie Foothills did not bring tangible results. Another common feature is the relationship of the early town settlements with gold mining, most probably perceived as a means of supporting the colonization financially.

The model, presented in this paper in a vastly simplified form, corresponds at its core to what can be observed in the lands neighbouring Silesia and similar in terms of geography and culture, even though it differs in certain details and chronological aspects (*Kenzler 2012; Klápště 2012*). Our neighbours' experiences in the field of cultural landscape research testify to the great potential of such research, and it appears just as applicable in the study of the lands of Silesia.

Acknowledgments:

Materials used in this paper were acquired during the realization of the research project, which was financed with funds from the National Science Centre, allocated based on decision no. DEC-2013/11/N/HS3/04636.

References

- SUB – Schlisches Urkundenbuch, Bd. 1-6, Köln.
- Adamska, D. et al. 2014:*
Słownik wsi śląskich w średniowieczu, vol. 1: Powiat lubiński. Wrocław.
- Appelt, H. 1939:*
Zur Siedlungsgeschichte der Kastellanei Lähn, Zeitschrift des Vereins für Geschichte und Alterthum Schlesiens 73, 1-10.
- Appelt, H. – Irgang, W. (eds), 1963-1998:*
Schlisches Urkundenbuch (SUB). Bd. 1-6. Köln.
- Aston, M. 1985:*
Interpreting the landscape: Landscape archaeology and local history. London.
- Barciak, A. 1992:*
Czechy a ziemie południowej Polski w XIII oraz początkach XIV wieku: Polityczno-ideologiczne problemy ekspansji czeskiej na ziemie południowej Polski. Katowice.
- Boguszewicz, A. 1999:*
Przemiany w XIII-wiecznym śląskim budownictwie obronnym, in: Wachowski K. (ed.), Kultura średniowiecznego Śląska i Czech, vol. 3: „Rewolucja” XIII wieku. Wrocław, 97-111.
- Boguszewicz, A. 2000:*
Z badań nad przemianami osadnictwa w Sudetach śląskich w XII-XIII w, in: Boguszewicz, M., – Boguszewicza, A., – Wiśniewska, D. (eds), Człowiek i środowisko w Sudetach, Ośrodek Dokumentacji Zabytków. Wrocław, 151-168.
- Boguszewicz, A. 2010a:*
Corona Silesiae: Zamki Piastów fürstenberskich na południowym pograniczu księstwa jaworskiego, świdnickiego i ziebickiego do połowy XIV wieku. Wrocław.
- Boguszewicz, A. 2010b:*
Od Goldensteinu do Friedebergu: Zamki pogranicza śląsko-morawskiego na przełomie XIII i XIV w., in: Odrzywolska-Kidawa, A. (ed.), Klio viae et in via. Opuscula Marco Cetwiński dedicata. Warszawa, 277-294.
- Bykowski, K. 1980:*
Badania w rejonie wsi Rzymówka koło Złotoryi, Śląskie Sprawozdania Archeologiczne 21, 79-84.
- Cembrzyński, P. – Legut-Pintal, M. 2014:*
Airborne laser scanning as a method of localisation and documentation of mining sites remains: examples from Silesia, Acta rerum naturalium 16, 187-202.
- Cetwiński, M. 1989:*
Kasztelanowie i kasztelanie śląskie w XIII w. Acta Universitatis Wratislaviensis, Historia LXIX. Wrocław, 3-20.
- Chorowska, M. et al. 2009:*
Zamki i dwory obronne w Sudetach, vol. 2: Księstwo Jaworskie, Oficyna Wydawnicza PWr. Wrocław.
- Chorowska, M. et al. 2017:*
Wleń/Lähn district in the Sudetes Foothills, Poland: A case study of cultural landscape evolution of an East Central European settlement micro-region from the tenth to the eighteenth centuries, International Journal of Historical Archaeology 21, 66-106.
- Fokt, K. 2012:*
Późnośredniowieczne osadnictwo wiejskie na Dolnym Śląsku w świetle badań archeologicznych. Kraków.
- Gawlas, S. 2000:*
O kształt zjednoczonego królestwa. Niemieckie władztwo terytorialne a geneza społeczno-ustrojowej odrębności Polski, DiG. Warszawa.
- Goliński, M. 1998:*
Służba rycerska a potencjał militarny księstw śląskich w późnym średniowieczu. I. Księstwo nysko-otmuchowskie, Śląski Kwartalnik Historyczny Sobótka 53:1-2, 33-67.
- Goliński, M. 2005:*
Książę, biskup i zamki, in: Chorowska, M. (ed.), Nie tylko zamki, Oficyna Wydawnicza PWr. Wrocław, 41-53.
- Grünhagen, C. 1874:*
Der schlesische Grenzwald (preseca), Zeitschrift des Vereins für Geschichte und Alterthum Schlesiens 12, 1-18.
- Jaworski, K. 2005:*
Grody w Sudetach (VIII-X w.), Wrocław.
- Kaletynowie, T. i M. – Lodowski, J. 1968:*
Grodziska wczesnośredniowieczne województwa wrocławskiego. Wrocław/Warszawa/Kraków.

- Każmierczyk, J. 1977:*
Sprawozdanie z badań nad górnictwem złota na Śląsku w 1976 roku, Śląskie Sprawozdania Archeologiczne 19, 73-79.
- Każmierczyk, J. – Macewicz, K. – Wuszkan, S. 1977:*
Studia i materiały do osadnictwa Opolszczyzny wczesnośredniowiecznej. Opole.
- Kenzler, H. 2012:*
Die hoch- und spätmittelalterliche Besiedlung des Erzgebirges: Strategien zur Kolonisation eines landwirtschaftlichen Ungunstraumes. Bonn.
- Klápště, J. 2012:*
The Czech lands in medieval transformation. Leiden/Boston.
- Kozaczewski, T. 1972:*
Wielkość i program budowy miasta średniowiecznego. Wrocław.
- Kozaczewski, T. 1973:*
Rozplanowanie, układ przestrzenny i rozwój miasta średniowiecznego. Wrocław.
- Kozaczewski, T. 1994-1995:*
Wiejskie kościoły parafialne XIII wieku na Śląsku. Vol. 1: miejscowości A-G, vol. 2: miejscowości H-O, vol. 3: miejscowości P-S; vol. 4: miejscowości S-Ż i na Łużycach. Wrocław.
- Kozaczewski, T. – Kozaczewska-Golasz H. 2009:*
Portale trzynastowiecznej architektury na Śląsku. Wrocław.
- Kuhn, W. 1971:*
Beiträge zur schlesischen Siedlungsgeschichte. Silesia 8. München.
- Kuhn, W. 1984:*
Neue Beiträge zur schlesischen Siedlungsgeschichte: Eine Aufsatzsammlung. Quellen und Darstellungen zur schlesischen Geschichte 23. Sigmaringen.
- Lisowska, E. 2016:*
Śladami Trzebowian: nowe odkrycia z okresu wczesnego średniowiecza w Nowym Kościele na Pogórzu Kaczawskim, Śląskie Sprawozdania Archeologiczne 59, 100-128.
- Lodowski, J. 1976:*
Grodzisko wczesnośredniowieczne koło Wysocka, w woj. legnickim, Śląskie Sprawozdania Archeologiczne 18, 65-66.
- Lorenz, K. 1929-1933:*
Wüstungen im Neisser Lande 1-7, Heimatblätter des Neissegaues: (1) no. 2/1929, 10-11; (2) no. 3/1929, 21-23; (3) no. 2/1930, 9-11; (4) no. 3/1930, 17-19; (5) no. 7/1930, 49-51; (6) no. 12/1930, 91-94; (7) 12/1933, 89-91.
- Lesiuk, M. – Stolarczyk, T. 2012:*
Zamek Henryka I Brodatego w Rokitnicy (stanowisko 2, powiat złotoryjski) w świetle archiwaliów i prac archeologicznych z 2011 r., Śląskie Sprawozdania Archeologiczne 54, 223-242.
- Markgraf, H. – Schulte, J. W. (eds) 1889:*
Liber foundationis episcopatus Vratislaviensis. Codex Diplomaticus Silesiae, Bd. 14. Breslau.
- Młynarska-Kaletynowa, M. 1980:*
Rozwój sieci miejskiej na Śląsku na przełomie XII/XIII i w XIII w., Kwartalnik Historii Kultury Materialnej 28, 3493-61.
- Moździuch, S. 1990:*
Organizacja gospodarcza państwa wczesnopiastowskiego na Śląsku. Studium archeologiczne. Wrocław.
- Myga-Piątek, U. 2001:*
Spór o pojęcie krajobrazu w geografii i dziedzinach pokrewnych, Przegląd Geograficzny 73/1-2, 163-176.
- Myga-Piątek, U. 2005:*
Krajobraz kulturowy w badaniach geograficznych, in: Krajobraz kulturowy. Aspekty teoretyczne i metodologiczne, Prace Komisji Krajobrazu Kulturowego 4, 40-53.
- Niemczyk, E. 1976:*
Zamek w Rokitnicy pow. Złotoryja, Szkice Legnickie 9, 263-265.
- Orzechowski, K. 1986:*
Dzieje i ustrój księstwa biskupiego na Śląsku, in: Kowalski Z. (ed.), Szkice Nyskie, Studia i materiały 3, 7-42.
- Pfützner, J. 1926:*
Besiedlungs-, Verfassungs- und Verwaltungsgeschichte des Breslauer Bistumslandes, Bd. 1: Bis zum Beginne der böhmischen Herrschaft. Reichenberg (Liberec).
- Piekalski, J. – Wachowski, K. 2013:*
„Rodzime i obce” w krajobrazie kulturowym średniowiecznych ziem polskich, Archaeologia Historica Polona 21, 127-169.
- Piskorski, J. M. 2005:*
Kolonizacja wiejska Pomorza Zachodniego w XIII i w początkach XIV wieku na tle procesów osadniczych w średniowiecznej Europie. Poznań.
- Pudelko, J. 1959:*
Rynki w planach miast śląska, Kwartalnik Architektury i Urbanistyki, IV/3-4, 235-263.
- Pudelko, J. 1960:*
Zagadnienie wielkości i proporcji rynków w badaniach nad rozplanowaniem niektórych miast średniowiecznych, Zeszyty Naukowe Politechniki Wrocławskiej 36, 25-45.
- Ruchniewicz, M. – Wiszewski, P. 2015:*
Życie w dolinach. Dzieje Świerzawy i okolic- Wrocław.
- Schich, W. – Stephan, J. 2015:*
Strukturalne przemiany na Śląsku wywołane akcją

- kolonizacyjną na przykładzie biskupiego księstwa nyskiego, *Studia Geohistorica*, vol. 3, 205-218.
- Scholz, B. W. 2011:*
Das geistliche Fürstentum Neisse: Eine ländliche Elite unter der Herrschaft des Bischofs (1300-1650). Köln/Weimar/Wien.
- Stolarczyk, T. 2011:*
Der Buntmetallbergbau in Niederschlesien vom 13. bis zum Anfang des 17. Jahrhunderts: Aufbruch unter Tage. Stand und Aufgaben der montanarchäologischen Forschung in Sachsen, Internationale Fachtagung Dippoldiswalde 9. bis 11 September 2010. Dresden 200-214.
- Świechowski, Z. 2009:*
Katalog architektury romańskiej w Polsce. Warszawa.
- Szulc, H. 1968:*
Typy wsi Śląska Opolskiego na początku XIX wieku i ich geneza. *Prace Geograficzne* 66. Warszawa.
- Wótkiewicz, E. 2008:*
Patrimonium Sancti Iohannis: U początków władztwa biskupiego w ziemi otmuchowsko-nyskiej, in: Kolenda, J. (ed.), *Milicz: Clavis Regni Poloniae. Gród na pograniczu*. Wrocław, 209-218.
- Zientara, B. 1975:*
Henryk Brodaty i jego czasy. Warszawa.
- Zientara, B. 2013:*
Bolesław Wysoki: Tułacz, repatriant, malkontent. Kraków.
- Zuber, R. 1972:*
Osídlení Jesenicka do počátku 15. století. Opava.

Breaking old ties: Settlement relocation in North-Brabant (NL) at the dawn of the Late Middle Ages

*Johan Verspay**

Abstract

Around the beginning of the Late Middle Ages, the countryside of North-Brabant (NL) experienced a series of major developments, one of which was a widespread relocation of rural settlements, abandoning the traditional settlement areas on the topographic area known as the coversand ridges. A new survey of high medieval and late medieval rural settlement sites found that this relocation happened over the course of a longer period than previously assumed. Rather than being an abrupt desertion in the first half of the 13th century, the process of abandonment started in the late 12th century and continued until the middle of the 14th century. Moreover, the relocation was not an abrupt break, but part of a gradual movement in tandem with the expansion of arable land, which reached the boundaries of the most suitable soils. Given the long-term development, the relocation cannot be attributed directly to the incorporation of the territories in the Duchy of Brabant or the emergence of cities. The hypothesis that it reflects a shift in agriculture towards sheep husbandry can be disproven. The final departure from the coversand ridges is most likely tied to the complex combination of changing property relations, the emergence of an early market economy, and agricultural or artisanal specialisation that led to village formation. The incorporation into the Brabantic political network, economy, and administration will most certainly have furthered this development. To understand the development, archaeological data need to be collected in historical villages and hamlets. In addition, a better understanding is required of the nature of the observed diversity of rural settlement, both in archaeological sites and historical villages.

* Department of Archaeology,
Faculty of Philosophy and Arts
University of West Bohemia (CZ)

Sedlackova 15
30614 Pilsen
Czech Republic
jverspay@telfort.nl

Keywords: *Medieval rural settlement, settlement relocation, village formation.*

Résumé

Mutation des lieux d'habitation au début du Bas-Moyen-Âge

Vers le début du Bas-Moyen-Âge, la région du Brabant du Nord (NL) subit une série de développements importants. Parmi ceux-ci, une large relocalisation des établissements

ruraux suite à l'abandon des buttes sableuses comme aire d'habitation. Une nouvelle enquête sur les établissements ruraux du Moyen-Âge et du Bas-Moyen-Âge montre que ce déplacement prit plus de temps qu'admis précédemment. Au lieu d'une désertification abrupte au courant de la première moitié du XIII^{ème} siècle, on a constaté que ce mouvement débuta à la fin du XII^{ème} siècle et dura jusqu'à la moitié du XIV^{ème} siècle. Au lieu d'un abandon subit, il s'agit d'un mouvement évolutif en contexte de l'augmentation des terrains mis en culture qui finit par toucher à la limite des terres arables. Vu l'importance de temps prise par ce mouvement, on ne saurait le mettre en relation directe avec l'intégration dans le territoire du duché du Brabant ni avec l'émergence des villes. L'hypothèse d'une corrélation avec l'avènement de la bergerie en agriculture a été réfutée. L'abandon des sites en butte sableuse est plus probablement lié aux associations complexes de propriété, l'émergence d'une jeune économie de marché et d'une spécialisation en agriculture et en artisanat. L'incorporation dans le réseau politique, économique et administratif du Brabant a certainement précipité ce mouvement. Pour comprendre cette évolution, il est nécessaire de recueillir des données archéologiques dans les villages et hameaux historiques. Additionnellement une meilleure compréhension de la nature de la diversité des établissements ruraux est requise et pour les sites archéologiques et pour les villages historiques.

Mots-clés: *villages médiévaux abandonnés ; relocalisation des villages ; formation des villages.*

Zusammenfassung

Siedlungsverlagerung in Nord-Brabant (NL) zu Beginn des Spätmittelalters

Zu Beginn des späten Mittelalters sind in Nordbrabant (NL) eine Reihe wichtiger Entwicklungen festzustellen, darunter eine weit verbreitete Verlagerung ländlicher

The coversand area of North-Brabant has played a significant role in the study of medieval settlement in the Netherlands since the 1980s (Fig. 1). Both academic research and development-led excavations have produced a large body of archaeological data in this rapidly developing region. These observations revealed a remarkable transformation of the rural landscape in the Late Middle Ages, one of the most notable developments of which was the widespread relocation of rural settlements. In the late 12th and first half of the 13th century the traditional settlement areas on the coversand ridges were abandoned and the settlements were relocated (*e.g. Roymans – Theuws*

Siedlungen, wobei die traditionellen Siedlungsgebiete auf den sandbedeckten Hügelketten aufgegeben wurden. Eine erneute Untersuchung der hochmittelalterlichen und spätmittelalterlichen ländlichen Siedlungsplätze ergab, dass diese Verlagerung über einen längeren Zeitraum erfolgte als bisher angenommen. Statt einer plötzlichen Desertion in der ersten Hälfte des 13. Jahrhunderts hatte der Prozess der Wüstwerdung schon im späten 12. Jahrhundert begonnen und dauerte bis in die Mitte des 14. Jahrhunderts. Darüber hinaus war die Umsiedlung kein abrupter Bruch, sondern Teil einer allmählichen Entwicklung im Zusammenhang mit der Erweiterung des Ackerlandes, als die Grenzen der günstigen und geeigneten Böden erreicht wurde. Angesichts der langfristigen Entwicklung kann die Verlagerung nicht ursächlich auf die Eingliederung der Gebiete im Herzogtum Brabant oder die Entstehung von Städten zurückgeführt werden. Die Hypothese, dass sie eine Verlagerung der Landwirtschaft in Richtung Schafhaltung widerspiegelt, kann widerlegt werden. Die endgültige Abkehr von den sandbedeckten Hügelketten ist höchstwahrscheinlich auf die komplexe Kombination aus sich ändernden Eigentumsbeziehungen, der Entstehung einer frühen Marktwirtschaft und der landwirtschaftlichen oder handwerklichen Spezialisierung zurückzuführen, die zur Dorfbildung führte. Die Eingliederung in das politische Netzwerk, die Wirtschaft und die Verwaltung Brabants wird diese Entwicklung sicherlich vorangetrieben haben. Um die Entwicklung zu verstehen, müssen in historischen Dörfern und Weilern archäologische Daten gesammelt werden. Darüber hinaus ist ein besseres Verständnis der Art der beobachteten Vielfalt der ländlichen Siedlungen erforderlich, sowohl in archäologischen Stätten als auch in historischen Dörfern.

Schlagwörter: *Wüstungen, Siedlungsverlagerung, Dorfformierung.*

2009), in some cases leaving behind the church amidst the arable fields (Fig. 2). This development seems to have taken place in a relatively short time span and is observed across the province. It is believed that the settlements were moved to the lower parts of the landscape, to the locations of villages and hamlets as illustrated on the 19th-century maps (*De Bont 1993, 80*).

The shift in settlement is remarkable, since it represents a distinct break with the historical settlement areas, which in many cases had been inhabited since the Early Middle Ages. Moreover, the rapid and widespread occurrence suggests that it was not an isolated phenomenon but part

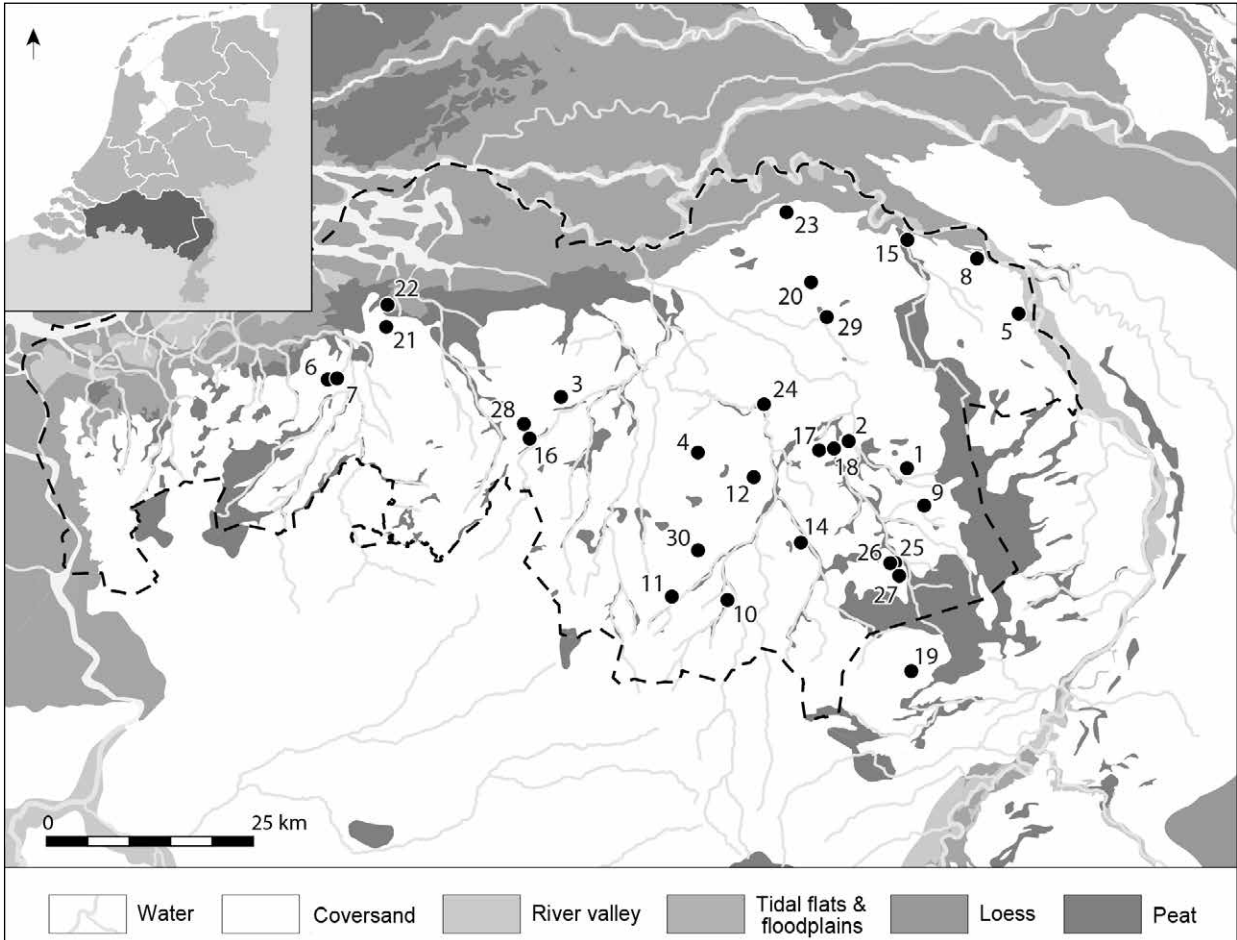


Fig. 1: The province of North-Brabant in the Netherlands with sites referred to in the survey (© Johan Verspay).



Fig. 2: Tower of the St Andrew church in Oostelbeers (NL), first mentioned in 1207. After the relocation of the medieval settlement, the church remained behind as a solitary iconic element amidst the fields. The church remained in use and the current tower was built in the first half of the 14th century (Rijksmonument 31599) (© Stichting Brabantse Bronnen).

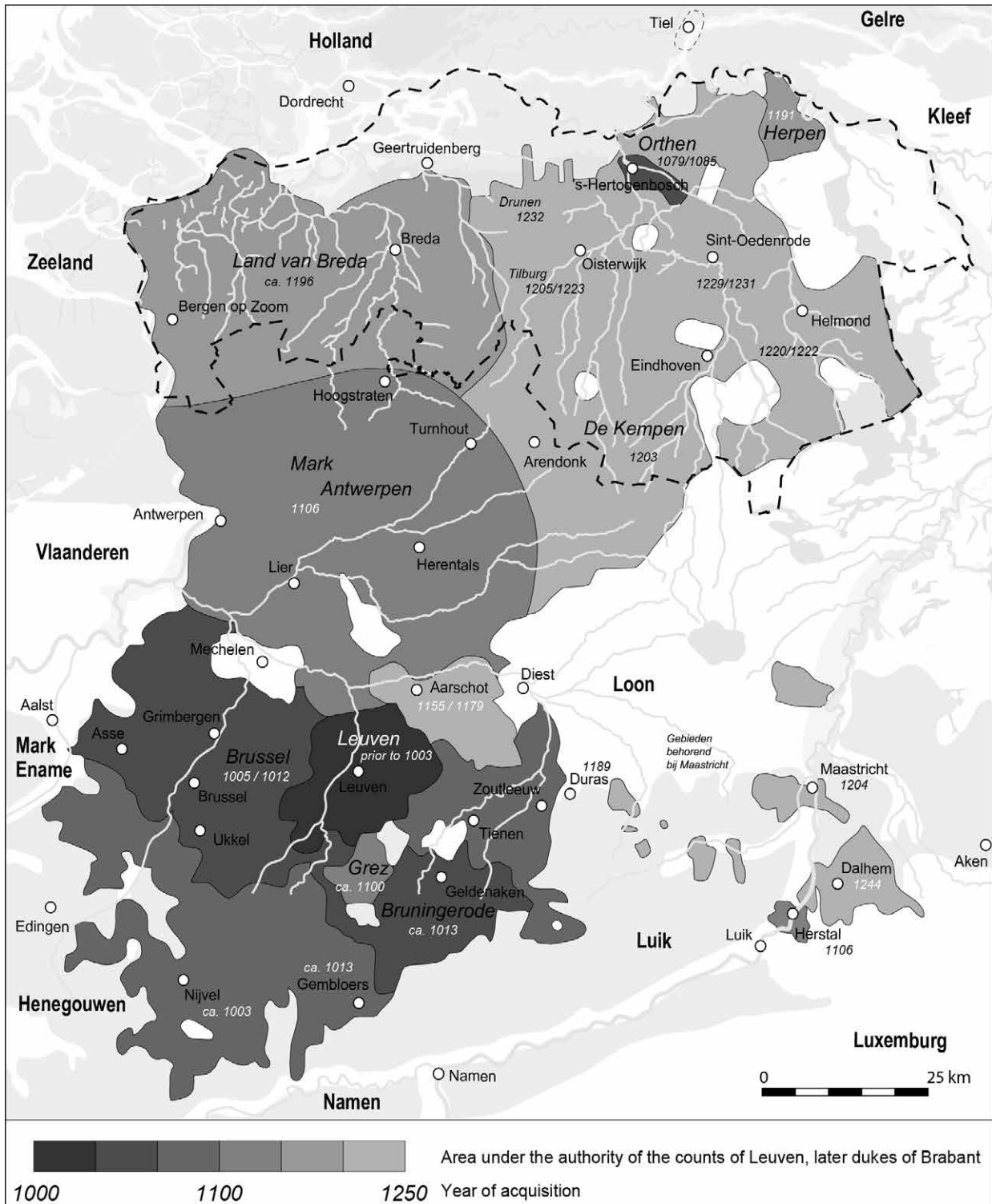


Fig. 3: The gradual expansion of the County of Leuven from 1106 the Duchy of Brabant. Most of the territories in the present-day province of North-Brabant were incorporated between AD 1195 and 1235 (Adaptation by © Johan Verspary of Antoinette Huijbers 2007 after drawing by Thor Smits in Willy Steurs 2004).

of a wider range of developments. As such it is likely to reflect a profound change in rural society.

In this article I will evaluate current theories on the late medieval settlement relocation by Theuws and by Vangheluwe and Spek against the archaeological data that has come available in recent years. First, the outcome of a survey of relevant sites is used to update our view of the relocation process itself by establishing a detailed chronology and pace of this development. The results are then used to evaluate key elements of the models and motives proposed in the hypotheses.

The current transition models

The main contribution to the debate on settlement relocation is a comprehensive study by Theuws on medieval parish centres in the Campine region (De Kempen), in the southeast part of North-Brabant, between AD 1000 and 1300 (*Theuws 1989*). From the settlement dynamics in the Brabant countryside the author distinguished two phases of settlement relocation. The first is a period of gradual movement in the 11th and 12th centuries, in which the settlements descended from the highest parts of the coversand ridges to the slopes. This development is thought to be related to the fragmentation of manorial estates and the declining influence of local elite groups.

In the second phase the settlements were moved from the coversand ridges altogether. This occurred in the 13th and 14th centuries and happened more abruptly. The farms are thought to have been relocated to the stream valleys or similar lower parts of the landscape, where they were clustered into linear hamlets ('stream valley settlements') or nucleated around a triangular square green ('green villages') (*Theuws 1990*). This is thought to reflect a change in farming, in which the primary focus shifted towards husbandry and in particular towards sheep farming. The relocation brought the farms closer to the meadows in a settlement form that facilitates husbandry through its layout.

Theuws linked this shift to the incorporation of the Campine in the Duchy of Brabant during the first half of the 13th century and the rise of cities under ducal support (Fig. 3). The expansion of Brabant is, at this early stage, viewed from a colonial perspective, in which the territorial policy aimed at securing raw materials for the developing urban textile industry and enhancing their production. This was achieved by the dismantling of local power structures and replacing them with regional institutes that were put under ducal control. In particular, the Campine abbeys (Tongerlo, Averbode, and Postel) were used to facilitate this. By reorganising their rapidly increasing possessions, the abbeys created productive estates geared toward the emerging market economy.

The historical geographers Vangheluwe and Spek added the importance of demographic growth as a driving force and proposed an adjustment to Theuws' model on three points (*Vangheluwe – Spek 2008*): First, they regard the social, agrarian, and landscape changes as a much more gradual process that started in the late 11th century and was not finished until the late 14th and early 15th centuries. Next, they point out that the majority of these changes showed a much stronger intralocal and intraregional differentiation than has been assumed so far. Thirdly, they argue for a clearer distinction between large-scale restructuring processes in the period AD 1150-1350 and intensification and specialisation processes in the period AD 1350-1550.

The chronology and pace of settlement relocation

After having established that the disappearance of settlement remains on the coversand ridges is not to be attributed to a tragic ending of the occupation, destruction of its remains, or an architectural development that resulted in a reduced archaeological visibility, we can conclude that we are indeed dealing with relocation (*Verspay 2007*).

The relocation of rural settlement is reflected in the archaeological record as the absence of settlement remains in areas where settlement had been present in the previous period and their appearance at another location subsequently. The moment of disappearance of settlements can be dated by collecting the closing dates of the youngest settlements on the coversand ridges. The difficulty there is finding the youngest settlement. How can we be certain that the youngest settlement that was found in an excavation actually reflects the most recent occupation phase of the coversand ridge? This can be negated to a certain extent by relying on large sample size, both in surface area and quantity. So, in order to get the most reliable picture, a survey was conducted of large-scale excavations (≥ 1.0 ha) with remains of high and/or late medieval agrarian settlement that were accurately dated. In total 30 sites were selected (Fig. 4). The outcome was tested against a sample of smaller excavations to check for anomalies with regard to the main results. No significant deviations were found. Because of the limited accessibility of excavation data and site reports, an analysis of the Belgian part of the coversand area could not be completed at this stage.

The survey confirms that most of the settlements were relocated around the beginning of the 13th century (1175-1250) with a distinct peak around 1225 (Fig. 5). Additionally, many settlements remained occupied until the end of the 13th or beginning or middle of the 14th century. Three sites (Beek en Donk, Berkel-Enschot,

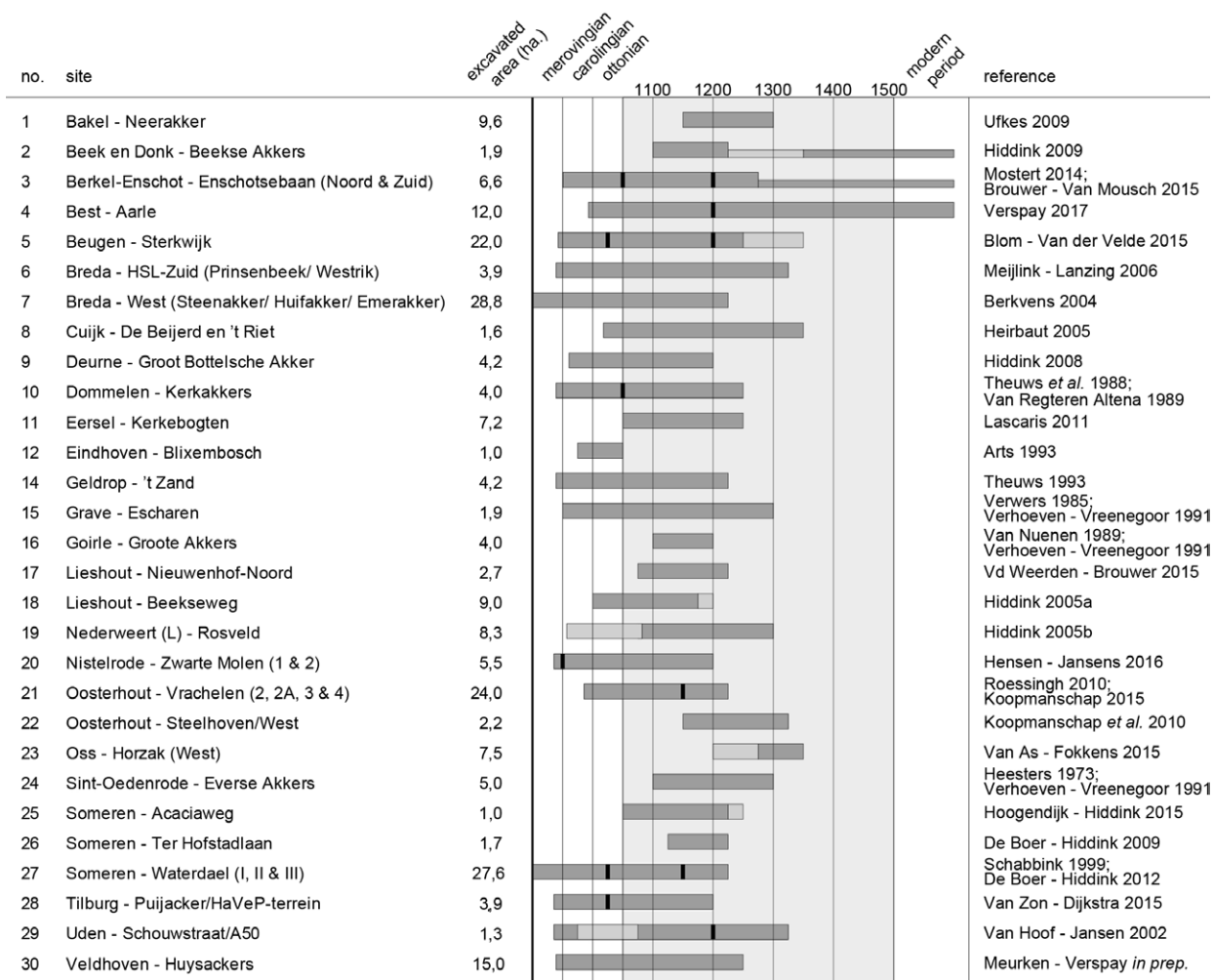


Fig. 4: Overview of large-scale excavations (≥ 1.0 ha) in North-Brabant with remains of high and/or late medieval agrarian settlement and the date of occupation. Uncertain continuation of habitation is shown in grey. 'Residual' farms—single farms that remained in the area after the relocation of the main body of the settlement or that were built shortly thereafter—are indicated by a narrow bar. Distinct changes in location or layout of the settlement are marked in black (© Johan Verspay).

and Best) even continued to be occupied well into the modern period. In the first two cases, this continuity can be attributed to 'residual farms', single farms that remained in the area after the relocation of the main body of the settlement or that were built in the area shortly thereafter. In Best-Aarle, however, the movement of a small settlement occurred over a relatively small distance and could therefore be tracked uninterruptedly from the late 9th up until the end of the 19th century (and to the present-day settlement) (Verspay 2017, 499-502).

The most notable outcome of the survey, however, is the substantial number of settlements that were relocated as late as the late 13th and first half of the 14th century. This contrasts with the current view based on previous surveys (e.g. Verspay 2007, 26-27). These late closing dates can partly be attributed to the large surface area of some of the recent excavations, which managed to encompass

part of the post-relocation settlement (Best, Beugen). A site like Oss might perhaps be regarded entirely as a post-relocation settlement. In some of the oldest excavations (Sint-Oedenrode 1969-1975, Grave 1982-1983) the absence of more-precise dating methods may have played a role. The dating of most of these later sites can nevertheless be corroborated.

Interestingly, most of the later abandoned sites were found on the territorial periphery of the contemporary Duchy of Brabant or even in neighbouring territories (Fig. 5). Oosterhout was located on the contested boundary between Brabant and Holland. Grave and Cuijk lay in the County of Cuijk, which had been subordinate to the count of Guelders until Otto of Cuijk offered his estate to the Duke of Brabant in 1323 and became his vassal (Van Uytven 2004, 108), and Nederweert was part of the seigniorie Weert, which was tied to Guelders. When

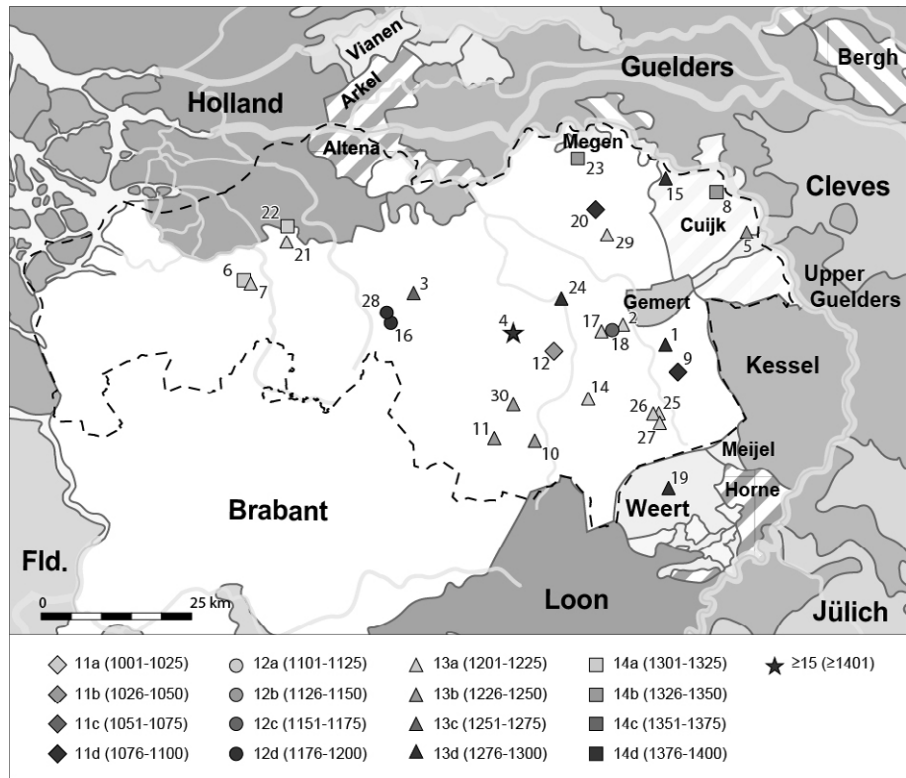


Fig. 5: Settlement sites projected on the political geography in ca. 1350 (© Johan Verspay).

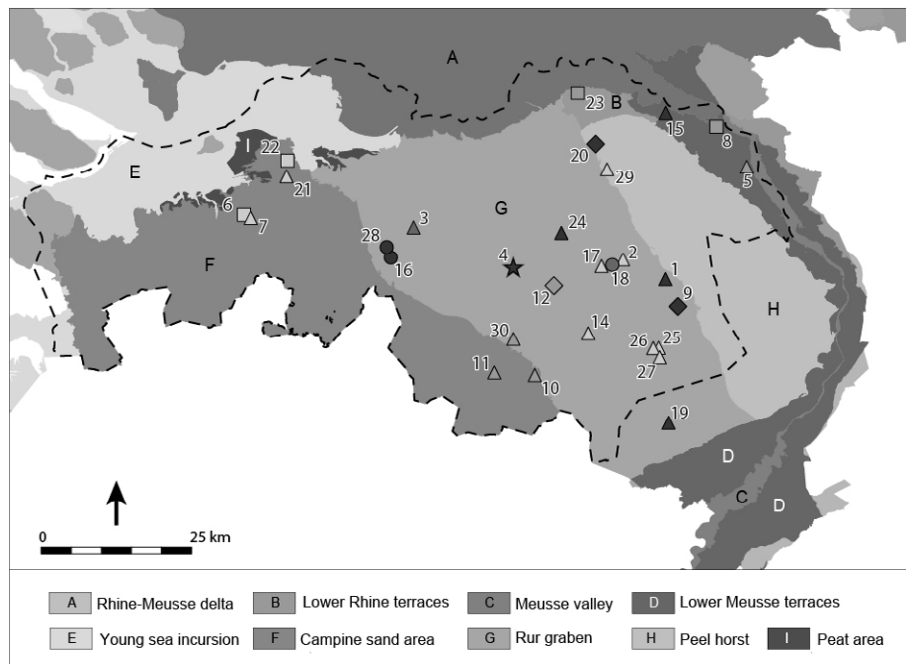


Fig. 6: Settlement sites projected onto the various landscape types (Rensink et al. 2006) (© Johan Verspay).

ducal authority played a significant role in the relocation process, the extraterritorial location of these sites could explain the difference. Nevertheless, in these regions we observe the settlement-relocation process, too. This implies that either these rulers pursued a similar economic policy or that the transition was part of a wider process. In

any case, sites of late abandonment were also found well within the ducal territories.

Rather than territorial, the distribution of later-ending sites could also be related to the physical geography, since most were located in or close to riverine landscapes—the fluvial terraces of the Rhine and Meuse and the tidal

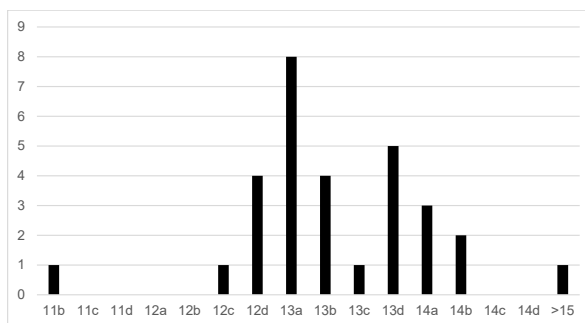
marshes of the latter (Fig. 6). The precise nature of this possible correlation is unclear at this stage and, again, the sites further inland indicate that there is more to it than landscape type only.

From the range of closing dates, we can conclude that the relocation was a gradual process rather than an abrupt break (Tab. 1). Most of the settlements were moved between the late 12th and the middle of the 14th century. Even the ‘first wave’ spans a period of 75 years. In addition, many of the larger settlement sites show a distinct increase in the number of tofts over the 12th century and then a decrease just before the major abandonment of the coversand ridge itself. This, too, points towards a gradual relocation process.

Evaluating the main motives

The incorporation of the northern regions in the Duchy of Brabant at the beginning of the 13th century brought about profound changes in power. The subsequent phase of integration led to major changes in land ownership, administration, and economy, which affected all levels of societal structures (Van Uytven et al. 2004, 65-88; Roymans – Theuvs 2009, 29-31). The survey indicates that the relocation of settlement does indeed neatly coincide with this development and it is tempting to view this as a direct correlation. However, it should be noted that the process was not restricted to the Brabantic territories. Moreover, the decline in tofts prior to the completion of the abandonment suggests that the relocation process had started at an earlier stage and was well underway by the time the territories became ducal land. This could be observed clearly in the well-dated site of Best-Aarle. A small high medieval (manorial) settlement had stayed in the same place for more than two centuries when it was gradually relocated over the course of the 12th century. First, one of the tofts was moved in 1114. The last one shifted more than 60 years later, completing the (first stage of) the relocation before the end of that century.

For the same reason, the emergence of towns could not have been a direct reason for the settlement relocation. The dukes were well aware of the potential of towns as instruments of integration of the newly acquired areas into one Brabant. The towns fulfilled the role of administrative, economic, and military centre as well as marker of ducal authority. The elevation of towns and the granting of privileges was a means to establish authority in the region, and the dukes had an active role in the foundation and support of the Campine towns. This started with the foundation of ‘s-Hertogenbosch at the end of the 12th century, followed by a wave of foundations in the first half of the 13th century, in particular between 1230 and 1232. Over the course of the 13th and 14th centuries a number of grants followed. So, the northern



Tab. 1: Quantity of settlements by relocation date (N=30). The letters refer to a quarter of a century (e.g. 12d = AD 1176-1200).

towns were only established after the relocation process had already begun. It might have been a further stimulus, but cannot be regarded as a cause. But what about the old trading towns in the southern ducal heartland?

Although the towns in the southern parts of Brabant already had a flourishing textile industry in the 12th century, this depended mainly on foreign wool, in particular from England. There is no evidence that wool from the Campine region was used on a larger scale. Since the textile industry in the northern parts of the duchy only dates to the second half of the 14th and the 15th centuries (Fig. 7), it is unlikely that the sheep farming played a significant role in these regions. This is supported by comprehensive archival research by Leenders for the north-western part of Brabant, in which the author found little evidence for shepherding before 1350 (Leenders 1996, 453-454). When sheep herds are mentioned they are almost exclusively the property of religious institutions (De Wachter 2000, 90-91).

The archaeological studies show little evidence for a notable change in farming in the 13th or early 14th century. Unfortunately, very few excavations have been conducted on rural settlements beyond the coversand ridges. As a result, hardly any data are available on late medieval post-relocation farms. One notable exception is, again, the site of Best-Aarle. An interesting change in agriculture was observed here, yet this was securely dated to the beginning of the 15th century, more than two centuries after the farms moved away from their initial location. At that time, we see a rapid intensification of agriculture through a steep increase in plaggen manuring and the emergence of the deep-litter byre in the farmhouses, indicating a more continuous cultivation of the infields (Verspay 2017, 531-547).

Alternative causes

If the relocation is not directly related to the incorporation into Brabant, the emergence of towns, and not directly related to a profound change in agriculture, what

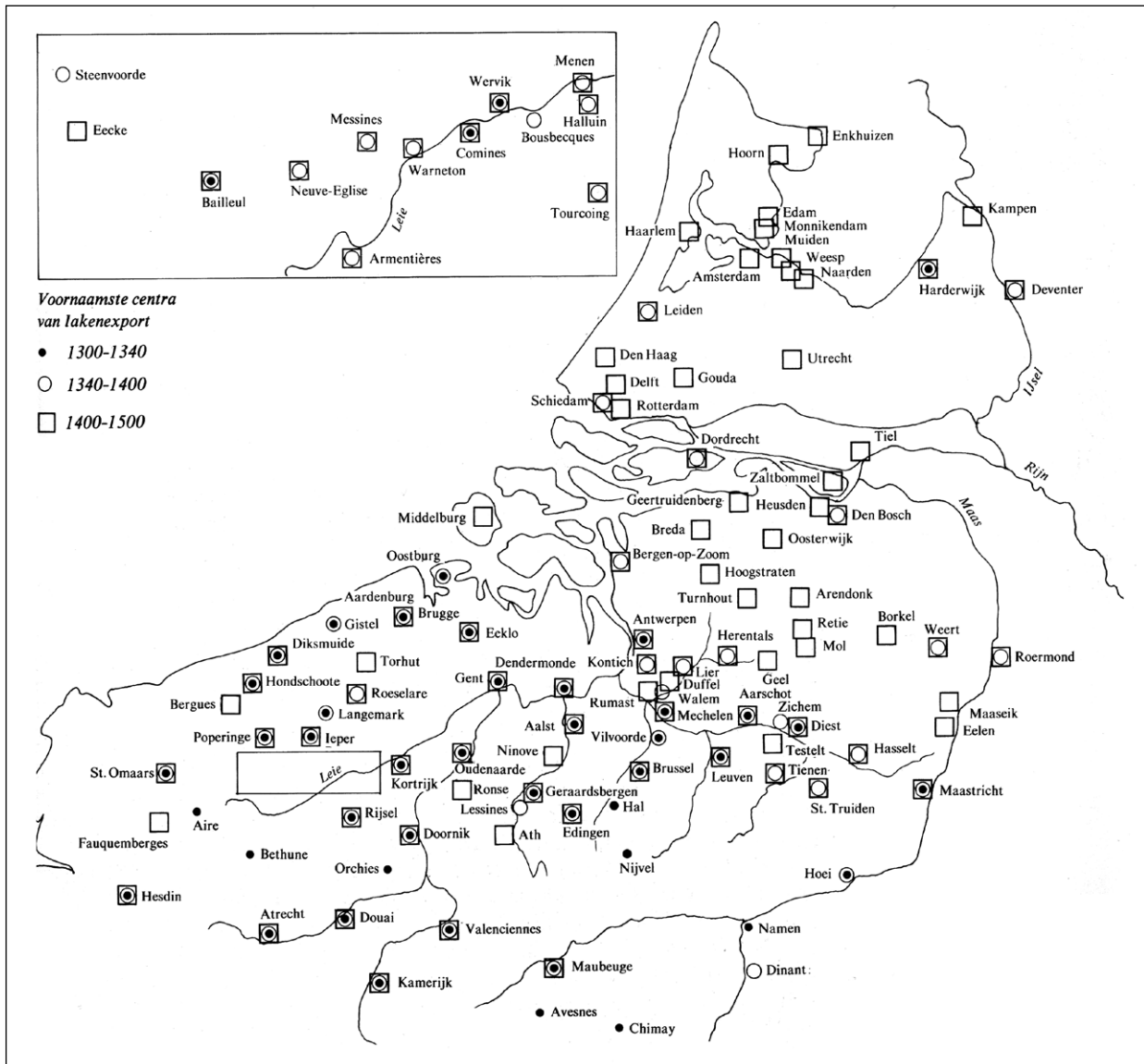


Fig. 7: The main urban textile centres in Flanders and Brabant during the Late Middle Ages. The textile production in the northern part of Brabant arose in the second half of the 14th and the 15th centuries (Blok et al. 1981) (© publisher Fibula-Van Dishoek).

did drive it? What we find, both from archaeological observations and the geographical location of the 19th-century settlements, is the general trend in the relocation from the higher parts of the landscape to the lower parts, although the latter can be relative and are not restricted to brook valleys. In some cases, however, the descent is negligible or the relocation is even directed upward (Best-Aarle, Son-Nieuwstraat, Nuenen-Beekstraatse akkers). A more accurate way to describe this development is from the perspective of the fields themselves: the relocation is not so much directed downwards, but rather outwards (Verspay 2007, 29-33). This fits the general sequence of the reclamations that were determined by a combination of pedological properties such as soil composition, texture,

and groundwater levels (Hiddink 2005b, 39-44). Because of the formation processes of the coversand landscape, some of these properties correlate with elevation, but this in itself is not a determining factor. The reclamations were primarily determined by the suitability of the soil for agriculture, starting with the most suitable areas and gradually expanding into the more-marginal terrains. The settlement relocation not only fits this development, but is in fact the climax of a long-term trend in which settlements were moved down the coversand ridges in various stages, as is illustrated by sites like Berkel-Enschot, Dommelen, and Someren.

This gradual expansion of arable land in the region is part of a steady demographic growth dating



Fig. 8: The spatial demarcation of the fields at the Oss-Horzak site was closely connected to the establishment of 2 new farms at the end of the 13th century (© Stijn van As and Harry Fokkens, Van As – Fokkens 2015).

back to the 11th century (*Theuvs 2011*, 68-74) and continuing at varying paces until the 16th century. This is archaeologically attested by a notable increase in the number of farms (e.g. in Someren-Waterdael) and historically known from hearth counts (*Vangheluwe – Spek 2008*, 5). Given the relative scarcity of fertile soil in a sandy landscape, the relocation of settlements could be attributed to freeing up valuable arable land. The limits of the readily cultivable lands had been reached. In the subsequent period the increase of production is primarily realised by intensification, and later even followed by the reclamation of very poor soils.

Yet, this does not explain the timing and concurrence of the (initial phase of) relocation, given the fact that the size of the coversand ridges—and thus farmland—varies substantially within the territory. A clue might be found

in the sudden emergence of (that is, the archaeologically visible demarcation of) parcelling of the arable fields in the Late Middle Ages. This could indicate a change in property relations from feudal land tenure towards leasehold or even privately owned land (*Verspay 2016*, 248-250). Although these features are usually only broadly dated, there is some evidence that they appear shortly after the main settlement relocation. In Oss, for example, the oldest phase of medieval parcelling was established in the last quarter of the 13th century and together with the farms which it incorporated (*Van As – Fokkens 2015*, 85-86) (Fig. 8).

The increase in coin finds in the settlements from the early 12th century onwards (e.g. Eersel, Lieshout, Nistelrode, and Someren) could indicate a shift towards a financial expression of tenure relations and reflect the emergence of the early market economy.

What we do not know yet is how this relocation is related to the formation and development of present-day villages. A direct correlation is often assumed, but this is hardly backed by archaeological data, as was found in a recent survey (*Verspay et al. 2018*). The composition and layout of these villages is usually unclear and even their location can be uncertain previous to the Late Middle Ages, since settlements with churches were not exempt from relocation themselves, as was found in excavations around the ‘isolated’ churches in Dommelen, Hulsel, and Bladel (*Theuws 1989*, 101). This is problematic, since without sufficient archaeological data from the areas outside the coversand ridges and from post-relocation settlements it is not even possible to determine the precise nature of the relocation development itself. Is it a relocation in a previously uninhabited area? Is it a clustering of settlement? Is it a contraction into an existing nucleus? Or all of these, perhaps? What our survey does reveal is that underneath this broader trend lies a diversity in settlements—both within the arable fields and amongst the later villages—that needs to be addressed in order to be able to advance our understanding of a complex process like settlement relocation and village formation.

References

- Arts, N. 1993:*
Middelieuwe hoeven op Blixembosch bij Eindhoven, in: Roymans, N. – Theuws, F. (eds), Een en al zand. Twee jaar graven naar het Brabantse verleden. 's-Hertogenbosch, 106-115.
- As, S. van – Fokkens, H. 2015:*
Oss-Horzak West. Rapportage over de veldcampagnes 2013 en 2014. Leiden.
- Berkvens, R. 2004:*
Nederzettingssporen uit de Late Middeleeuwen (1050-1500 n. Chr.), in: Koot, C.W. – Berkvens, R. (eds), Bredase akkers eeuwenoud. 4000 jaar bewoningsgeschiedenis op de rand van zand en klei. Rapportage Archeologische Monumentenzorg 102. Amersfoort, 425-436.
- Blok, D. P. – Prevenier, W. – Roorda, D. J. – Houtte, J. A. van – Eerenbeemt, H. F. J. M. van den – Rijn, Th. van – Balthazar, H. 1981:*
Algemene Geschiedenis der Nederlanden. Deel 4: Middeleeuwen. Haarlem.
- Bink, M. – Brouwer, R. M. 2016:*
Archeologisch onderzoek van vier locaties in het tracé van het Máximakanaal (gemeente 's-Hertogenbosch). Opgraving locaties Brand, Beusing, Wamberg en Kloosterstraat. Zuidnederlandse Archeologische Notities 369. Amsterdam.
- Bink, M. – Wesdorp, M. 2016:*
Een nederzetting uit de Bronstijd en de Late Middeleeuwen te Eindhoven-Blixembosch. Opgravingen onder de Randweg Eindhoven. Zuidnederlandse Archeologische Rapporten 63. Amsterdam.
- Blom, E. – Velde, H. M. van der (eds) 2015:*
De archeologie van Boxmeer-Sterckwijck: 4500 jaar wonen, werken en begraven langs de Maas. ADC Monografie 18. Amersfoort.
- Boer, E. – Hiddink, H. 2009:*
Opgravingen aan de Ter Hofstadlaan te Someren. Een nederzetting en grafveld uit de Late IJzertijd en Romeinse tijd en erven uit de Volle Middeleeuwen. Zuidnederlandse Archeologische Rapporten 37. Amsterdam.
- Boer, E. – Hiddink, H. 2012:*
Opgravingen in Waterdael III te Someren. Deel 2: Bewoningssporen uit de latere prehistorie, de Vroege en Volle Middeleeuwen. Zuidnederlandse Archeologische Rapporten 50. Amsterdam.
- Bont, C. de 1993:*
‘...Al het merkwaardige in bonte afwisseling...’. Een historische geografie van Midden- en Oost-Brabant. Waalre.
- Brouwer, M. C. – Mousch, R. G. van 2015:*
Leemspitters en landbouwers. Bewoning uit de late prehistorie en de middeleeuwen (8^e t/m 14^e eeuw) in het plangebied Tilburg, Enschtotsebaan-Zuid 2. BAAC-rapport A-09.0407. 's-Hertogenbosch.
- Heesters, W. 1973:*
De Everse Akkers en hun geheimen, Heemschild 7/4, 49-63.
- Heirbaut, E. N. A. (ed.) 2005:*
Bewoning van prehistorie tot middeleeuwen in het buitengebied van Cuijk. Archeologisch onderzoek in het wegtracé Route 1 Accent en het plangebied De Beijerd en 't Riet. Archol-rapport 34. Leiden.
- Hensen, G. – Jansens, M. P. J. 2016:*
Dolen door de Zwarte Molen: onbegrensde nederzettingen uit de IJzertijd tot en met de Volle Middeleeuwen – gemeente Bernheze. RAAP-rapport 2794. Weesp.
- Hiddink, H. 2005a:*
Archeologisch onderzoek aan de Beekseweg te Lieshout. Zuidnederlandse Archeologische Rapporten 18. Amsterdam.
- Hiddink, H. 2005b:*
Opgravingen op het Rosveld bij Nederweert 1. Landschap en bewoning in de IJzertijd, Romeinse tijd en Middeleeuwen. Zuidnederlandse Archeologische Rapporten 22. Amsterdam.

- Hiddink, H. 2008:*
Groot Bottelsche akker bij Deurne. Bewoning uit de Steentijd, IJzertijd, Romeinse tijd, Vroege en Volle Middeleeuwen. Zuidnederlandse Archeologische Rapporten 33. Amsterdam.
- Hiddink, H. 2009:*
Bewoningssporen uit de Volle Middeleeuwen en de Nieuwe Tijd op de Beekse akkers bij Beek en Donk, gemeente Laarbeek. Zuidnederlandse Archeologische Rapporten 36. Amsterdam.
- Hoof, L. G. L. van – Jansen, R. 2002:*
Archeologisch Onderzoek A50 te Uden. Bewoning uit de IJzertijd en de Vroege, Volle en Late middeleeuwen. Archol rapport 12. Leiden.
- Hoogendijk, T. – Hiddink, H. 2015:*
Een bijzonder erf uit de Volle Middeleeuwen aan de Acaciaweg te Someren. Zuidnederlandse Archeologische Rapporten 58. Amsterdam.
- Huijbers, A. M. J. H. 2007:*
Metaforisering in beweging. Boeren en hun gebouwde omgeving in de Volle Middeleeuwen in het Maas-Demer-Scheldegebied. Amsterdam.
- Jansen, R. (ed.) 2007:*
Bewoningsdynamiek op de Maashorst. De bewoningsgeschiedenis van Nistelrode van laat-Neolithicum tot Volle Middeleeuwen. Archol rapport 48. Weesp.
- Koopmanschap, H. – Dijk, N. – Spoelstra, A. 2010:*
Uitwerking opgraving Weststad3/Steelhoven te Oosterhout. Archeologische Rapporten Oranjewoud 2009/149. Heerenveen.
- Koopmanschap, H. 2015:*
Grensgebied tussen zand en veen. Een archeologisch perspectief op de middeleeuwse ontginnings- en bewoningsgeschiedenis van de Langstraat en het aangrenzende landlandschap van Noord-Brabant. Tilburg.
- Lascaris, M. 2011:*
Opgravingen in Eersel-Kerkebogten. Landschap en bewoning in de Bronstijd, IJzertijd, Romeinse tijd, Middeleeuwen en Nieuwe tijd. Zuidnederlandse Archeologische Rapporten 44. Amsterdam.
- Leenders, K. A. H. W. 1996:*
Van Turnhoutervoorde tot Strienemonde. Ontginnings- en nederzettingsgeschiedenis van het noordwesten van het Maas-Demer-Scheldegebied (400-1350). Zutphen.
- Meijlink, B. – Lanzing, J. 2006:*
Middeleeuwen en Nieuwe tijd, in: Kranendonk, P. – Kroft, P. van der – Lanzing, J. – Meijlink, B. (eds), Witte vlekken ingekleurd. Archeologie in het tracé van de HSL-Zuid. Rapportage Archeologische Monumentenzorg 113. Amersfoort, 285-354.
- Mostert, M. 2014:*
Twee erven uit de 12^e eeuw. Middeleeuwse bewoning in het plangebied Tilburg, Enschtotsebaan-Noord. BAAC-rapport F-10.0051. 's-Hertogenbosch.
- Nuinen, F. van 1989:*
Goirle avant la lettre. Bewoningssporen uit de late middeleeuwen, Westerheem 38, 103-107.
- Regteren Altena, H. H. van 1989:*
Opgravingen te Dommelen 1982-1987, in: Verhoeven, A. – Theuws, F., Het Kempenproject 3. De middeleeuwen centraal. Waalre, 49-56.
- Rensink, E. – Weerts, H. J. T. – Kosian, M. – Feiken H. – Smit, B. I. 2016:*
Archeologische Landschappenkaart van Nederland, Versie 2.6. Rijksdienst voor het Cultureel Erfgoed. Amersfoort.
- Roessingh, W. – Blom, E. 2012:*
Graven op De Contreie. Bewoningsgeschiedenis van de Houtse Akkers te Oosterhout, van de Bronstijd tot en met de Slag om het Markkanaal. ADC-rapport 2750. Amersfoort.
- Roymans, N. – Theuws, F. 2009:*
Veldhoven-Zilverackers. Cultuur en landschap van verleden gemeenschappen. Een wetenschappelijk onderzoekskader ten behoeve van de archeologie in het plangebied. Amsterdam.
- Schabbink, M. 1999:*
In geen velden of wegen. Een verdwenen middeleeuws gehucht in Someren, Brabants heem 51/4, 129-139.
- Steurs, W. 2004:*
Brabant groeit naar macht (1106-1261), in: Uytven, R. van – Bruneel, C. – Koldewij, A. M. – Sande, A. W. F. M. van de – Oudheusden, J. A. F. M. van (eds), Geschiedenis van Brabant. Van het hertogdom tot heden. Zwolle/Leuven.
- Theuws, F. 1989:*
Middeleeuwse parochies in de Kempen, in: Verhoeven, A. – Theuws, F. (eds), Het Kempenproject 3. De Middeleeuwen centraal. Waalre, 100-108.
- Theuws, F. 1990:*
Het laat-middeleeuwse cultuurlandschap, in: Bazelmans, J. – Theuws, F. (eds), Tussen zes gehuchten. De laat-Romeinse en middeleeuwse bewoning van Geldrop-'t Zand. Amsterdam, 52-57.
- Theuws, F. 1993:*
Heren en boeren in vroeg-middeleeuws Geldrop, in: Roymans, N. – Theuws, F. (eds), Een en al zand. Twee jaar graven naar het Brabantse verleden. 's-Hertogenbosch, 88-104.
- Theuws, F. 2011:*
De nederzettingsoontwikkeling in de Middeleeuwen: een model, in: Heiden, M. van der – Theuws, F. – Verspay, J. P. W., De archeologie van de Brabantse

- akkers. Toegelicht aan de hand van het onderzoek van de Universiteit van Amsterdam in Veldhoven. *Themata* 4. Amsterdam, 60-77.
- Theuws, F. – Verhoeven, A. – Regteren Altena, H.H. van 1988:* Medieval settlement at Dommelen. Berichten van de Rijksdienst voor Oudheidkundig Bodemonderzoek 38. Amersfoort.
- Ufkes, A. 2009:* 'De Hof' Een bezit van klooster Echternach. Een archeologische opgraving van sporen uit de IJzertijd en de Volle Middeleeuwen op het plangebied 'Neerakker' te Bakel, gemeente Gemert-Bakel (N.-Br.). ARC-Publicaties 204. Groningen.
- Uytven, R. van 2004:* Een dualistisch maar machtig vorstendom (1261-1356), in: Uytven, R. van – Bruneel, C. – Koldewij, A. M. – Sande, A. W. F. M. van de – Oudheusden, J. A. F. M. van (eds), *Geschiedenis van Brabant. Van het hertogdom tot heden.* Zwolle/Leuven.
- Vangheluwe, D. – Spek, Th. 2008:* De laatmiddeleeuwse transitie van landbouw en landschap in de Noord-Brabantse Kempen, *Historisch geografisch tijdschrift* 26, 1-23.
- Verhoeven, A. – Vreenegoor, E. 1991:* Middeleeuwse nederzettingen op de zandgronden in Noord-Brabant, in: Bijsterveld, A.-J. – Dennen, B. van der – Veen, A. van der (eds), *Middeleeuwen in beweging. Bewoning en samenleving in het middeleeuwse Noord-Brabant.* 's-Hertogenbosch, 59-83.
- Verspay, J. P. W. 2007:* Onzichtbare erven. Het Brabantse platteland in de Late Middeleeuwen. Amsterdam.
- Verspay, J. P. W. 2016:* Structuring landscape, shaping community, in: Klápště, J. (ed.), *Agrarian technology in the medieval landscape. Ruralia X.* Turnhout, 247-255.
- Verspay, J. P. W. 2017:* De laat-middeleeuwse transformatie, in: Tol, A. – Heunks, E. – Meurkens, L. – Kooistra, L. – Verspay, J. P. W. (eds), *Tussen Aarlese weg en Broekstraat. Archeologisch onderzoek van een historisch cultuurlandschap in Aarle, gemeente Best.* Archol rapport 280. Leiden, 499-550.
- Verspay, J. P. W. – Huijbers, A. M. J. H. – Londen, H. van – Renes, J. – Symonds, J. 2018:* Village formation in the Netherlands during the Middle Ages (AD 800 - 1600): An assessment of recent excavations and a path to progress. *Nederlandse Archeologische Rapporten* 56. Amersfoort.
- Verwers, W. J. H. 1985:* Escharen, gemeente Grave. Rijksdienst voor het Oudheidkundig Bodemonderzoek. Jaarverslag 1983. Rijswijk, 60-62.
- Wachter, A. de 2000:* Over schapen en wol en de rol van de hertog in de 13^e-eeuwse Kempen, in: Bastiaens, J. (ed.), *Zand op de schop. Een archeologische kijk op de Kempen.* Oud Turnhout, 85-97.
- Weerden, J. F. van der 2005:* Son Nieuwstraat. Inventariserend veldonderzoek door middel van proefsleuven. BAAC-rapport 04.185. 's-Hertogenbosch.
- Weerden J. F. van der – Brouwer, M. C. 2015:* Boni pastoris est tondere pecus, non deglubere. Bewoning uit de prehistorie, Romeinse tijd en middeleeuwen te Lieshout, Nieuwenhof-Noord. BAAC-rapport A-10.0339. 's-Hertogenbosch.
- Zon, M. van – Dijkstra, M. F. P. 2015:* 600 jaar middeleeuwse bewoning op het terrein van de voormalige textiel fabriek HaVep. Aanvullend inventariserend veldonderzoek en opgraving in plangebied Puijacker te Tilburg. Archol-rapport 177. Leiden.

Land-organisational changes in rural Denmark from AD 200-1200

*Jesper Hansen**

Summary

'How was the settlement structure on King Godfred's time (ca. AD 800)? And how far is this structure, which is likely to represent the basis of the present, back in time?' These questions were formulated by the historian Aksel E. Christensen in 1969 as the 'crucial issue in Danish settlement history' with implicit reference to the fact that the settlement history forms the foundation for research and theory building in relation to prehistoric societies. This paper focuses on fundamental land-organisational changes in rural Denmark considered in a longue durée perspective from the Roman Iron Age to the Middle Ages. The study is based on the author's doctoral research carried out from 2013 to 2015 as an interdisciplinary regional study based primarily on archaeological data from the island of Funen in central Denmark, as well as place names, cadastral maps, and written sources. The paper presents some of the main results from the research, including a new organisational model that describes the basic settlement-historical development in Iron Age 'Denmark' with special focus on the essential changes in the late 6th century. The paper sketches a generalisation and does not account for the variations and exceptions that do occur.

Keywords: *South Scandinavia, Iron Age, Viking Age, Middle Ages, land organisation, settlement structure, fiscal obligations, village.*

Résumé

Les changements dans l'organisation des terres du Danemark rural entre 200 et 1200 après J.-C. 'Comment était la structure d'habitat au temps du roi Godfred (env. 800 après J.-C.)? Et à quelle distance se trouve cet habitat, qui est susceptible de représenter la base du présent, dans le passé?' Cette question fut formulée en 1969 par l'historien Aksel E. Christensen comme la 'question cruciale dans l'histoire de l'habitat danois' avec une référence implicite au fait que l'histoire de l'habitat forme la base de la recherche et de la construction théorique dans les sociétés préhistoriques. Cet article se concentre sur les changements fondamentaux dans l'organisation des terres du Danemark rural, dans une perspective de longue durée, depuis l'Âge du fer romain jusqu'au Moyen-Âge. Cette étude s'appuie sur mes recherches doctorales réalisées entre 2013 et 2015, étude interdisciplinaire régionale fondée principalement sur les données archéologiques

* Head of Archaeology,
Odense City Museums
Overgade 48, 5000 Odense C.,
Denmark
jasha@odense.dk
Tel: +45 2090 1325

de l'île de Fyn dans le Danemark central ainsi que sur les noms de localités (Toponymes), des cartes cadastrales et des sources écrites. Cet article présentera quelques résultats de mon travail et inclura notamment un nouveau modèle d'organisation qui décrit les bases historiques du développement de l'habitat dans le "Danemark" de l'Âge du fer avec une attention particulière sur les changements essentiels qui ont lieu au VI^{ème} siècle. Je voudrais insister sur le fait que la présentation qui suit dessine un portrait général et ne prend pas en compte les variations et exceptions qui peuvent avoir eu lieu.

Mots clés: *Scandinavie du Sud, Âge du fer, Âge des Vikings, Moyen-Âge, organisation de la terre, structure de l'habitat, obligations fiscales, village.*

Zusammenfassung

Umgestaltungen der Landorganisation im ländlichen Dänemark 200-1200 n. Chr.

‘Wie sah die Besiedlungsstruktur zurzeit König Göttriks aus (ca. 800 n. Chr.)? Und wie weit in die Vergangenheit kann diese Besiedlung, die wahrscheinlich die Basis der gegenwärtigen repräsentiert, zurückdatiert werden?’ Diese Frage wurde 1969 vom Historiker Aksel E. Christensen als die ‘... entscheidende Frage der dänischen Besiedlungsgeschichte...’ aufgeworfen,

Research history

During the past three to four decades, settlement-organisational research on the period in question has largely been apportioned within one general theory that broadly links stationary villages with the end of the Viking Age, and frequently also with the establishment of the church system after the turn of the 1st millennium AD. This theory, which during the 1980s came to function as a settlement-historical paradigm, was initially developed on the basis of a research project undertaken on Funen in the 1970s led by two historians, Torben Grøngaard Jeppesen and Erlend Porsmose (*Grøngaard Jeppesen 1981; Porsmose 1981; 1987; Riddersporre 1995, 11*). The theory was later considered to be proved by a series of excavations, in particular those in a project led by the archaeologist Steen Hvass in and around the village of Vorbasse in central Jutland (*Hvass 1983; 1987*). Since the late 1980s, Vorbasse has played a dominant role as a South Scandinavian settlement par excellence and has been implemented and published as such in the vast majority of southern Scandinavian settlement-historical models (*e.g. Elsoe Jensen 2010, 200; Fabech – Ringtved 2009; Holst 2010; Hvass 1988; 1989; 1993; Jensen 2004; 2013; Kaldal Mikkelsen 1999; Poulsen – Sindbæk 2011*).

bei der die indirekte Anspielung auf die Tatsache mitschwingt, dass die Geschichte der Besiedlung die Grundlage der Forschung und die Bildung von Theorien zu prähistorischen Gesellschaften darstellt. In diesem Beitrag wird das Hauptaugenmerk auf den grundlegenden Umgestaltungen der Landorganisation im ländlichen Dänemark, in einer *longue durée* Perspektive von der Römischen Kaiserzeit bis in das Mittelalter, gelegt. Die Studie basiert auf meinen Forschungen, die 2013-2015 als eine interdisziplinäre regionale Studie vorgenommen wurden, die hauptsächlich auf archäologischen Daten von der Insel Fünen im zentralen Dänemark beruht, wie auch auf Ortsnamen, Katasterplänen und schriftlichen Quellen. Der Beitrag präsentiert einige der Hauptresultate der Arbeit, einschließlich eines neuen Organisationsmodells, welches die grundlegende siedlungsgeschichtliche Entwicklung im eisenzeitlichen 'Dänemark' mit speziellem Augenmerk auf wesentliche Veränderungen im späten 6. Jh. beschreibt. Es sollte zudem angemerkt werden, dass die folgende Präsentation einen Überblickscharakter hat und auftretende Variationen und Ausnahmen nicht berücksichtigt.

Schlagwörter: *Südkandinavien, Eisenzeit, Wikingerzeit, Mittelalter, Landorganisation, Siedlungsstruktur, Fiskalische Verpflichtung, Dorf.*

The model established on the basis of the Vorbasse findings outlines successive village relocations throughout the 1st millennium AD, peaking in the late 11th century with a final restructuring and relocation that matches equivalent to the present village organisation observable on cadastral maps from ca. 1800 (*e.g. Porsmose 1993*). This has hitherto left a general impression of relative organisational coherency throughout the 1st millennium, though with major typological, technological, and economic changes occurring around AD 200 and 700 (*Bradshaw et al. 2005; Fabech – Ringtved 2009; Hvass 1989; Näsman – Roesdahl 1993, 183; Robinson et al. 2009*).

My question is, however, whether this settlement-historical model reflects a general development, or whether it stands out as an abnormality in a broad South Scandinavian or even a specific Danish or Funen context.

Data and statistical significance

The primary archaeological data incorporated into this study, as representative of actual settlements, are limited to sites comprising at least one agrarian longhouse dated to the millennium in question. This is a natural consequence of the analysed object being village- and

settlement organisation – primarily understood as the family homes. Sites comprised solely of pits, wells, pit houses, and stray finds, etc., but with no definite agrarian longhouses, are therefore excluded, as these features can represent various types of structures with no direct spatial relation to a contemporary agrarian settlement. Given the scale of my data set (see below), this is a qualitative selection that improves the clarity of the results relative to previous studies, where such a qualitative selection would have caused prohibitive statistical problems (e.g. *Jeppesen 1981*).

This study is based on data collected up until March 2015 and incorporates all 1547 agrarian longhouses excavated on Funen and the surrounding islands. Furthermore, it includes 1466 ¹⁴C date determinations from the specific sites, in addition to a large contextualising archaeological and historical data set from the South Scandinavian area in general. As such, the analyses were undertaken according to a quantitative methodological approach. While we cannot, in my opinion, talk of actual ‘big data’ in archaeology, it would be correct to characterise this study as ‘Large Data Set Archaeology’. The data potentially involved are continuously being augmented and the data set appears rather large when compared to previous studies and traditions, which were often based on one or a few ‘super sites’. The total accumulated trial-trenched or fully excavated area on Funen is 2860 ha, constituting ca. 1.15% of the island (*Hansen 2011*;

2015a, 70). In this respect, it is the most comprehensive study of its kind yet carried out in Denmark.

The sites included in the study are distributed across Funen’s three historical-cultural landscape types: coast, forest, and plain (*Grau Møller – Porsmose 1997; Hansen 2015a; 2017*, 170). The results presented here are, therefore, not to be seen as bound to specific types of historical-cultural landscapes but have proved to transcend variations in the natural and technological resources and to be statistically significant (*Hansen 2015a*, 78).

Results

A bar chart showing the number of settlement sites found, grouped roughly by century, clearly demonstrates a distinct decrease in the number of recorded sites in the Late (Scandinavian) Iron Age (Fig. 1). This must be explained, and it raises the fundamental question of whether the basic settlement-organisational system characterising the period in question, in the form of so-called ‘wandering farmsteads’, actually remained largely unchanged until the Late Viking Age, around the 11th century (e.g. *Hvass 1989; Porsmose 1993; Poulsen – Sindbæk 2011*).

During the last couple of decades, scholars have theorised on the possibility of direct causal links between the decrease in the number of archaeological finds and societal changes evident in the mid-1st millennium AD, and specific triggering catastrophic natural events

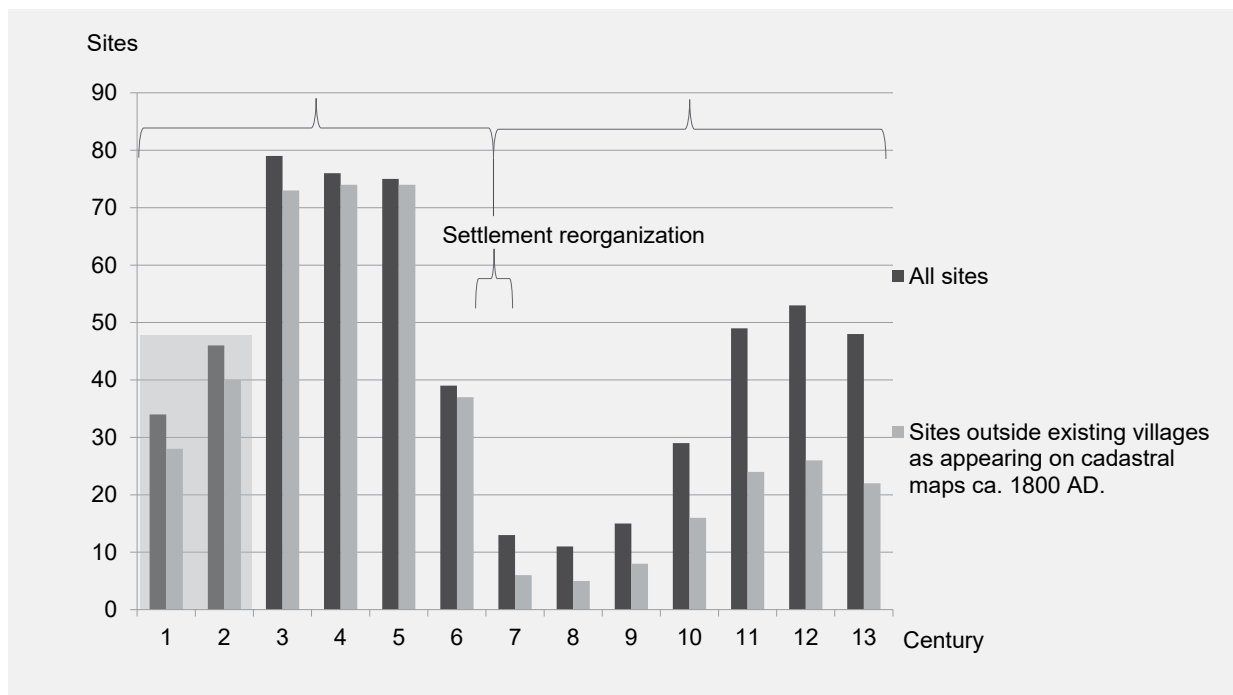


Fig. 1: Chart showing fluctuations in the number of excavated agrarian sites (y-axis) dating from the 1st-13th centuries AD (x-axis). The data from the 1st and 2nd centuries are incomplete and only cover sites with continuity into the following period (© Jesper Hansen).

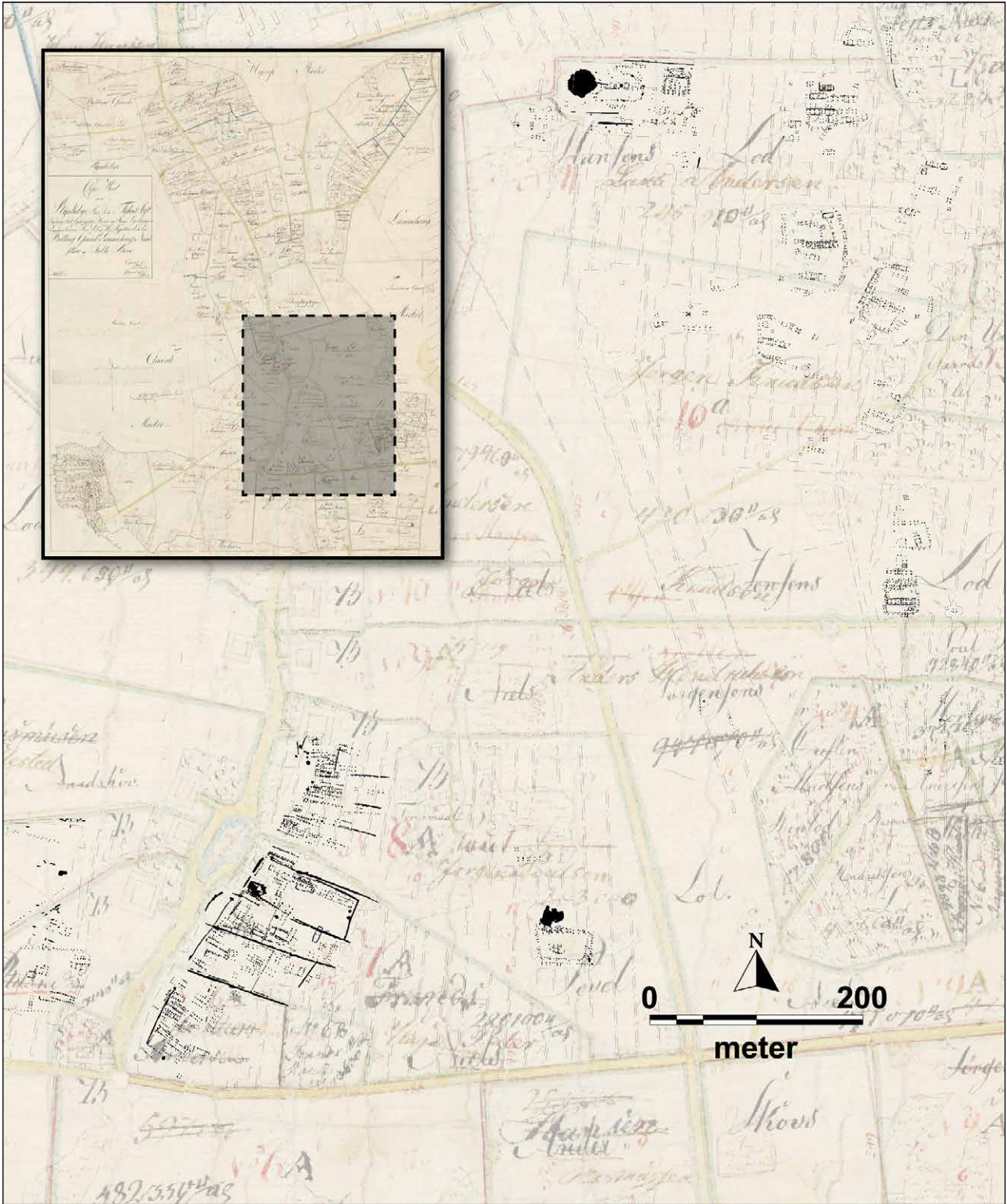


Fig. 2: Rynkeby. Excavated farms from the 1st-16th centuries (black) plotted on an early- 19th-century cadastral map. The 2nd-6th-century fenced farms are clustered in the north-east, while the farms from the 7th century onwards are concentrated in the south-east within the still-existing village. The later farms differ significantly from the previous ones, and they are located on regular 'tofts' (© Jesper Hansen and Danish Geodata Agency).

occurring around AD 536-546, for example the plague of Justinian, volcanic activity, etc. (e.g. *Axboe 1999; Löwenborg 2012*). Although I do not want to go into this ongoing academic debate in depth, I feel the need to make a few comments as my study supplies data relevant to the debate in general.

When analysing the data from Funen, it becomes clear that a reasonably well-defined decline in the recorded settlements predates AD 536-546 by almost a century. Furthermore, if we turn to the graves, only 5 are recorded from Funen for the period ca. AD 450-800, compared with more than 5,000 graves from AD 175-450 (*Albrechtsen 1951; Henriksen 2009*). In contrast, we find an abundance of metal objects scattered around the present-day villages (e.g. *Feveile 2016*). These objects are dated primarily to the late 6th to the 12th century and are found in particular around villages bearing classic Iron Age and Viking Age place names, e.g. -inge, -lev, -um/-hem, -sted, -løse, -by, and -torp. These observations indicate fundamental changes in the overall structure of society rather than the catastrophic impact of natural disasters.

Of course, this does not exclude the possibility of recordable societal impacts arising from natural and climatic events, long-term changes, or even catastrophes, but we must be very cautious about claimed causality on behalf of a coincidence of events (*Hansen 2015a*).

Let us instead refocus our attention on the archaeological record and, in particular, the village of Rynkeby (Fig. 2). Excavations and research undertaken over the last 15 years have revealed that this village displays a rather complete structure, representing a repetitive scheme of settlement development on Funen during the 1st millennium AD.

Rynkeby

The first archaeological traces of the settlement that eventually became Rynkeby comprise one or two labile farms dated to the late pre-Roman and early Roman Iron Ages. These farms 'wander' around what later became the resource area of the present village. In the late Roman and early Germanic Iron Ages, both the buildings and the individual farms increased in size. An area east of Rynkeby gave way to the formation of an actual village. Here, the fully fenced farms were demolished and moved as required in what still appears to have been a relatively autonomous structure, just as in the previous period. Movement of the individual farms occurred with the same varying intensity as before, but an overall underlying parcel structure emerged within the considerably larger settlements. Up to this point in time, developments directly paralleled the existing theories and models based on the excavations at Vorbasse, among others (e.g. *Holst 2010; Hvass 1987*). From the later part of the 6th century onwards, no further farms were (re)built in that area.

Turning our attention to the remains excavated in the extant village reveals what we would traditionally characterise as a typical village structure dated to the 10th or 11th century onwards. This is a village that differs fundamentally from the late Roman and Migration period settlement. The farms are organised into much larger and regular side-by-side tofts. These would or could be divided, probably as a consequence of inheritance, as has also been suggested for the contemporary site of Østergård in southern Jutland, or for the 2nd-6th century 'wandering farms' evident near present-day Nørre Snede and Vorbasse (*Hansen 2015a; Holst 2010; 2014; Sørensen 2011*).

The fundamental question is, of course, when was this actual village founded? In seeking an answer, I turned to the ¹⁴C dateterminations, because, as is often the case, the artefacts were very few in number. The materials used for dating were selected according to a strict sampling strategy that focused not only on carbonised cereals originating from the impressive and well-defined houses, but also on those from the smaller and often irregular buildings (*Hansen 2011; 2015a*). The ¹⁴C dates clearly demonstrate that the structure that still characterises the village layout was formed in the late Germanic Iron Age. Seen in a wider perspective, the logical consequence of this appears to be that the hitherto missing settlements from the Late Migration period and Early Viking Age are, in general, to be found within the existing villages. As a result, there is reason to believe that the oft-referred-to agrarian settlement regression in the 7th-9th centuries is, to some extent, an expression of archaeological methodological difficulties rather than an actual historical crisis.

Researchers familiar with hypotheses relating to the settlement history of the internationally well-known site of Gudme, in south-east Funen, may notice a discrepancy between the general trends suggested by the author on the basis of the finds from Rynkeby, and what has been suggested on the basis of the Gudme finds (*Hansen 2011; 2015a; Hedeager 2011, 161, 185; Jørgensen 2011; Sørensen 1994; 2001; 2010*). So far, metal-detector finds have been used as the main body of evidence for the definition of long-term developments at Gudme, as the excavated areas in the fields outside the modern village do not include actual settlement remains dating to the period after ca. 600 AD.

Based on the distribution of the metal-detector finds it has been suggested that the development of the settlement had three main phases (*Jørgensen 2011, 82, Figs. 5, 8-10*). The distribution of these finds, as well as the composition of them within the different areas, has been interpreted as proof that the village moved from the metal-rich areas (the finds generally dating to 3rd-6th centuries AD) east and south-east of the village, to the location of the present Gudme village around the Viking Age-medieval period transition (11th century AD). However, the maps show

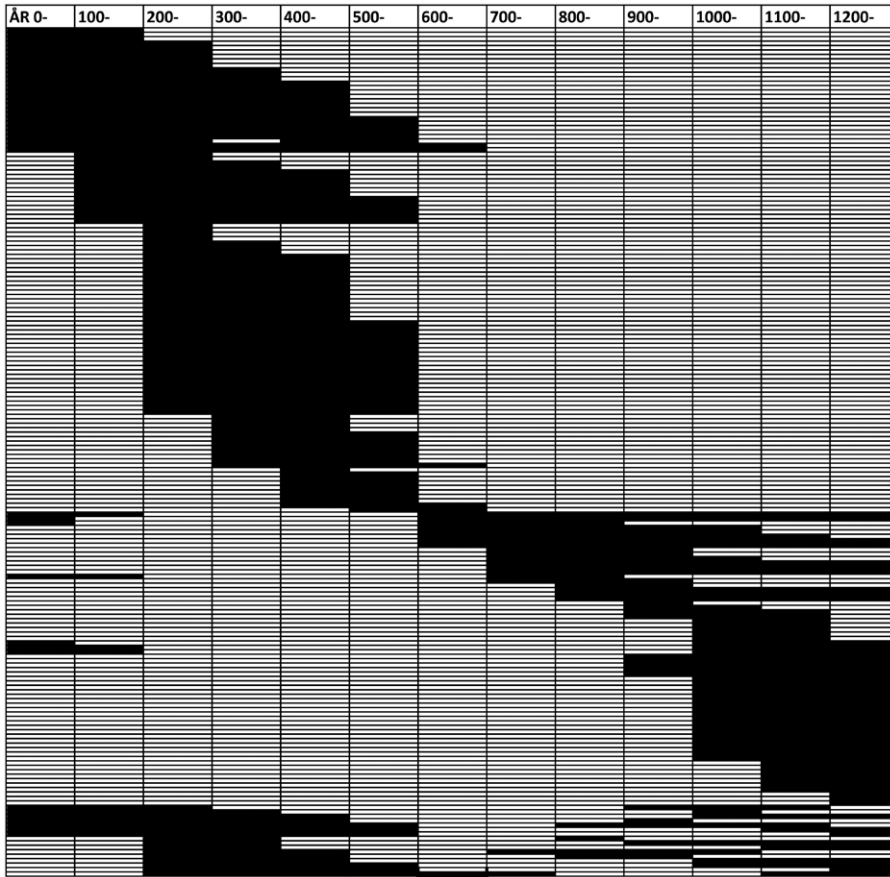


Fig. 3: Diagram showing all Funen sites with houses dating from the period AD 200-1200 and specified site continuity (black) (© Jesper Hansen).

that the distribution of the metal-detector finds remains the same through time, with only the number of finds fluctuating notably (e.g. Jørgensen 1994, Fig. 2).

This suggests that previous interpretations based on the metal-detector finds may have been wrong. For example, ‘the smaller number of finds indicates that the old settlement area was abandoned and moved to present-day Gudme’ (Jørgensen 2011, 86, Figs 9, 10). Instead of changes to the settlement patterns in the late Viking Age, the current distributions of the finds in the 9th-10th centuries AD and the 11th century AD, respectively, seem to indicate a structural continuum, with the only notable change being the lower number of finds towards the end of the period. In other words, the distribution patterns do not support a relocation of Gudme, or changes to the use of the plots, during the 9th-11th centuries AD.

Presently, the excavated settlement remains from the Late Germanic Iron Age and Viking Age periods do not support an interpretation suggesting that Gudme was located outside the historical village at this time. Instead, Gudme III (e.g. Sørensen 2001, Figs 4, 9) suggests that during the Late Germanic Iron Age and Viking Age periods the settlement developed within the framework of the historical village with spatial structures and architectural developments mirroring the developments

at Rynkeby and on Funen in general. The western part of Gudme III is located on the periphery of the historical farm plots (e.g. Sørensen 2001, 31), and is characterised by the presence of a variety of one-aisled structures, including small characteristic north-south orientated houses, which at Rynkeby, Skrillinge, and Lumby have been radiocarbon dated to the Late Germanic Iron Age and Viking Age periods (Hansen 2011; 2015a, 87; 2015b, 29). This means that there is no discrepancy between the Gudme evidence and the development suggested for Rynkeby. The discrepancy between classic Gudme presentations and the models presented in this paper are therefore simply different interpretations of the same data.

Microscale changes in a macroscale perspective

Detailed analysis of the collected data from Funen reveals that, prior to the later part of the 6th century, the individually fenced farms were relocated at intervals of 30-400 years, without displaying any uniformity of duration or direct ties with neighbouring farms (Hansen – Lundo 2015; Hansen 2015a, 105). Coincident with this absence of microscale coherence on a farm level, the archaeological record displays remarkably temporal macroscale uniformity. It is clear that the settlements can

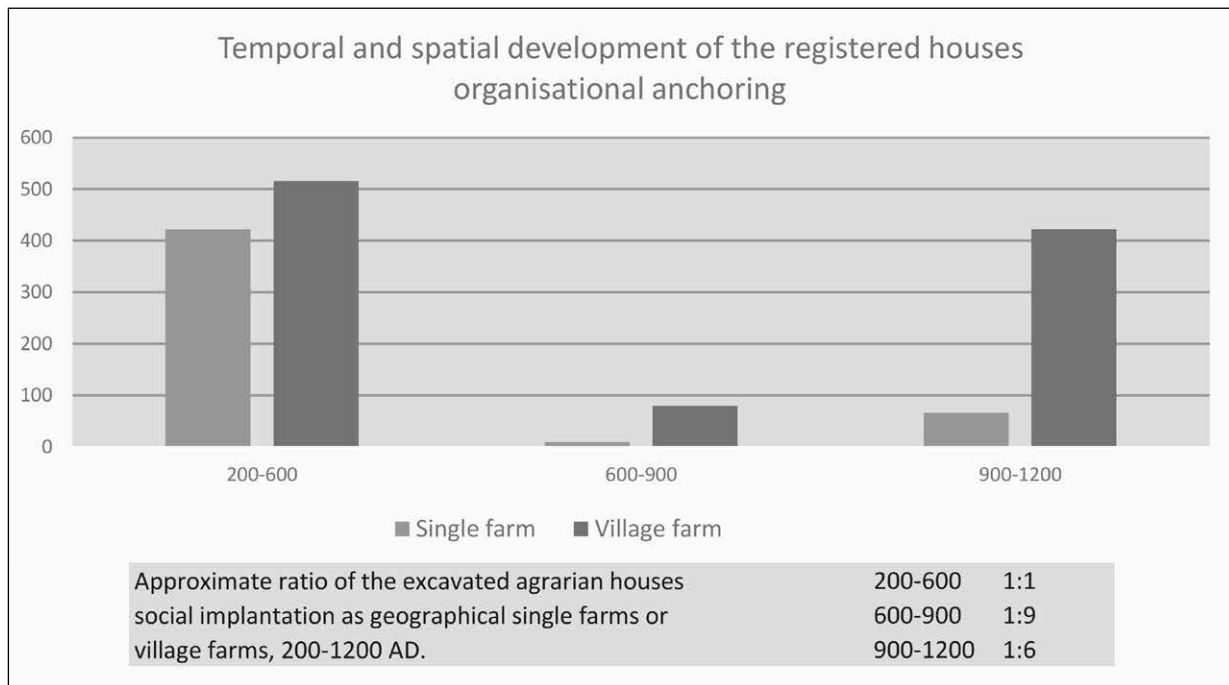


Fig. 4: Bar chart illustrating the geographical distribution of Funen farms dated to the period AD 200-1200 (© Jesper Hansen).

be divided into two consecutive groups, characterised by the crucial observation that the settlement plots dated to the 6th century never persisted beyond the 7th century, regardless of when the specific settlement areas were taken into use (Figs. 1 and 3).

In other words, all the settlements were reorganised and relocated during a relatively short period of time, roughly corresponding to the decades leading up to AD 600. Presentation of all the relevant data in a single diagram, specifying the approximated site continuity for the individual settlement areas, clearly demonstrates the latter point. Something general and fundamental happened in terms of land organisation in the late 6th century AD.

Apart from this general reorganisation, a further distinction should be pointed out with regard to settlement organisation before and after the late 6th century. The focal point here is the physical aspect of *living together/living apart* (e.g. *Riddersporre 1999*). When the excavated farm sites are assembled in a diagram and classified in terms of single farms or village farms, it is obvious that an organisational system fundamentally based on the labile farm was replaced by a system based on actual villages during the later decades of the 6th century (Fig. 4). In fact, single farms dating from the 7th-8th centuries have yet to be found on Funen, although they are common in the preceding centuries. The fixed village structure recorded from the 7th-9th centuries helps to further underline that

the shift observed in the late 6th century represents a genuine and profound organisational change in the settlement system. A further aspect, which follows on directly from the recognition of the new model of settlement organisation, is whether this change was, as such, also rooted in a fundamental reorganisation of the village resource areas and village boundaries. If so, it would indicate that the observed changes involved an organisational level that extended significantly beyond the individual settlement and its 'jurisdiction'.

Village resource area

The formation processes for historically known village resource borders constitute another classic area of research to which I have paid renewed attention (e.g. *Callmer 1991*). Analyses addressing the formation of fixed resource areas require an evaluation of the spatial synchronisation between the actual settlements and the limits of the individual settlement resource area in terms of an economically reasonable relationship. My working hypothesis is as follows: if the analysis reveals a period when the settlement displays a particularly prominent central position within the village resource area, this is assumed to be the time of establishment for the oldest existing layer of borders under village jurisdiction (*Hansen 2015a*).

A microscale/farm perspective on the early Roman Iron Age repeatedly reveals asynchronous relationships between the farms and the organisational village borders

evident from 18th-19th-century cadastral maps. This is reflected by different phases of a farm being located on each side of the historical boundary. Changing to a macroscale perspective reinforces the impression of there being no strict correlation between the 3rd-6th-century settlements and the organisational structures evident from historical times. Settlements from the 7th-9th centuries, on the other hand, display a very different and remarkable feature. When combined with the cartographic evidence showing the outer boundaries of present-day villages, there is a striking tendency towards a simple correlation. The 7th-9th-century agrarian settlements are systematically placed centrally, with the surrounding land well suited to agrarian production. This means that reorganisation of the settlements and establishment of a permanent fixed division of land over large areas constitute two sides of one process. Put another way, the settlement structure reflects a shift from being geographically labile and bound to personal relationships to being fixed and bound to stable divisions of resource areas/vills that are measurable and independent of changing social relations.

Behind the change

The acquisition of an overall structural picture of first-generation village organisation from the 7th-9th centuries is fundamental to an understanding of the reasons behind the change. Reconstruction of original village resource areas prior to the parcelling out of magnate farms and -thorps is one well-known method (Porsmose 1987, 66). Through a combination of geometrical methodology and the distribution of pre-Viking Age

place names, it is possible to produce an approximate sketch map representing Late Iron Age organisational divisions and macrosettlement structures that can form a basis for theories (Hansen 2015a, 151). These analyses reveal a rather coherent geographical village structure on Funen. Permitting myself to scale up these results to Denmark in general, I would argue that the fixed landscape organisation that still defines the structure of rural Denmark was established around AD 600. I would further conclude that it was initially part of a deliberate and centrally initiated reorganisation of Late Iron Age society, which implemented a system based on services and fiscal obligations that were bound to a division of land resources in fixed vills. Such obligations most likely included duties of campaign service, bridge building, and fortress defence, as are evident in Britain at that time, and from written documents and 12th-13th-century laws relating to the situation in Denmark (Hansen 2015a; Russo 1998, 197; Sawyer 2002, 304). A system of this kind would have had obvious administrative advantages, as it was based on simple and stable measurements of resources well-suited to thorough, effective, and wise decision making.

Conclusion

Summing up these insights into a simplified model, which presents the *longue durée* perspective from AD 200-1200, makes it possible to divide the settlement historical development into four main stages (Fig. 5).

Until the 3rd century AD, settlement organisation was characterised by small labile jurisdictional units, organised

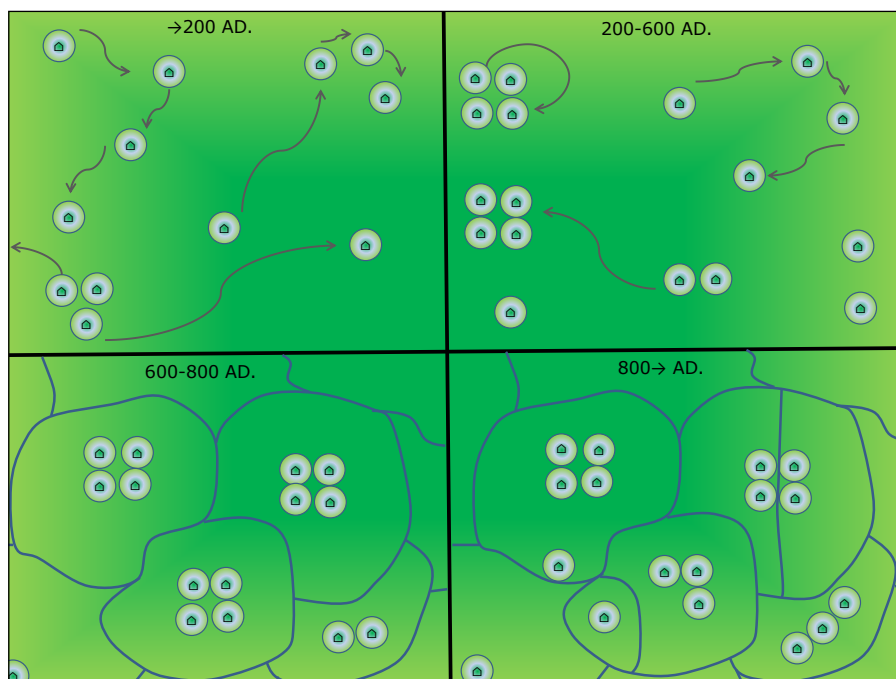


Fig. 5: Model illustrating the general development of Funen villages in a *longue durée* perspective (© Jesper Hansen).

primarily as single farms or villages typically consisting of three to four units. This settlement organisation displays no fixed long-term geographical borders that can be related to the villas depicted on cadastral maps of modern times. The organisation reflects a loose structure, where the jurisdiction appears to have been closely linked to the individual settlement. This leaves plenty of geographical and organisational space to move around and, therefore, displays an ever-changing economic structure that is hard to control.

From the 3rd to the 6th century AD, village organisation can generally be perceived as resembling that of the previous centuries. However, significantly larger settlements arose and this period is characterised by general growth and increased diversity in terms of settlement size.

In the 7th and 8th centuries, settlement organisation was marked by a significant change. This is initially reflected by farms moving together to central positions within fixed geographical structures that are defined by the settlement resource boundaries evident from historical cadastral maps. During these centuries, ordinary single farms seem to be virtually absent and the settlements' jurisdictional units appear to radiate out from the villages as an overall organisational entity. In large parts of the Funen plain the landscape appears to have been fully divided up. This organisational system counteracts the previously dominant labile and farm-based settlement structure and, at the same time, supports the possibility of exercising actual administrative control.

From the 9th century onwards, the archaeological record once again contains single farms and the settlement organisation as a whole is characterised by expansion leading to a wide range of adjustments. In this process, thorps and manors were parcelled out from existing villages, while other villages were divided up. All this was, however, based on the geographical structure established in the decades around 600 AD.

The analysis presented here strongly indicates the need for revision of the settlement-historical model to accommodate the fact that modern village distribution and organisation are, in general, not to be perceived as products of the 11th-century Viking Age. They arose from much earlier developments, around AD 600, which operated as preconditions for future Viking Age societies and the transformation of prehistoric Denmark into an actual kingdom.

References

Albrectsen, E. 1951:

Ein Gräberfeld der Jüngerer Eisenzeit auf Fünen, *Acta Archaeologica* 21, 234-253.

Axboe, M. 1999:

The year 536 and the Scandinavian gold hoards, *Medieval Archaeology* 43, 186-188.

Bradshaw, E.G. – Rasmussen, P. – Odgaard, B.V. 2005:
Mid- to late-Holocene land-use change and lake development at Dallund Sø, Denmark: synthesis of multiproxy data, linking land and lake, *The Holocene* 15/8, 1152-1162.

Callmer, J. 1991:

The process of village formation, in: Berglund, B.E. (ed.), *The cultural landscape during 6000 years in Southern Sweden*. *Ecological Bulletins* 41. Copenhagen, 337-349.

Christensen, A.E. 1969:

Vikingetidens Danmark. Paa oldhistorisk baggrund. Copenhagen.

Elsoe Jensen, J. 2010:

Gensidig afhængighed – en arv fra fortiden: Danmarks middelalderbyer – et vidnesbyrd om spredningen af vestlig civilization. PhD thesis, Aalborg University.

Fabeck, C. – Ringtved, J. 2009:

Arealanvendelse og landskabstyper i det 1. årtusinde, in: Odgaard, B. – Rydén Rømer, J. (eds), *Danske landbrugslandskaber gennem 2000 år: Fra digevoldinger til støtteordninger*. Aarhus, 143-146.

Feveile, C. 2016:

Understanding the hinterland of the Ladby ship grave, in: Turner, V.E. – Owen, O.A. – Waugh, D.J. (eds), *Shetland and the Viking World*. Papers from the proceedings of the seventeenth Viking congress, Lerwick. Lerwick, 229-235.

Grau Møller, P. – Porsmose, E. 1997:

Kulturhistorisk inddeling af landskabet. Miljø- og Energiministeriet. Skov- og Naturstyrelsen. Copenhagen.

Grøngaard Jeppesen, T. 1981:

Middelalderlandsbyens opståen: Kontinuitet og brud i den fynske agrarbebyggelse mellem yngre jernalder og tidlig middelalder. *Fynske Studier* XI. Odense.

Hansen, J. 2011:

Rynkeby – ¹⁴C-dateringer i en fynsk landsby med stedkontinuitet fra yngre germansk jernalder. *Fynske Minder* 2011. Odense, 95-103, 112.

Hansen, J. 2015a:

Village formation and settlement structure in the first millennium: A settlement historical regional study. Text. PhD thesis, University of Southern Denmark. Odense.

Hansen, J. 2015b:

Village formation and settlement structure in the first millennium: A settlement historical regional study. Bilag and appendix. PhD thesis, University of Southern Denmark. Odense.

Hansen, J. 2015c:

Village formation and settlement structure in the first millennium: A settlement historical regional

- study. Catalogue. PhD thesis, University of Southern Denmark. Odense.
- Hansen, J. 2017:*
Fynske landsbyer fra arilds tid. In: Plechinger, H. – Lorentzen, A. – Toftgaard, J. – Schultz, M. (eds), Museumsleder, forsker og netværksskaber, Torben Grøngaard Jeppesen, 40 år ved Odense Bys Museer.. Odense, 168-179.
- Hansen, J. – Lundø M.B. 2015:*
Næra og Njords Høj: boplads, gravplads og samlingsplads?. Odense, 27-49.
- Hedeager, L. 2011:*
Iron age myth and materiality: An archaeology of Scandinavia AD 400-1000. London.
- Henriksen, M.B. 2009:*
Brudager Mark: en romertidsgravplads nær Gudme på Sydøstfyn. Volumes I and II. Fynske Studier XXII. Odense.
- Holst, M.K. 2010:*
Inconstancy and stability: Large and small farmsteads in the village of Nørre Snede (Central Jutland) in the first millennium AD. Siedlungs- und Küstenforschung im südlichen Nordseegebiet 33. Rahden, 155-179.
- Holst, M.K. 2014:*
Warrior aristocracy and village community, in: Stidsing, E. – Høilund Nielsen, K. – Fidel, R. (eds), Wealth and complexity: Economic specialized sites in Late Iron Age Denmark. East Jutland Museum Publications 1. Aarhus, 179-197.
- Hvass, S. 1983:*
Vorbasse: The development of a settlement through the first millenium A.D, Journal of Danish Archaeology 2, 127-136.
- Hvass, S. 1987:*
Vorbasse: Eine Dorfsiedlung während des 1. Jahrtausends n. Chr. in Mitteljutland, Dänemark, Bericht der Römisch-Germanischen Kommission Band 67. 529-542.
- Hvass, S. 1988:*
Jernalderens bebyggelse, in: Mortensen, P. – Rasmussen, B.M. (eds), Fra Stamme til Stat i Danmark. 1. Jernalderens Stammesamfund. Jysk Arkæologisk Selskabs Skrifter XXII. Højbjerg, 53-92.
- Hvass, S. 1989:*
Rural settlement in Denmark in the first millennium A.D, in: Randsborg, K. (ed.), The birth of Europe: Archaeology and social development in the first millennium A.D, Analecta Romana Instituti Danici, Supplementum XVI, 91-99.
- Hvass, S. 1993:*
Settlement, in: Hvass, S. – Storgaard, B. (eds), Digging into the past: 25 years of archaeology in Denmark. Aarhus, 187-194.
- Jensen, J. 2004:*
Danmarks Oldtid: Yngre Jernalder og Vikingetid 400 e.Kr.-1050 e.Kr. Copenhagen.
- Jensen, J. 2013:*
The prehistory of Denmark: from the Stone Age to the Vikings. Copenhagen. (Translation James Manley).
- Jørgensen, L. 1994:*
The find material from the settlement of Gudme II: composition and interpretation, in: Nielsen, P.O. – Randsborg, K. – Thrane, H. (eds) The archaeology of Gudme and Lundeberg. Papers presented at a conference at Svendborg, October 1991. Arkæologiske studier X. Copenhagen, 53-63.
- Jørgensen, L. 2011:*
Gudme-Lundeberg on Funen as a model for northern Europe? in: Grimm, O. – Pesch, A. (eds), The Gudme/Gudhem Phenomenon. Papers presented at a workshop organized by the Centre for Baltic and Scandinavian Archaeology (ZBSA) Schleswig, April 26th and 27th, 2010. Schriften des Archäologischen Landesmuseum, Ergänzungsreihe Bd. 6. Neumünster, 77-90.
- Kaldal Mikkelsen, D. 1999:*
Single farm or village? Reflections on the settlement structure of the Iron Age and the Viking Period, in: Fabech, C. – J. Ringtved (eds), Settlement and landscape. Proceedings of a conference in Århus, Denmark May 4-7 1998. Højbjerg, 177-193.
- Löwenborg, D. 2012:*
An Iron Age shock doctrine: Did the AD 536-7 event trigger large-scale social changes in the Mälaren valley area? Journal of Archaeology and Ancient History 4/2012. (online: <http://www.arkelogi.uu.se/Journal/no-4-lowenborg/>, 14-01-2019).
- Näsman, U. – Roesdahl, E. 1993:*
The Late Germanic and Viking Period, in: Hvass, S. – Storgaard, B. (eds), Digging into the past: 25 years of archaeology in Denmark. Aarhus, 181-186.
- Porsmose, E. 1981:*
Den regulerede landsby: Studier over bebyggelsesudviklingen på Fyn i tiden fra ca. 1700 til ca. 1000 e.Kr. fødsel. Odense University Studies in History and Social Sciences 72. Odense.
- Porsmose, E. 1987:*
De fynske landsbyers historie: i dyrkningsfællesskabets tid. Odense University studies in History and Social Sciences 109. Odense.
- Porsmose, E. 1993:*
Rural settlement, in: Hvass, S. – Storgaard, B. (eds), Digging into the past: 25 years of archaeology in Denmark. Aarhus, 264-267.
- Poulsen, B. – Sindbæk, S.M. 2011:*
Settlement and lordship in Viking and Early Medieval Scandinavia, in: Poulsen, B. – Sindbæk,

- S.M. (eds), *Settlement and lordship in Viking and Early Medieval Scandinavia. The medieval Countryside* 9. Turnhout, 1-30.
- Riddersporre, M. 1995:*
Bymarker i backspejel: Odlingslandskapet före kartornas tid. Meddelanden från Lunds Universitets Geografiska Institutioner 124. Trelleborg.
- Riddersporre, M. 1999:*
Village and single farm: Settlement structure or landscape organization, in: Fabech, C. – Ringtved, J. (eds), *Settlement and landscape. Proceedings of a conference in Århus, Denmark May 4-7 1998.* Højbjerg, 167-175.
- Robinson, D.E. – Mikkelsen, P.H. – Malmros, C. 2009:*
Agerbrug, driftsformer og planteressourcer i jernalder og vikingetid (500 f.Kr. – 1100 e.Kr.), in: Odgaard, B. – Rydén Rømer, J. (eds), *Danske landbrugslandskaber gennem 2000 år: Fra digevoldinger til støtteordninger.* Aarhus, 117-142.
- Russo, D.G. 1998:*
Town origins and development in early England, c.400-950 A.D. *Contributions to the study of world history* 58. Westport, Connecticut.
- Sawyer, P. 2002:*
Da Danmark blev Danmark: Fra ca. 700 til 1050, in: Olsen, O. (ed.), *Gyldendal og Politikens Danmarkshistorie*, Vol. 3, 2. ed. Copenhagen.
- Sørensen, A.B. 2011:*
Østergård: Vikingetid og middelalder. *Skrifter fra Museum Sønderjylland* 5. Haderslev.
- Sørensen, P.Ø. 1994:*
Houses, Farmsteads and settlement pattern in the Gudme area, in: Nielsen, P.O. – Randsborg, K. – Thrane, H. (eds), *The archaeology of Gudme and Lundeborg. Papers presented at a conference at Svendborg, October 1991.* *Arkæologiske studier* X. Copenhagen, 41-47.
- Sørensen, P.Ø. 2001:*
Bebyggelsen på Gudme III: tre skattefund og en langvarig historie. *Årbog for Svendborg og Omegns Museum* 2000. Svendborg, 69-78.
- Sørensen, P.Ø. 2010:*
The political and religious centre at Gudme on Funen in the late Roman and Germanic Iron Ages: settlement and central halls. *Siedlungs- und Küstenforschung im südlichen Nordseegebiet* 33. Rahden, 225-236.

Kopaniec in the Izera Mountains

An example of unusual transformation in a village after the Thirty Years' War period in Silesia (1618-1648)

*Paweł Duma, Anna Łuczak & Jerzy Piekalski**

Abstract

Located far away from the main communication roads, the mountain village named Kopaniec (German *Seiferschau*, south-western Poland, Izera Mountains) avoided destruction and depopulation during the Thirty Year's War (1618-1648), unlike all other Silesian villages. After this period the village developed intensively. New buildings and residential plots were founded on previously unused forest areas, at a height of 700 m a.s.l. Settlement pattern changes within fields and plots with residential buildings are visible today. The boundaries of former fields can be recognized by the remains of stone walls, which in Poland is a relatively rare occurrence. Findings from LIDAR, GIS studies, and the traditional excavation method were used in developing a description of the village in terms of its natural environment and its internal structure and evolution, starting in the late medieval period and continuing until modern times. The purpose of the study was to record features of the historical cultural landscape created in a specific mountain setting. The deserted domestic enclosure no. 143 in Kopaniec is highlighted as an example that clearly shows the distinctions between late medieval and modern husbandry systems.

Keywords: *Izera Mountains, Silesia, landscape archaeology, stone embankments, historical archaeology.*

Résumé

Kopaniec dans les montagnes d'Izera. La transformation inhabituelle d'un village silésien après la Guerre de Trente Ans (1618-1648)

Situé loin des voies principales de communication, le village de montagne de Kopaniec (Seiferschau, Sud-Ouest de la Pologne, Montagnes d'Izera), à la différence des autres villages silésiens, n'a pas été détruit et dépeuplé pendant la guerre de Trente Ans (1618-1648). Après cette période, le village s'est intensément développé : de nouvelles constructions et habitations ont ainsi pris place sur des zones forestières situées à 700 m d'altitude et restées jusque-là, inexploitées. Ce type de peuplement des champs et des parcelles avec l'installation de bâtiments à vocation résidentielle est un changement qui se repère encore aujourd'hui. Les limites des anciens champs se reconnaissent aux vestiges des murs de pierre qui, en Pologne, apparaissent plutôt tardivement. Les données générées par le LIDAR, le SIG et la

* Institute of Archaeology
University of Wrocław
ul. Szewska 48
50-139 Wrocław
Poland
pawel.duma@uwr.edu.pl
anna.luczak@uwr.edu.pl
jerzy.piekalski@uwr.edu.pl

fouille archéologique ont permis de replacer le village dans son environnement naturel, mais aussi de comprendre sa structure interne et son évolution entre la fin du Moyen Âge et le début de l'Époque moderne. Centré sur le village de Kopaniec, l'objectif de l'étude était d'enregistrer les caractéristiques du paysage culturel historique formé dans un contexte montagneux bien spécifique. L'étude s'est notamment concentrée sur l'enceinte domestique désertée n°143. En analysant cet exemple particulier, nous pouvons clairement remarquer à quel point le système d'élevage des Temps Modernes s'éloigne de celui de la fin du Moyen Âge.

Mots-clés: *Monts de la Jizera, Silésie, archéologie du paysage, rempart, Archéologie historique.*

Zusammenfassung

Kopaniec (Seiferschau) im Isergebirge. Ein Beispiel für eine ungewöhnliche Transformation eines schlesischen Dorfes nach dem Dreißigjährigen Krieg (1618-1648)

Das Waldhufendorf Kopaniec (Seiferschau) liegt in den Bergen Schlesiens, abseits wichtiger Verkehrswege. Dank dieser Lage wurde es vermutlich während des Dreißigjährigen Krieges nicht zerstört. Nach dem Krieg entwickelte sich Seiferschau sehr rasch und intensiv, im Gegensatz zu anderen

Introduction

The aim of the interdisciplinary study of the village of Kopaniec in the Iżera Mountains was to define the influence of natural conditions as well as economic and political factors on the transformations of the topographic structure and the character of the village. Kopaniec was chosen for the analysis because of its location in relatively difficult environmental setting which meant that the reaction to the situation was evident and can be described. Additionally, unlike other Silesian villages, Kopaniec did not experience population losses during the Thirty Years' War (1618-1648), which devastated the region. It developed in subsequent years, yet adopted a slightly different settlement pattern from that initiated in the Middle Ages. The analysis of the development of the village was conducted based on written sources, historical cartography, interpretation of the results of airborne laser scanning (ALS), and archaeological excavations.¹ The aim is to refer to the issue of development and transformations

1 The paper was written as part of the project 'Adaptation of settlement and economy to the marginal environmental conditions. The development of the landscape of the western Sudetes from the Middle Ages to the mid-20th century (National Science Centre, Agreement no 2015/19/B/HS3/01752)'. Earlier results of the study of the village of Kopaniec were presented in: *Duma et al. 2015; Duma et al. 2017.*

schlesischen Ortschaften. Neue Gehöfte in höheren Lagen des Dorfes sind entstanden. Zudem wurden nach anderem Muster -im Vergleich zu den spätmittelalterlichen Äckern – die Felder begrenzt. Diese Ackergrenzen wurden als Trockenmauern aus Feldsteinen errichtet und sind heute noch gut erkennbar. Solche Steinmauern findet man selten in ostmitteleuropäischen Regionen der frühen Neuzeit. Zur Interpretation dieser steinernen Strukturen in der Nähe von Kopaniec (Seiferschau) wurden verschiedene Methoden angewendet, unter anderen die Analyse von Flurkarten, LIDAR-Scans und kleinere Grabungen. Dadurch war es möglich, die heute zu einem großen Teil bewaldeten Steinkonstruktionen und Feldgrenzen zu rekonstruieren. Das Ziel der archäologischen und geographischen Untersuchungen war die Erfassung der in den Bergen liegenden Dorfstrukturen und des zugrundeliegenden agrarischen Wirtschaftsmodells. Weiterhin bedeutet waren die Ausgrabungen des nicht mehr existierenden ehemaligen Bauernhofes Nr. 143. Auf dieser Basis könnten die Autoren beschreiben, wie sich das frühneuzeitliche landwirtschaftliche System von dem spätmittelalterlichen unterscheidet.

Schlagwörter: *Isergebirge, Schlesien, Landschaftsarchäologie, Steinmauern, Historische Archäologie.*

of rural settlement in mountainous and highland regions in the pre-industrial period. The focus is on areas that can be regarded as marginal from an economic point of view (*Denecke 1992; Meyer 1990; 2002; Klir 2008, 14-16; Schmaedecke 2009*). Similar lines of research, concentrating mainly on the medieval period, were pursued earlier in the neighbouring region of the Ore Mountains (*Blažek et al. 1995; Chorowska et al. 2018; Kenzler 2009*). Close to the southern Polish border in the Czech Republic, studies that also focused on modern mountain settlement and agricultural production, have been conducted (*Hartmanová 2005*).

Geographic conditions and their influence on the economy of the village

Kopaniec (German: *Seiferschau*) is situated in the western part of the Sudetes, in the north-eastern part of the Iżera Mountains, and north of the Kamieniecki Ridge, in the vicinity of a hill named Kozia Szyja (748 m above sea level, Fig. 1). The village occupies the northern slope at altitudes of around 440 to 740 m above sea level. Palaeozoic gneisses dominate the geology of the area, and they are complemented by granite gneisses, leucogranites, granitoids, and mica schists (*Detailed Geological Map of the Sudetes at a scale of 1:25 000*). Natural resources

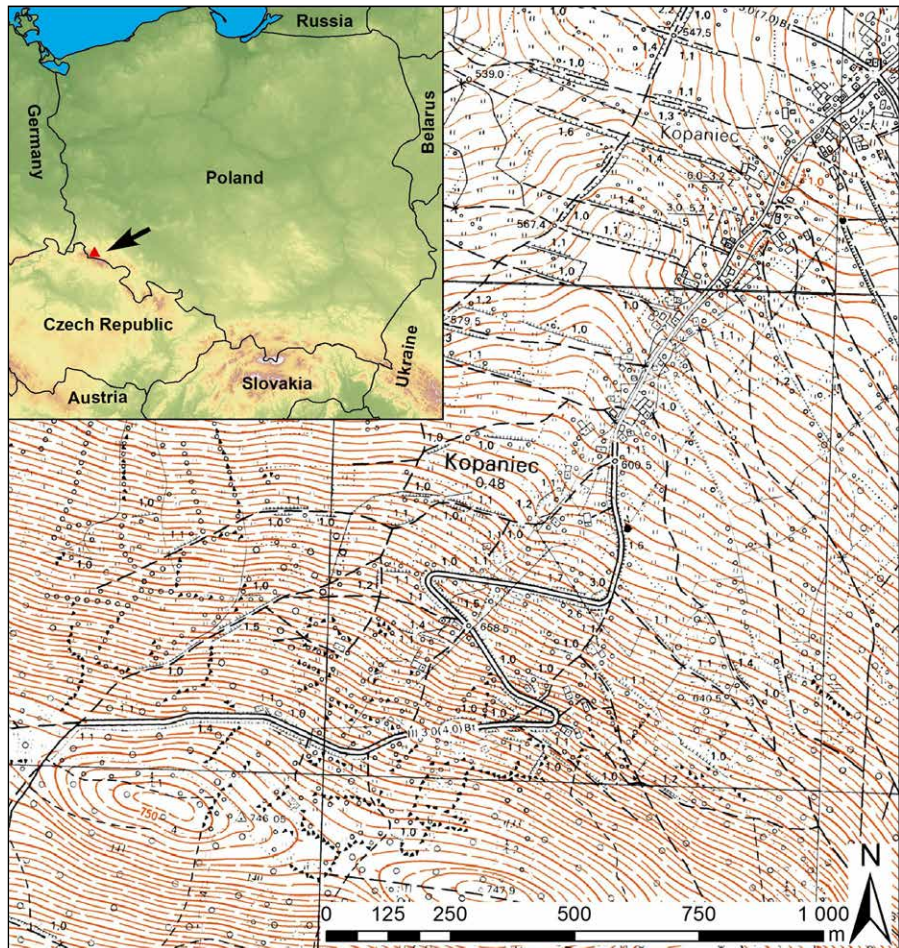


Fig. 1: Location map showing the site referred to in the text (© Anna. Luczak).

include non-ferrous metal ores as well as semi-precious and precious stones. Soils are of mountainous character, shallow with high parent material content. Their agricultural value is low. The climate is cool with an annual average temperature of 6-7°C. The average annual rainfall reaches 1500 mm in the mountains. In such a climate, the growing season for vegetation lasts 175-200 days, with around 220 in the low-lying part of Lower Silesia (Staffa 1989). The geographic conditions can be therefore regarded as difficult for settlement and pre-industrial economy. The potential for growing crops is minimal. Animal husbandry of a mountainous character gives more opportunities. However, the mining and processing of mineral resources as well as crafts are the best options.

The village of Kopaniec in the Middle Ages

The northern slopes of the Izera Mountains were settled relatively late, in the 14th century. In the lower zone, at altitudes of 250-350 m above sea level, in the Sudetes Foothills, 15-20 km north and north-east of Kopaniec, the oldest settlements are dated as early as the 10th-11th centuries. They formed an administration unit of the early

Polish state in the 12th century together with a stronghold in Wleń. An extensive colonisation campaign and inflow of settlers from the German lands were organised there in the first decades of the 13th century (Chorowska et al. 2018). The first historical record of Kopaniec, or rather of the forest where the village was founded, comes from 1343. The Duke of Jawor Henry gave 54 łans (*Hufen*) of forest called Sefrichshau (later Kopaniec) to Peter von Borau for clearing and settling. The document included the information that the owner expressed his wish to have a glassmaker on his new estate (Adamska 2016, 51, 60-63; Liebich 1961, 20; Regesty Śląskie 1975, no. 80). Before the end of the 14th century St. Anthony's church was functioning in the village and Johann Bothe was the parson (Jungnitz 1898, 401).

A retrospective analysis of historical cartographic sources indicates that the main, lower part of Kopaniec was organised as a forest village – *Waldhufendorf* – rather typical of the medieval colonisation of Silesia (Biermann 2010, 336-344; Schlenger 1930, 139-143; Szymańska 2013, 129-131). The historic map, *Urmessstischblatt*, from 1824 (sheet SBB IIIC Kart N 729/3008) shows a regular chain of homesteads situated on both sides of the

stream and a road delineated along the stream. Behind the homesteads there are fields, and the whole area around the village is considerably deforested. It is now impossible to reconstruct the length of the village in the Middle Ages. Cartographic sources from the 19th-20th centuries and an analysis of the present plan of the village suggest that it could have been a maximum of 2.000 m long, which places it in the category of large settlements. Twenty-seven peasants who were obliged to pay rent and could use 19 łans (*Hufen*) of land lived in the village in 1576 (*Adamska 2016, 45; Wernicke 1885*). We do not know how many smallholders (*Gärtner*) and cottagers (*Häusler*) lived in Kopaniec at that time.

Agriculture was not the only economic basis of the area where the village was located. Written sources as well as the results of archaeological research inform about nearby glassworks that functioned at least from the 14th century into the modern period (17th-18th centuries). However, they did not belong to the village but to the local landowners. We know that in 1405 Gotsche II Schoff bought a forest near Kopaniec, north of Piechowice, together with the Rosenseiffen stream and permission to have a glassmaker on his land from the family von Liebenthal (*Görlich 1866, 139; Neuling 1893, 80*). Glass production in the area is confirmed by the archaeological record, where three medieval glass-working sites were discovered in the vicinity of the village of Chromiec. Supposedly, other material acquired from local streams by panning or in other ways was exploited. Other sources, such as the Walloon Book of Wrocław, indirectly affirm this kind of activity. However, we must be critical of what is included in the records. Antonio de Medici is considered to be the author of the book and the first edition is supposed to have been released in 1456. In the next version from 1470 we find the following information: 'Ask in Jelenia Góra about the village of Piechowice, and the next one will be Kopaniec. Go up the Upper Road in the direction of Czarna Góra through a glasswork, you will reach the White Stream or White Water, where you will find gold for panning and amethysts, as many as you want' (*Rohkam 1939, 20-24*).

The modern breakthrough in the development of the village

Despite the harsh conditions, the development of the village in the Middle Ages and the early modern period must be regarded as successful. Written sources do not mention 'The Black Death' that ravaged more densely populated areas and the size of the village suggest that demographic growth was rather rapid. In this situation it was possible to distinguish, on the basis of wooded lands that belonged to Kopaniec, a new economic unit – the farmstead of Jung Seiferschau (presently Kopanina). The

farmstead's buildings were erected about 2.200 m north-east of the church in the older part of the village. Apart from the farmstead, in 1576 one peasant who paid rent lived there (*Adamska 2016, 45*). The economic success of the farmstead seems to be proved by information from the 1780s, according to which 33 smallholders and 6 cottagers lived there as well (*Zimmermann 1786, 395*).

The main change of Kopaniec in the modern period was the expansion of fields and buildings to the unfavourable higher area of the northern slopes of Kozia Góra. This happened between the end of the Thirty Years' War and the industrialisation of the nearby towns in the second half of the 19th century. The tragic war luckily left the mountain village intact – no military operations took place there and no soldiers of any of the sides were stationed there. In the case of Kopaniec, this tendency contrasts with other areas of Silesia where population decrease after the Thirty Years' War caused an excess of wastelands. The village also survived the Silesian Wars in 1740-1763 happily and without any losses. The demographic growth combined with the unprofitability of local mining resulted in a demand for arable lands.

The freshly occupied area was situated at altitudes of around 600-740 m above sea level. It reached beyond the village's axis delineated by the Kopaniecki stream. The earlier longitudinal system was not continued there. New homesteads were arranged irregularly, referring rather to the latitudinal system. The main communication route was situated at right angles to the slope and access roads leading to particular homesteads were arranged irregularly. The shapes of the particular homesteads were also irregular, probably due to the morphology of the area. Their size also varied considerably – from several to over 3 hectares. The location of a residential house within a homestead varied as well, where it was placed at one of the edges, either close to the road or in the centre.

The newly settled area had a very rocky surface. Removing the stones to create a garden required much work. They were set in prisms and walls on the plot boundaries, which were later formally confirmed by a cadastral plan. Preparing fields required the same procedures and similar amount of work. As a result of clearing the surface of stones of different sizes, walls were erected at balks. They are presently the most permanent evidence of difficult farming conditions in the newer settled part of the village and surrounding fields. With their origins and form, the walls refer to stone or dry walls known from other regions of Europe and the world, especially walls along the fields of the British Isles and Scandinavia, well-preserved and being under conservation supervision (*Collier 2013; Defining stone 2007; McAfee 1997; Marshall – Moonen 2002*), as well as those in North America (*Allport 1994; Johnson – Ouimet 2016; Thorson 2005*). When it comes to our closer neighbourhood,



Fig. 2: Kopaniec: an extra-high disposal wall in the southern part of the village (© Paweł Duma).

similar structures were recorded in the Kłodzko Valley (Latocha 2009; 2014), the southern part of the Sudetes (Spurný 2006), the Carpathians (Wolski 2007), Germany (Schreg 2016), and East Bohemia (Duchoslav 2002).

Stone walls follow the irregular shapes of the fields situated above the built-up area of Kopaniec and neighbouring villages founded in the modern period – Chromiec (German: *Ludwigsdorf*), Antoniów, and Górzyniec. The size and form of the walls probably depended on the area of the ground surface that was covered with stones. Some walls take the form of simple, not very high embankments. Others are carefully set and a few metres high (Fig. 2). In such cases, the wall faces were made of large crushed stones and filled with smaller ones. On some stones traces of crushing and drilling are visible. The width of the walls varies; they sometimes form wide prisms. Niches of various sizes are found in the walls, which could have functioned as provisional shelters or storage places during the time of different activities connected with cultivation, harvests, or animal husbandry. During the research project one of the niches was excavated (Fig. 3). Traces of fire and a small amount of pottery fragments dated to the 18th-19th centuries were discovered. It was used sporadically and its function has not been fully confirmed. Other niches vary considerably in size. The smallest ones measure 0.7 m wide and 1 m high, and could not have been human shelters. However, they had been vaulted, which means they could have been



Fig. 3: Kopaniec: example of a niche after excavation (© Paweł Duma).

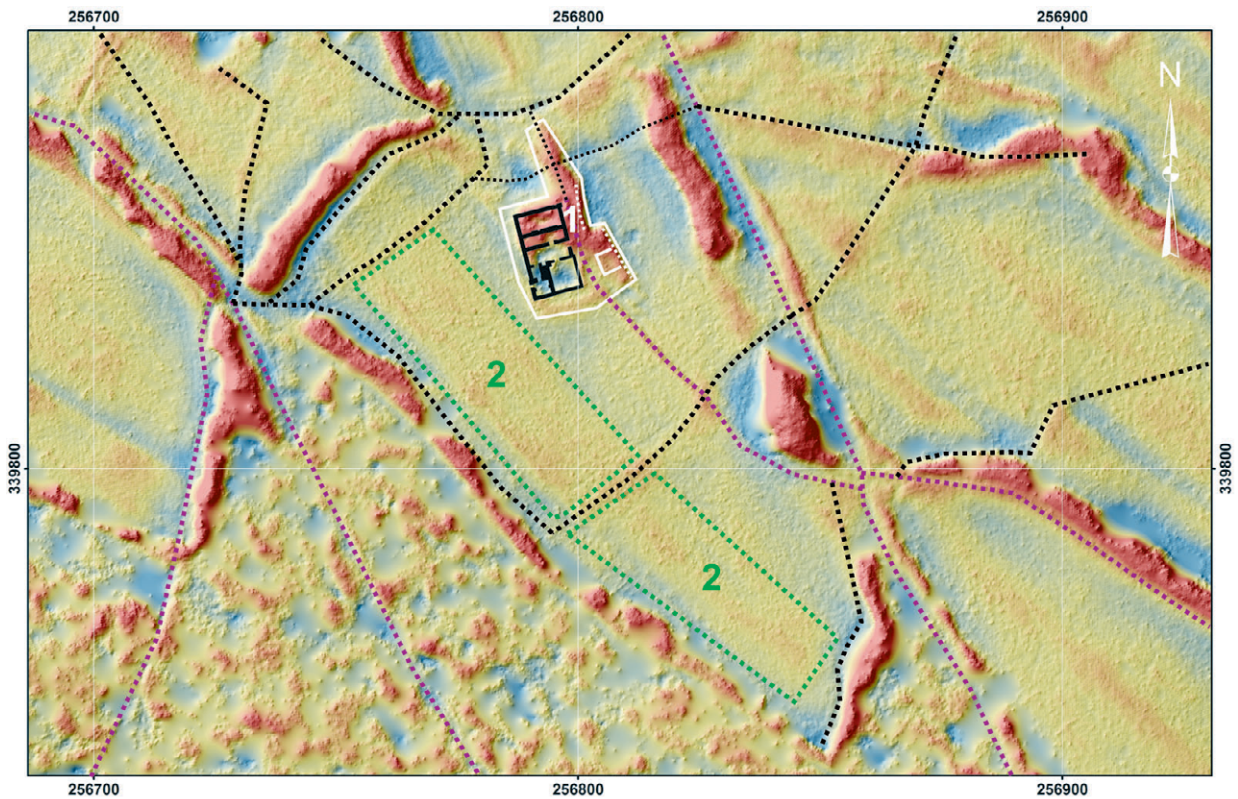


Fig. 4: Kopaniec: plan of the domestic enclosure No. 143 with numbers referred to in the text (© Anna Łuczak).

used as small storage places for wood, used for maintaining fire necessary for preparing food or warming up during field work in colder periods.

One homestead in the newer, higher part of the village of Kopaniec was excavated (Duma *et al.* 2015). Its archival number is 143, and in the 1920s-1940s it belonged to Reinhold Koptik. The surface, reconstructed on the basis of the course of border walls and the cadastral map from the mid-19th century, measures 0.93 hectares. It was probably established in the 18th century on the slope at altitudes from 675 m to 693.75 m above sea level, rising from the north-west to the south-east. The differences in altitude within the homestead equalled almost 20 m. The mountainous character of the structure is also indicated by a slope angle varying considerably between 10° and 13°, whereby the house is situated on a slope whose angle equals 10.6° – 11.6° and only the central part of the homestead in the direction of stone walls on the south-eastern side has the angle of 13°. Sunlight reaches the site directly in the morning hours (from around 3:45 until around 10:30 on the 21st of June; from around 6:00 until around 9:45 on the 23rd of September; and from around 8:15 until around 9 on the 21st of December), and for the rest of the day the sunlight is dispersed. The house is situated slightly west of the N-S axis, which suggests that the intention was to take the fullest advantage of the

insulation of the front elevation. The field prospection, analysis of the details of terrain relief acquired during airborne laser scanning (ALS/LiDAR), and the comparison with archival cartographic sources provided some interesting information about the development of the homestead, communication within the area, and its relation to the main roads (Fig. 4). High resolution of the ALS data (0.1 × 0.1 m pixel in the field) allowed for the identification of elements invisible in the field and covered with dense vegetation. In the analysis, hillshade numeric modelling and a topographic position index (TPI) were used and then compared with the results of measurements taken in the field and cartographic sources. The TPI analysis was performed in order to emphasize terrain structures visible on the shaded relief where more warm-toned shades (up to red) have a positive index and describe convex (elevated) terrain structures. The cooler-toned index (up to blue) represents concave (sunken) terrain structures. Applying the generated TPI maps to the shaded relief enabled the identification of the remains of using the homestead's interior and the neighbouring areas. The most visibly highlighted structures are stone walls enclosing and marking the homestead's boundaries. The form of the walls in terms of both length and width is highly varied. They do not form continuous lines, which suggests that they might have been built at different times.

The most massive stone wall fragments are located on the west and north, and they fence off the homestead from the road and the neighbouring plot, respectively. The walls adjacent to the forest borders to the east and south are less impressive (lower and narrower). Another distinct form is a platform that evens out the land under the house, the western part of which is visibly separated from the land below it. This western part of the evened land (the platform) was stabilised with a dry-stone retaining wall.

The forms of economic life associated with the inhabitants of the homestead are indicated by at least two small and relatively regular fields of backyard gardens situated slightly east of the house (Fig. 4, no 2), and a path leading to them, recorded during laser scanning. The interpretation of the function of this part of the homestead was based not only on the regularity of the fields, but also on still-visible (on hillshade and TPI maps) ploughing traces that ran from the north-east to the south-west. Another identified element of the homestead is the remains of paths and roads used by the inhabitants. It is still not clear how water was supplied, as no water supply constructions, sewage systems, or wells were recorded.

The ruin of the researched house is situated in the central part of the homestead (Fig. 4, no 1). The building belongs to the category of half-timbered houses (*Umgebindehaus*) that are common in the modern part of the village. Its main characteristic is combining stone construction of the lowest part, a ground floor constructed of logs, and a timber-framed upper floor (*Fachwerk*), supported by independent load-bearing posts (Loewe 1969; Nasz 1958, 372-374; Peuckert 1928; Richter 1941). The house was designed on a rectangular plan, measuring 18 × 10.5 m. Its longer side was situated slightly west of the N-S axis. The outer walls, preserved to a maximum height of 2.79 m, were built of local stone. The stone was prepared in the form of irregular crushed plates of different sizes. The largest ones measure 70 × 57 × 19 cm. They were set horizontally in irregular layers, mixed with layers of smaller stones bonded with a clay mortar. The thickness of walls varied from 52 to 65 cm. The eastern wall functioned as the front one. The entrance was identified 8.85 m from the south-east corner and 13.50 m from the north-west corner. The doorway was 1.30 m wide.

Inside the house, six rooms marked with numbers 1, 2, 2a, 3, 4, and 5 were identified (Fig. 5). The main entrance led to a 2.85 × 8.60 m entrance room (*Flur*) (room 1) the width of the whole house. The partition walls that delimited the room were 52 cm (southern wall) and 80 cm (northern wall) thick. The floor was a lime mortar screed, 2.5-3 cm thick, situated at an altitude of 681.33 m above sea level. The preserved clods of plaster suggest that the walls were painted salmon pink. In the southern wall, 2.20 m from the south-east corner, there was an entrance

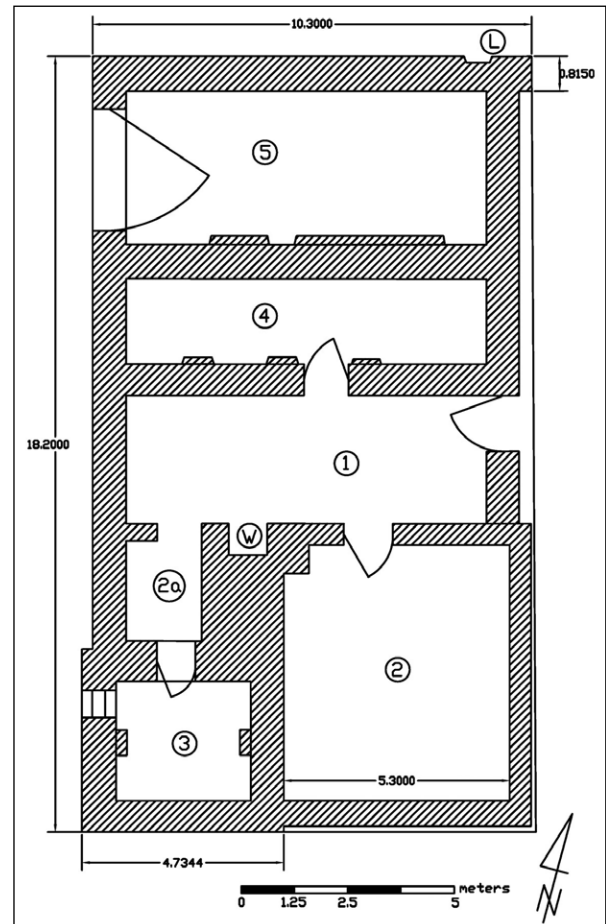


Fig. 5: Kopaniec: plan of the excavated house (© Anna Łuczak).

to the living room (*Stube*). Behind it, 5.26 m from the corner, an opening to the smokehouse connected with the centrally located chimney was recorded. The shaft of the smokehouse had the shape of a rectangle 97 cm long and 82 cm wide. It was built of poorly worked hewn stones, measuring some 106 × 17.76 × 14 cm or less. The smokehouse's bottom, lined with clay and stones, was 22 cm lower than the screed of the corridor's floor. At the time of discovery it was strongly blackened with smoke. The smoke channel was situated in the smokehouse's eastern wall and then it turned south at a right angle. Its width reached 20 cm. The smokehouse had a wooden door, and the lower moustache hinge, forged and 45 cm long, is its only relic.

The living room (room 2) was located in the south-east part of the house. The doorway that led to it from the entrance room was 1.22 m wide. The room had the shape of a rectangle which was 5.30 m (east-west) wide and 6.40 m (north-south) long. Clods of plaster discovered there bear traces of blue paint. A kind of 13-25 cm wide strip made of lime mortar screed was recorded along the walls. Similar screed was placed in the north-west

part of the chamber, near the chimney. It had the shape of a regular rectangle 2.83 m long and 2.50 m wide. Fragmented stove tiles discovered there suggest that part of it was a base of a stove.

In the western part of the corridor, 80 cm from its south-west corner, an entrance to room 2a, which was probably a black kitchen (*schwarze Küche*), was discovered. The width of the entrance was 1.08 m. The room's plan had the shape of a rectangle 1.82 m wide and 2.83 m long. Its eastern wall adjoined the demolished chimney and kitchen stove (?). In the southern wall of the kitchen (?) there was an entrance to room 3 – a side living room (*Stübchen*). The width of the entrance reached 91 cm and a stone plate with the dimensions of 33 × 56 × 33 cm formed a lintel. The room was 3.23 m long and 2.70 m wide. In the middle of the eastern and western walls symmetric pillars with the dimensions of 56 × 31 and 53 × 33 cm were placed. They probably functioned as a support for load-bearing posts. In the western wall, near the north-west corner, there was a window, 48 cm wide and slanted to the inside up to 71 cm, with a windowpane made of a stone plate and bearing traces of white-painted plaster.

In the northern wall of the entrance room corridor an entrance to the storage room (*Kammer*), marked as room 4, was identified. The width equalled 1.6 m and the thickness of the partition wall equalled 58 cm. The room spanned the width of the entire building and was approximately 8.50 m long and 2.25 m wide. Some 3.52 m from the eastern wall, at both walls in the room, half pillars measuring 63 × 27 and 60 × 20 cm in size were found, supporting the load-bearing posts. In the northern part of the house there was a byre (*Stall*) (5). The entrance was located in the western wall of the house and the dimensions were 8.5 × 3.5 m. Behind the north-east corner of the house there was a latrine whose outer dimensions were 1.80 × 1.30 m.

Inside the living room chamber was a lot of ceramic material, fragments of stove tiles from the 18th century, buttons, small glass decorations, and a matrix of a peasant seal with initials that can be dated to the 18th century. The artefacts were concentrated mainly in the south-east part of the living room chamber (room 2). Traditionally, in this place in other buildings there was a table with wall benches. The inhabitants ate most of their meals there and it was the place in which they spent their daily life. The large number of artefacts confirms this. The items that had gotten stuck under the wooden floor were not recovered.

Conclusion

The village of Kopaniec in the Iżera Mountains was founded in the second half of the 14th century as a result of colonisation, which came to this region later

due to the difficult natural conditions. Its original form, which lasted until the early modern period, was that of the typical Silesian forest village (*Waldhufendorf*) characterised by a regular linear arrangement, with fields behind homesteads. Agriculture in the area occupied by the village was supported by glassmaking and mining organised by local landowners.

The uninterrupted demographic growth in the modern period at Kopaniec drove the demand for new arable land in the 17th-18th centuries. All that remained were only extremely difficult or marginal areas located at altitudes of 600-740 m above sea level, covered with forests and very rocky. The newly founded part of the village acquired a totally different form from the existing one. The homesteads were arranged irregularly, without direct access to the fields. Preparing the land for farming purposes required much effort and resulted in the erecting of stone boundary walls. When the fields were abandoned because of industrialisation and the migration of the inhabitants to nearby towns, the walls remained a characteristic element of the ecosystem and cultural landscape. After World War II and complete population exchange in the discussed area, the process accelerated. Today, most of the fields and meadows cleared in the modern period are covered with forests. However, their structure and the use of new research techniques (including LIDAR) allow for further studies and the reconstruction of the development of the village and region as well as changes visible in the landscape.

References

- Adamska, D. 2016:*
Siedlęcin, czyli „wieś Rudigera”: Studia nad średniowiecznym osadnictwem wokół Jeleniej Góry, in: P. Nocuń (ed.), Wieża książęca w Siedlęcinie w świetle dotychczasowych badań – podsumowanie na 700-lecie budowy obiektu. Wieża Książęca w Siedlęcinie, Profil-Archeo. Pękowice, 37-73.
- Allport, S. 1994:*
Sermons in stone: The stone walls of New England and New York. New York.
- Biermann, F. 2010:*
Archäologische Studien zum Dorf der Ostsiedlungszeit: Die Wüstungen Miltendorf und Damsdorf in Brandenburg und das ländliche Siedlungswesen des 12. bis 15. Jahrhunderts in Ostmitteleuropa. Wuensdorf.
- Blažek, J. – Černá, E. – Velímský, T. 1995:*
Zur Siedlungsgeschichte der böhmischen Seite des Erzgebirges, Germania 73/2, 463-479.
- Chorowska, M. – Duma, P. – Furmanek, M. – Legut-Pintal, M. – Luczak, A. – Piekalski, J. 2018:*
Wleń/Lähn District in the Sudetes Foothills, Poland:

- A case study of cultural landscape evolution of an East Central European settlement microregion from the tenth to the eighteenth centuries, *International Journal of Historical Archaeology*, DOI 10.1007/s10761-016-0351-8 #.
- Collier, M. 2013:*
Field boundary stone walls as exemplars of 'novel' ecosystems, *Landscape Research*, 38(1), 141-150, <http://dx.doi.org/10.1080/01426397.2012.682567>.
- Defining stone 2007:*
Defining stone walls of historic and landscape importance, final report produced for Defra and partners by land use consultants with AC archaeology, April 2007. (available online: <https://www.yumpu.com/en/document/view/32869485/30-01-2019>).
- Denecke, D. 1992:*
Siedlungsentwicklung und wirtschaftliche Erschließung der hohen Mittelgebirge in Deutschland: Ein historisch-geographischer Forschungsüberblick, *Siedlungsforschung. Archäologie – Geschichte – Geographie* 10, 9-47.
- Duchoslav, M. 2002:*
Flora and vegetation of stony walls in East Bohemia (Czech Republic), *Preslia* 74, 1-25.
- Duma, P. – Łuczak, A. – Piekalski, J. 2015:*
Kopaniec w Górach Izerskich. Przykład adaptacji wsi do skrajnych warunków środowiska naturalnego w okresie nowożytnym, *Śląskie Sprawozdania Archeologiczne* 57, 229-248.
- Duma, P. – Łuczak, A. – Piekalski, J. 2017:*
Kopaniec w Górach Izerskich. Kamienne wały graniczne, in: Nocuń, P. (ed.), „Wieś zaginiona. Wieś minioną, lecz obecną” vol. 2. Chorzów (in press).
- Görlich, F.X. 1864:*
Das Benediktiner-Jungfrauenkloster Liebenthal an der lausitz-böhmischen Grenze in Niederschlesien. Breslau.
- Hartmanová, O. 2005:*
Budní hospodářství v Krkonoších z pohledu archeologie, *Památky Archeologické* 96, 165-204.
- Johnson, K.M. – Ouimet, W.B. 2016:*
Physical properties and spatial controls of stone walls in the north-eastern USA: Implications for Anthropocene studies of 17th to early 20th century agriculture, *Anthropocene* 15, 22-36.
- Jungnitz, J. 1898:*
Beiträge zur mittelalterlichen Statistik des Bisthums Breslau, *Zeitschrift Vereins für Geschichte und Altertum Schlesiens* 33, 401.
- Kenzler, H. 2009:*
The medieval settlement of the Ore Mountains: The development of the settlement structure, in: Klápšte, J. – Sommer, P. (eds), *Medieval Rural Settlement in Marginal Landscapes. Rurality VII*. Turnhout, 379-392.
- Klír, T. 2008:*
Osídlení zemědělsky marginálních půd v mladším středověku a raném novověku - Besiedlung und landwirtschaftliche Nutzung marginaler Böden im späten Mittelalter und der frühen Neuzeit - The settlements and agriculture of the margins in the Later Middle Age and Early Modern Age. *Dissertationes Archaeologicae Brunenses/Pragensesque* 5. Praha.
- Latocha, A. 2009:*
The geomorphological map as a tool for assessing human impact on landforms, *Journal of Maps*, 5:1, 103-107.
- Latocha, A. 2014:*
Geomorphic connectivity within abandoned small catchments (Stołowe Mts, SW Poland), *Geomorphology* 212, 4-15.
- Liebich, C. 1961:*
Werden und Wachsen von Petersdorf im Riesengebirge. Quellen und Darstellungen zur schlesischen Geschichte 6. Würzburg.
- Loewe, L. 1969*
Schlesische Holzbauten. Düsseldorf.
- Marshall, E.J.P. – Moonen, A.C. 2002:*
Field margins in northern Europe: their functions and interactions with agriculture, *Agriculture, Ecosystems and Environment* 89/ 2002, 5-21.
- McAfee, P. 1997:*
Irish stone walls: history, building, conservation. Dublin.
- Meyer, W. 1990:*
Siedlungsprozesse in der Schweizer Alpen vom Hochmittelalter bis in die frühe Neuzeit: Mit besonderer Berücksichtigung der archäologischen Wüstungsforschung, *Siedlungsforschung. Archäologie – Geschichte – Geographie* 8, 159-164.
- Meyer, W. 2002:*
Siedlungsfeindlichkeit und Randstaendigkeit des Alpenraums im Mittelalter, in: Helmig, G. – Scholkmann, B. – Untermann, M. (eds), *Centre – Region – Periphery. Medieval Europe* 3. Basel, 25-31.
- Nasz, A. 1958:*
Wpływ śląsko-łużyckiej rubieży leśnej na dynamikę procesów etnograficznych, *Śląski Kwartalnik Historyczny Sobótka* 13:3, 365-408.
- Neuling, H. 1893:*
Zur Ortskunde des Hirschberger Kreises, *Der Wanderer im Riesengebirge* 128, 78-81.
- Peuckert, W. 1928*
Schlesische Volkskunde. Leipzig.

Regesty Śląskie 1975:

Regesty Śląskie 1: 1343-1348, Bobowski, K. et al. (eds). Ossolineum. Wrocław.

Richter, H. 1941:

Formen und Entstehung des Umgebendes, Schlesische Blätter für Volkskunde 2, 70-84.

Robkam, H. 1939:

Vom Glassmacherdorf zum heilklimatischen Kurort. Breslau.

Schlenger, H. 1930:

Formen ländlicher Siedlungen in Schlesien. Breslau.

Schreg, R. 2016:

Mittelalterliche Feldstrukturen in deutschen Mittelgebirgslanschaften: Forschungsfragen, Methoden und Herausforderungen für Archäologie und Geographie, in: Klápšte, J. (ed.), Agrarian technology in the medieval landscape. Rurality X. Turnhout, 351-370.

Schmaedecke, M. 2009:

Die mittelalterliche Besiedlung marginaler Regionen auf dem Gebiet der heutigen Schweiz und ihre Erforschung, in: Klápšte, J. – Sommer, P. (eds), Medieval Rural Settlement in Marginal Landscapes.

Rurality VII. Turnhout, 273-289.

Spurný, M. (ed.) 2006:

Proměny sudetské krajiny. Antikomplex.

Staffa, M. (ed.) 1989:

Słownik geografii turystycznej Sudetów 1, Góry Izerskie. Warszawa/Kraków.

Szczegółowa Mapa Geologiczna Sudetów 1:25 000, arkusze Piechowice i Rozdroże Izerskie.

Szymańska, D. 2013:

Geografia Osadnictwa. Warszawa.

Thorson, R.M. 2005:

Exploring stone walls: A field guide to stone walls. New York.

Wernicke, E. 1885:

Das Hirschberger Weichbild: Nach einem Urkundebuche vom Jahre 1576, Der Wanderer im Riesengebirge 37.

Wolski, J. 2007:

Przekształcenia krajobrazu wiejskiego Bieszczadów Wysokich w ciągu ostatnich 150 lat, Prace Geograficzne 214. Warszawa.

Zimmermann, F.A. 1786:

Beiträge zur Beschreibung von Schlesien 6. Brieg.

Socio-economic mobility and property transmission among peasants

The Cheb Region (Czech Republic) in the Late Middle Ages

Tomáš Klír*

Abstract

The paper explains the character of the stratification, socio-economic mobility, and property transmission among peasants in the Late Middle Ages. The case study is the Cheb district, for which a unique fiscal source has been preserved. In accordance with the methodological approaches of early modern agrarian history, we test several main interpretational models: differentiation, cyclic, and the model of uneven reproduction. For the period 1438-1456, we analyse (1) the dynamics of inequality among peasants; (2) the level of continuity of holders and families on farmsteads (the so-called replacement rate); (3) the relationship between monetary value and relative and absolute property mobility within the life cycle of the family; and (4) the same relationship for intergenerational transmission of property. In the analysis, we take into account the different geographic conditions of the settlements and also catastrophic events. The sample included 504 farmsteads. We show that (i) the stratification of the peasantry did not change dramatically; (ii) wealthy families relatively frequently continued to live on the same farmsteads, whereas the poor more often left their original farmsteads or died out in the male line; and (iii) the property position of the wealthy families remained relatively stable and their large landed property could be divided among more offspring. This finding corresponds best with the model of uneven reproduction. The model emphasises the different reproduction possibilities and socio-economic mobility of the rich and poor families, and also the differences between the individual children of the wealthy. It also links the social and geographic mobility of the peasantry together.

* Department of Archaeology,
Faculty of Arts, Charles University
Náměstí Jana Palacha 2,
116 38 Praha 1,
Czech Republic
tomas.klir@ff.cuni.cz

Key-words: *Agrarian history, historical demography, peasants, Late Middle Ages, Bohemia, Bavaria, transmission of wealth, stratification, socio-economic mobility.*

Résumé

Mobilité socio-économique et la transmission des propriétés au sein des communautés paysannes: région de la ville de Cheb (Rép. Tchèque) au M.-A. tardif

Cette étude explique la nature de la stratification socio-économique et de la mobilité des biens parmi les paysans au Moyen-Âge tardif. La région choisie en tant qu'exemple est celle des alentours de la ville de Cheb (Bohême occidentale). Pour cette région nous disposons des archives fiscales extraordinaires. Suivant les approches méthodologiques de l'histoire agraire nous testons les principales modèles d'interprétation actuellement utilisés pour l'époque moderne: le modèle différentiel, le modèle cyclique et le modèle de la reproduction inégale. Pour la période 1438-1456 nous étudions (1) le dynamisme des inégalités parmi les paysans, (2) le degré de continuité de la présence des fermiers et de leurs familles aux mêmes fermes (replacement rate), (3) la relation entre la valeur financière de la propriété et la mobilité des biens immeubles dans le cadre du cycle vital de la famille, (4) la même relation quant aux transmissions intergénérationnelles des biens matérielles. Notre analyse comprenant 504 fermes, prend en compte les conditions géographiques différentes des sites et aussi les événements catastrophiques. Les résultats montrent que (i) la stratification sociale de la paysannerie ne changea que peu, que (ii) les familles aisées se reproduisaient généralement en continue sur les mêmes fermes, contrairement aux familles indigentes souvent obligées de quitter leurs fermes d'origine ou qui disparaissaient; que (iii) la situation sociale des familles aisées se montre relativement stable car leurs terres suffisamment étendues permettaient la répartition à plusieurs descendants. Cette constatation correspond au mieux au modèle de la reproduction inégale qui accentue d'une part les différences du potentiel de reproduction et de la mobilité socio-économique entre familles riches et pauvres, d'autre part les différences au sein de la progéniture des familles riches. En plus, ce modèle met en relation les mobilités sociale et géographique de la paysannerie.

Mots-clés : *Histoire agraire; démographie historique; paysannerie, Moyen-Âge tardif, Bohême, Bavière, transmission des propriétés, stratification, mobilité socio-économique.*

1. Introduction

One of the crucial moments of stability and change in the medieval rural milieu was the nature of stratification and intergenerational property mobility of the peasantry (cf.

Zusammenfassung

Sozioökonomische Mobilität und Besitzübertragung bei Bauern: Das Egerland (Tschechische Republik) im Spätmittelalter

Die Studie bewertet die sozioökonomische Stratifizierung und Eigentumsübertragung bei den Bauern im späten Mittelalter. Als Beispielregion dient das Egerland, für dessen Gebiete sich einzigartige fiskalische Quellen erhalten haben. Im Übereinstimmung mit den methodologischen Ansätzen der frühneuzeitlichen Agrargeschichte testen wir einige wesentliche Interpretationsmodelle – das differenzierende, das zyklische und das Modell der ungleichmäßigen Reproduktion. Für die Zeitperiode 1438 – 1456 untersuchen wir (1) die Dynamik der Ungleichheiten unter den Bauern, (2) das Maß der Kontinuität der Eigentümer und der Familien auf den Gütern (sog. replacement rate), (3) die Beziehung zwischen dem Geldwert vom Besitz und der relativen und absoluten Eigentumsmobilität im Rahmen des Lebenszyklus einer Familie, (4) und dieselbe Beziehung bei der Übertragung des materiellen Besitzes zwischen den Generationen. Bei der Analyse berücksichtigen wir die unterschiedlichen geografischen Bedingungen der Siedlungen und auch die Katastrophenereignisse. In die Studie werden 504 Gehöfte einbezogen. Wir zeigen, dass (i) die Stratifizierung der Bauernschaft sich nicht sehr veränderte; (ii) die wohlhabenden Familien sich verhältnismäßig kontinuierlich auf den immer gleichen Gütern reproduzierten, die armen Familien im Gegenteil die ursprünglichen Güter öfter verkauften; (iii) die Besitzlage der reichen Familien verhältnismäßig stabil blieb und ihr großer Landbesitz unter mehrere Nachkommen verteilt werden konnte. Diese Feststellung entspricht am besten dem Modell der ungleichmäßigen Reproduktion. Dieses Modell hebt die unterschiedlichen Reproduktionsmöglichkeiten und sozioökonomische Mobilität der reichen und der armen Familien und zugleich die Unterschiede unter den einzelnen Nachkommen der Reichen hervor. Es verbindet auch die soziale und geografische Mobilität der Bauernschaft untereinander.

Schlagwörter: *Agrargeschichte; historische Demographie; Bauernschaft; Spätmittelalter; Böhmen; Bayern; Besitztransfer; Stratifizierung; sozioökonomische Mobilität.*

Shenk et al. 2010). Deeper knowledge of these is an extremely important challenge even for historical archaeology, because it is possible to explain the physical form of the villages, their internal structure, and the surprising degree of stability, which

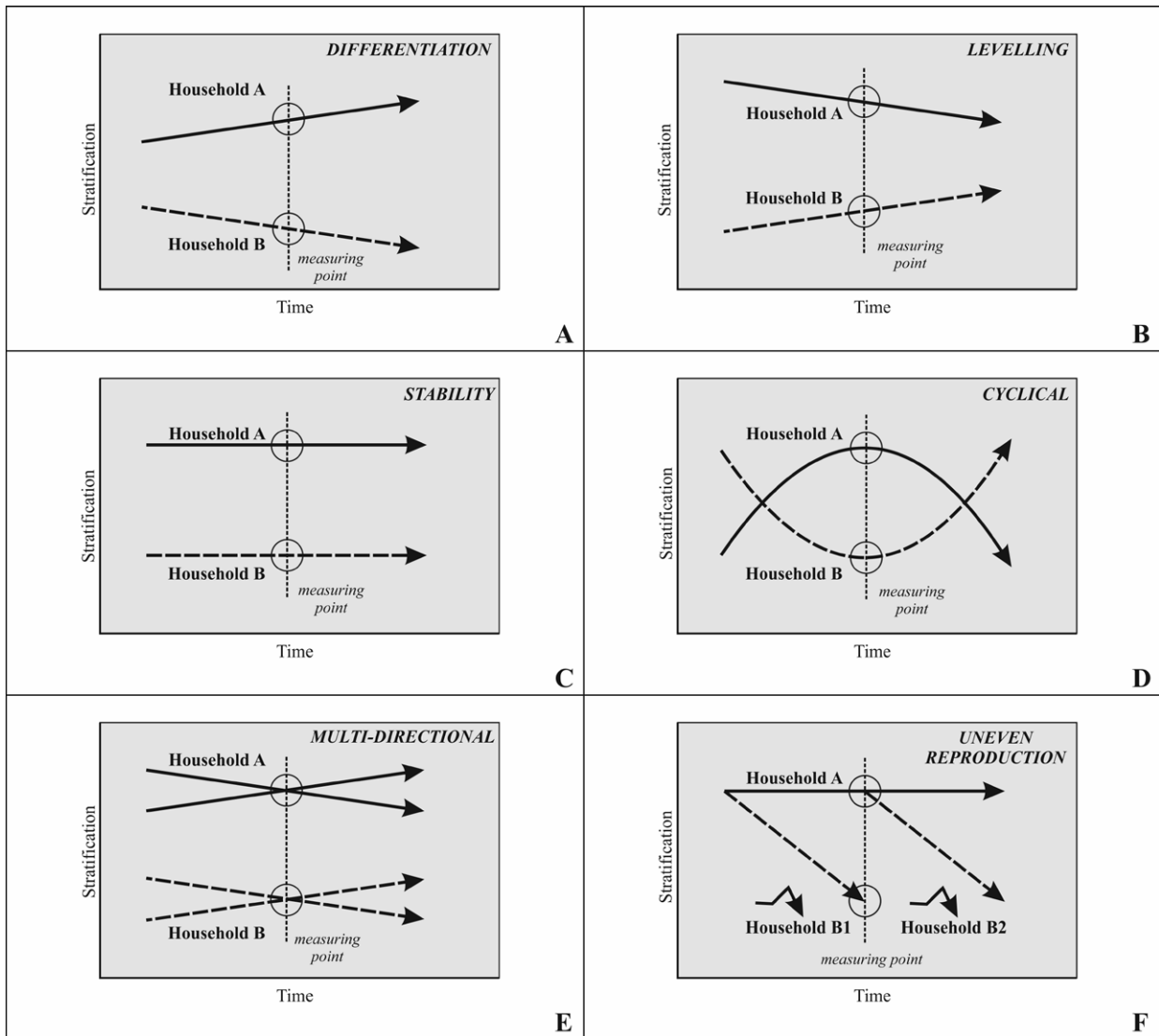


Fig. 1: Socioeconomic mobility among peasants. The main model variants: the graphs show how different processes could hide behind the same form of stratification. The positions of households A and B are always the same at the measured point, but their past and future is always different (© after Jonas Lindström 2009, Figs 1.3.-1.5, 4.8, 7.1. Complemented by a levelling and multidirectional model © after Theodor Shanin 1990a, 218, Fig. 14.1).

in large parts of Europe is observed from the High Middle Ages to the later Modern Period. Nevertheless, transalpine medieval studies have lacked a deeper and empirically based explanation of why such a level of stability and continuity was possible at all in the long term (cf. *Alfonso. 2007; Carrocci 2011*). This study is based on an analysis of a unique resource, which are the late medieval fiscal sources preserved for the Cheb district – a region on the borders of today’s Bohemia, Bavaria, and Saxony.

2. Explanatory models

It is necessary to see beyond the extraordinary continuity of the material form and the internal

structure of rural settlements to the specific methods of reproduction and transmission of wealth, which have led to the fact that the stratification of peasant communities did not change much over a long period of time. Peasant studies and agrarian history offer several principally different models, which show how the different processes could be hidden behind the same degree of inequality of the peasant communities (e.g. *Shanin 1990a; 1990b; Hatcher – Bailey 2001, 66-120*). At the core of all these models is a general idea of stratification as an immediate reflection of a never-ending process of the exchange and renewal of economic resources (Tab. 1; *Lindström 2009, 94-96*). The individual explanatory models differ concerning

Model, its origin, and relevance*	Characteristics of the model
The Differentiation model - Marxist-Leninist - developed capitalist relations (e.g. Shanin 1990a; 1990b; Aston – Philpin eds 1985; Byres 2006; Ellis 2003, 45-60, 65-81)	Reproduction** - wealthy households: expanded reproduction; - poor households: imperfect reproduction. Surplus - wealthy households invest their surplus in the cumulation of economic resources and expand at the expense of the poor. Development trajectory - the rich produce rich and the poor produce poor; - the stratification of peasant communities deepens over time, as the holders of wealthy farmsteads accumulate ever more resources, whereas the holders of poor farmsteads form the landless.
The Cycle model - Russian agrarian economists and statisticians; - the collapse of feudal relations and shift to capitalism (e.g. Thorner – Kerblay – Smith eds 1986; Shanin 1990a; 1990b; Ellis 2003, 105-122)	Reproduction - all households: simple reproduction, hence assurance of subsistence and almost perfect exploitation of the surplus by feudal rent. Surplus - peasant households without more significant disposable surplus. Development trajectory - subsistence demands, work capacity, and the amount of production means changes depend on the demographic cycle of the households; - the trajectory of socio-economic mobility is similar with all families, only shifted in phase.
The model of uneven reproduction - historical demography and agrarian history - England 14th-15th centuries - substantial part of early modern transalpine Europe and Scandinavia (e.g. Razi 1980, 87-97; Lindström 2009, 130-134, 168-172, 203-207)	- wealthy households: extended reproduction and disposable surplus; - poor households: imperfect reproduction; - uneven condition of reproduction not only between the wealthy and poor peasants, but also among the offspring of the rich; Surplus - wealthy households do not accumulate surplus with the aim of a further increase of production and maximalisation of profit, but in the endeavour to assure the existence of itself and its offspring; - the core of a wealthy farmstead shifts into the hands of the main heir, but other offspring, thanks to parental and sibling support, purchase poorer farmsteads. Large properties are divided. Development trajectory - with wealthy peasant there is a greater likelihood that their offspring remain on the original parental farmsteads or acquire another, although it may be poorer; - some of the offspring of the wealthy peasants maintain their social position, while others on the contrary are worse off than their parents; - the level of the stratification of the landed peasants does not change, the inequality among farmsteads remains the same, and wealthy farmsteads are often transferred to one of the offspring, while the siblings and their offspring await a social descent; - a characteristic feature of the model of uneven reproduction is the connection of the study of socio-economic and geographical mobility.

* – the table does not present (i) the Levelling model, because that was usually a temporary result of modern agrarian reforms or the collapse of market relations, (ii) the Null model, which has not been shown to exist in reality, and (iii) the Multidirectional model, which emphasizes the random nature of property mobility.

** – Peasant households annually renew the means of production and human labour force (subsistence) and also create surplus, drawn off by the feudal rent. Simple reproduction means that into the renewal of resources the same is constantly inputted, the subsistence level does not change, and the overall level remains constant. In extended reproduction, part of the surplus is put back into production, and the subsistence level and overall production rises. In imperfect reproduction, every year even less is returned into subsistence, and the level of overall production therefore drops.

Tab. 1: The main models explaining stratification and property mobility among peasants against the background of the system of reproduction. Cf. Fig. 1. (© Tomáš Klír).

(1) whether peasant households were identical or differed in the method of reproduction, (2) what way they utilized disposable surplus, if they had any at all, and (3) the direction of the further development of property inequalities (Fig. 1).

The purpose of this study is to test the validity of the major explanatory models for the late medieval peasantry in one of the few transalpine regions for which we have convenient sources available. We will follow both the property change within the cycle of one and the same family and intergenerational mobility. Methodologically, we draw on the inspirational analytical methods of early modern agrarian history (summarised by Lindström 2009).

3. Study area and written sources

For the period being considered, the Cheb district (Egerland) had the status of an imperial lien to the king of Bohemia (1322), later the Crown of Bohemia (1348), and its territory was already geographically stabilized (after 1413/1417). Territorial power was in fact exercised by the town council in Cheb (*Eger*), which was materialised particularly in the annual collection of the land tax and organisation of the land-military ready force. In this regard, the Cheb district had many features that linked it with the so-called imperial states (Klír et al. 2016, 10-59).

In the Late Middle Ages, with approximately 5,000 citizens Cheb was among the most populous towns within the lands of the Bohemian Crown. The

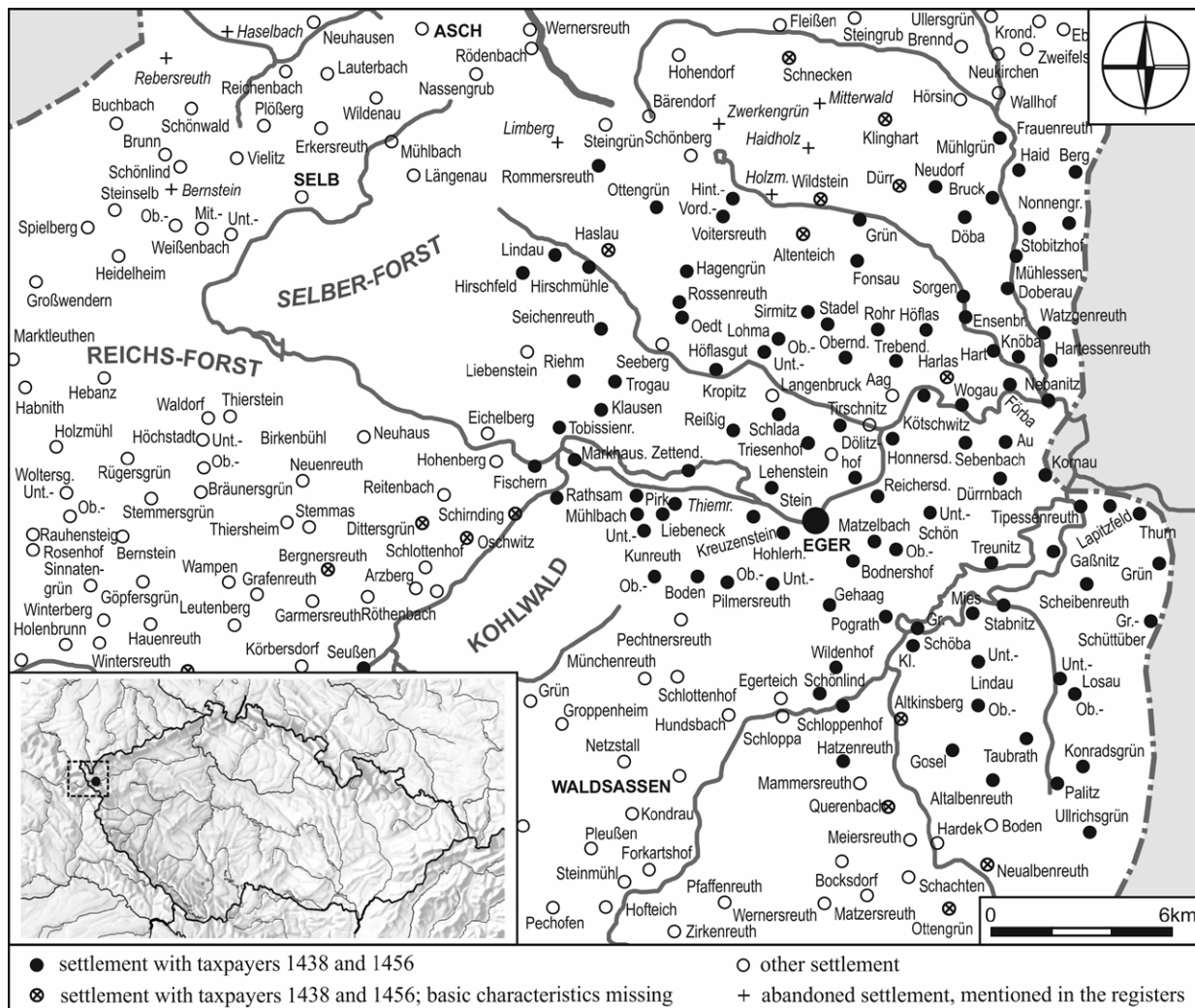


Fig. 2: The historical Cheb district as the northern part of the bishopric of Regensburg, with localities described in detail in the land tax register from 1438 and the property taxation book from 1456, i.e. allowing the analysis of property mobility. The forms of settlement names, situated today in Bohemia, are according to the state before 1918 (© after Tomáš Klír et al. 2016, Fig. 57).

imperial lien territory included all of the Cheb Basin (400-500/530 m.a.s.l.) and for the most part also the upland areas that surround it (500-650 m.a.s.l.). The individual villages were situated in significantly different geographical zones; however, diverse variations of the three-field fallow system were implemented everywhere. In terms of the number of farmsteads in the Cheb district, hamlets and small villages dominated. Small settlements with not more than 10 farmsteads comprised approximately 70% of all the Cheb settlements for all of the 15th century. Medium-large and large villages with more than 15 farmsteads had a 6-10% share of the total number.

The king of Bohemia collected a special land tax called the hoof tax (a livestock tax, *Klosteuer*) in the district. At the end of the 14th century, the collection of

the tax was still fully in the hands of the town council, which continued to collect it annually after 1403. The independent land fiscal system long remained one of the distinctive marks of original Cheb autonomy, which ended with integration into Bohemia in the 18th century (Klír et al. 2016, 124-177).

The land tax was paid from all of the peasant immovable and moveable property in the territory controlled by the lien holder and the Cheb town council. In the 15th century, the land tax was paid from approximately 130 settlements with a territory of almost 400 km² (Fig. 2). The land tax registers and accompanying books have been preserved from 1392 on fragmentarily, and from 1441-1757 for each year with a few exceptions.

For our analysis, we have used the land tax register from 1438 and the property taxation book from 1456, because

they contain the basic characteristics and the assessment of every farmstead liable to being taxed. Its legal status is given, as is the value of the taxed livestock – horses, cattle and sheep. Some taxpayers held other taxed items – partial non-estate fields, meadows, and parts of forests, etc. (*Klír et al. 2016*, 85-118). We further excerpted from the annually kept ordinary registers (1441-1456) to be able to connect the farmstead and the family registered for 1438 and 1456.

4. Institutional framework

Cheb rural settlement in the 15th century was characterised by a set of individual ‘subject’ and ‘purchased’ farmsteads: peasants held them in hereditary tenure from a landlord (*Kaufrecht*; cf. *Cerman 2008*, 59). Freeholdings were present in the Cheb district as well (ca. 5%); however, we are not addressing them in this paper.

With regard to ‘subject’ farmsteads, the tenants had relatively extensive disposition and inheritance rights. They could freely sell the farmstead, exchange it, or transfer it to their children and relatives; and in case of death the farmstead passed to their heirs by inheritance. The ‘subject’ farmstead was understood as an integral whole comprised of buildings and land, to which certain rights and obligations were tied. The opportunity to alienate parts that comprised it was limited (*Klír et al. 2016*, 157-162). Regarding the relationship to the landlord, hereditary tenant obligations in the late medieval Cheb district usually took the form of annual rent in grain and cash; *corvées* are not documented, with one exception.

Besides the set of plots, comprising an integral part of the ‘subject’ farmstead, there was a special category of partial ‘non-estate’ land properties abundant in the Cheb district, hence individual fields and meadows, which could have various legal statuses. What is important is that whether they were rental, beneficiary, or free, their holders could freely dispose of them. The partial non-estate properties were not tied to a specific farmstead and frequently passed through the market.

In terms of the organisation of the property relationships of the Cheb district peasantry, the elementary unit was the *family property community* (hereinafter FCP), which was formed on the basis of family relations and was usually comprised of the husband and wife and their children (e.g. *Procházka 1963*, 365-494; *Cerman 2008*, 58-64). At the head of the FCP was the holder, typically the father of the family. The FCP encompassed all of the property of the closer family – the farmstead with equipment, including the domestic animals, partial non-estate land properties, and marginally also other valuable items. The duration of the property community was temporary and ended either with the maturity of the children and the departure of the peasant farmer due to retirement or death. In both

cases, the property passed to the remaining members of the community, namely in the form of ideal shares. The farmstead was usually transferred as a physically indelible whole to only one of the heirs. The remaining members of the community would receive an ideal share of its value – they were typically put off with a monetary sum, cattle, or partial non-estate land properties. Male offspring were preferred over daughters and widows.

5. Character of the data

The Cheb land tax was progressive and set as a share of the total monetary value of the peasant’s property. The amount of the annual tax fluctuated, most often being around 1.5-2.0% of the total value of the property (*Klír et al. 2016*, 175-177). The value of the property and its component items was not set by any tax commission, but was declared by the holder himself. Possible manipulation was limited by the fact that the monetary value was not set primarily for tax purposes, but arose from the estimated prices set within inheritance practice, or the prices for which the property items could be sold by the peasants. For these reasons, the peasant community as a whole had an interest in the monetary values corresponding to actual prices. The testimony of the Cheb tax books would be comparable in many respects to the statement of later village land-transfer registers, although the latter was a fundamentally different institutional instrument.

The individual FCP usually had its taxed property divided into the farmstead (to be precise: the ‘purchased’ right to the farmstead – *Kaufrecht*), horses, cattle, and sheep, and sometimes other valuable items were added. Overall, the value of all of the ‘subject’ farmsteads in the Cheb district had approximately the same value as all of the taxed livestock. To add a ‘subject’ farmstead to your holdings was thus approximately just as demanding as to equip it with the necessary draught power and cattle.

6. Research method

Analysed sample and phenomena

The subjects of our analysis are (1) *family property communities* (FCPs), and (2) *genetically related family property communities* (hereafter only GFCPs – the situation when the head of the FCP following the father was his offspring, most frequently a son or a son-in-law). In the first case, we will follow the property mobility within the lifecycle of a single FCP, and in the second intergenerational property mobility. We will analyse only FCPs, which held ‘subject’, not free, farmsteads.

For the study of property mobility, early modern historical demography and agrarian history utilized the so-called method of family reconstitution. That is not

Analysed set of FCPs		Farmsteads identified in both 1438 and 1456	FCPs persisting on the same farmstead	Genetically related FCPs (GFCPs) on the same farmstead
1438	833	504	226	55
1456	699			

Tab. 2: Statistical synopsis of the analysed data. FCP: family community of property; GFCP: genetically related FCP on the same farmstead (© Tomáš Klír).

possible for the Cheb district in our selected interval of 1438-1456. We can only follow the degree of continuity and stability of FCPs on those farmsteads that we have been able to identify in the register from 1438 and in the property taxation book of 1456 (504 cases; Tab. 2). It is possible to determine on which farmsteads the same FCPs remained the entire time or disappeared but an FCP continued on it.

We can analyse property mobility within a lifecycle only for those FCPs that did not disappear in the observed period 1438-1456 and also remained on the same farmstead (226 cases). We can further analyse the intergenerational mobility of those GFCPs that also remained on the same farmsteads (55 cases).

Geographical zones

A static evaluation of the property position of all FCPs in 1438 and 1456 in the Cheb district showed the dissimilarity between the main geographic zones. In the zones advantageous for agriculture and market production, there were more frequently extremely rich FCPs than in disadvantageous zones. The dissimilarity in the absolute extent of the wealth between the farmsteads in the main geographic zones means that the Cheb peasantry cannot be analysed as a whole, but must be considered separately in each zone. Were we to judge the Cheb district uniformly, the arrangement of the FCPs by wealth would respect the geographic zoning to a great extent.

Our results could be skewed by the fact that some rural settlements were, in the observed period, plundered or burned down during local war conflicts (Klír 2017). The FCPs with downwards mobility could thus correlate with the plundered farmsteads, and the FCPs with ascending mobility with those not plundered. We therefore included a catastrophe factor in the analysis.

Statistical methods

The degree of inequality in the distribution of economic resources among the members of a certain population can be expressed and simplified in multiple ways. In our study, we have used the most common method: depiction using the Lorenz curve and expression using the Gini coefficient.

The study of the socioeconomic mobility of peasant populations utilises diverse statistical approaches and methods (cf. Shenk et al. 2010; Burgerhoff Mulder et al. 2009; McGuire – McC. Netting 1982, 281-282). In this study, we have used only the simplest ones:

The oldest method is to sort the peasant families according to the amount of wealth, then divide them into subgroups to see if one and the same family remains in the same group or changes its position (e.g. Shanin 1990b, 234-242). The groups can be set reflecting certain values of wealth or the whole population can be divided equally into quantiles (e.g. Lindström 2009, 167-168). We use the second method.

It is possible to proceed graphically and depict with points the property position of each peasant family in two different time segments. The two-dimensional graph can work from the common linear or the logarithmic scale. In the graph, the diagonal of stability is usually construed (e.g. Attwood 1979, 502-503). The advantage of a graphic depiction is its completeness; its disadvantage is less clarity.

7. Results and interpretation

I. Dynamics of stratification

The first question is to what degree the stratification of the Cheb peasantry changed in the study period. Did it remain stable or did the property inequality deepen or become levelled? We analysed inequality separately for (1) the total value of the property, (2) the value of the 'purchased' right to the farmstead (hereafter only the value of the farmstead), and (3) the total value of the horses, cattle, and sheep.

In all of the zones, the Gini coefficient reached medium-high values (0.43-0.50; Tab. 3). We find the highest level of inequality in the value of farmsteads, the lowest in the value of the hooved livestock. If we wanted to answer the initial question and determine the general developmental tendency in 1438-1456, then there was a slight levelling in the distribution of the value of farmsteads, with the livestock remaining stable or again there being slight levelling, with the non-farmstead land property experiencing a slight levelling and differentiation. However, the difference was not too dramatic even in one case, and so stratification can be considered stable (Fig. 3).

II. Family substitution

We then ask to what extent the individual property categories of FCPs differed by the degree of successful family change on one and the same 'subject' farmstead.

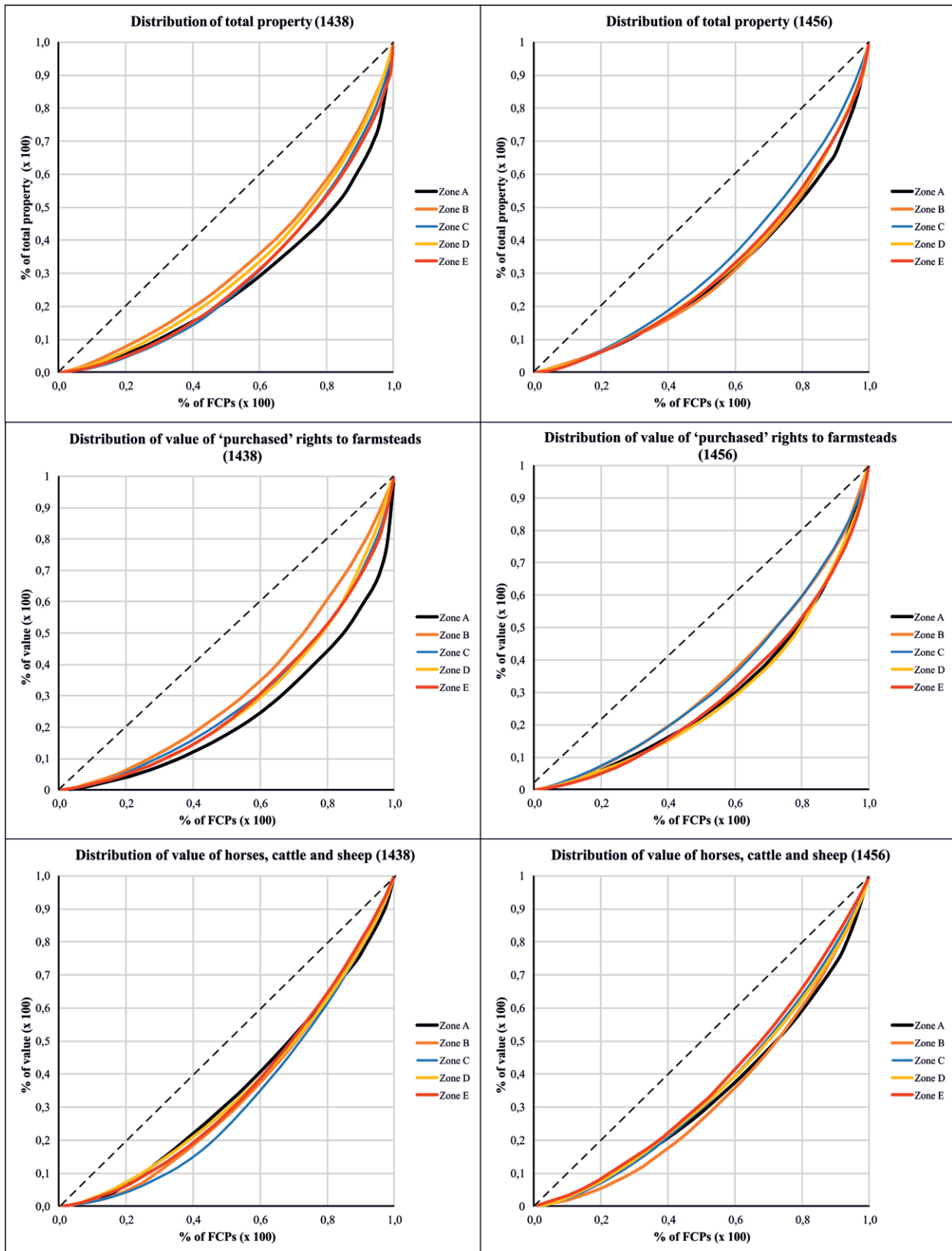


Fig. 3: Distribution of material wealth in the late medieval Cheb district in 1438 and 1456, expressed by the Lorenz curve. The main trend was one of stability to slight levelling. For the relevant Gini coefficients, cf. Tab. 3 (© Tomáš Klír).

Gini coefficient	Total value (455)*		Value of the farmstead** (442)*		Hooved livestock (424)*	
	1438	1456	1438	1456	1438	1456
A	0.47	0.46	0.50	0.48	0.44	0.44
B	0.44	0.47	0.47	0.45	0.47	0.47
C	0.48	0.45	0.46	0.44	0.48	0.43
D	0.46	0.47	0.49	0.48	0.45	0.44
E	0.48	0.47	0.49	0.48	0.46	0.43

Tab. 3: Level of inequality in the distribution of material wealth in the Cheb district in 1438 and 1456, expressed by the Gini coefficient. For the relevant Lorenz curves, cf. Fig. 3 (© Tomáš Klír). * = number of analysed FCPs in 1438 and 1456. The number is less than 504, because the given data was not always available. ** = 'purchased' rights to the farmsteads (Kaufrecht). Red: levelling; black bold: differentiation; black normal: stability.

Wealth quintile 1438	Total property (%)	Farmstead (Kaufrecht) (%)	Hooved livestock (%)
I	32.6	32.6	35.7
II	34.8	42.0	44.0
III	48.9	40.4	40.0
IV	51.6	43.8	48.8
V	44.1	52.9	44.0

Tab. 4: The share of the FCPs that persisted on the same farmsteads in 1438 and 1456, on the total number of analysed FCPs, according to the quintiles (1438) set, based on the total monetary values of the property, the 'subject' farmstead and the horses, cattle, and sheep. Weighted average of the geographical zones. Cf. also Tab. 6a-c (© Tomáš Klír).

Wealth quintile 1438	Total property (%)	Farmstead (Kaufrecht) (%)	Hooved livestock (%)
I	12.9	8.3	20.4
II	10.0	21.6	17.0
III	34.0	22.6	17.6
IV	31.1	28.0	38.6
V	38.5	39.0	34.0

Tab. 5: Share of the GFCPs (1456) in the total amount of all of the perished FCPs, according to the wealth quintiles (1438) set, based on the total monetary value of the property, 'purchased' rights to the farmstead, and the horses, cattle, and sheep. Weighted average of the geographic zones. Cf. also Tab. 7a-c (© Tomáš Klír).

Historical demographics speak of a so-called replacement rate, which expresses the ration of the transfers of farmsteads within the family and outside of it. If the model of uneven reproduction applied, then we would first, expect a higher replacement rate with wealthier farmsteads, and second, a greater share of the farmsteads being associated with the same holder between 1438 and 1456. The hereditary tenant on the wealthier farmsteads survived, did not leave them

prematurely, and more often transferred them to one of the male offspring or a son-in-law.

We sorted the analysed FCPs for 1438 and 1456 in ascending order in each zone according to the (1) total value of all of the taxed property, (2) the value of the farmstead, and (3) the horses, cattle, and sheep and subsequently divided them into quintiles. In the first quintile, there is always 20% of the poorest FCPs, and in the fifth, 20% of the wealthiest. The specific FCP could belong in another quintile according to the value of livestock owned, to another based on the value of the farmstead, and yet another according to the total value of the property.

For the individual geographic zones, the values found showed a slightly varied picture, but the dominant tendency can be summarised with synoptic tables. They correspond very well to the model of uneven reproduction. The share of FCPs that between 1438 and 1456 remained at one and the same farmstead rose with the value of the total property and other property items (Tab. 4). This tendency was most distinctive with the value of the farmstead. The more valuable the farmstead was, the more the average length of duration of the holding by the same tenant rose.

The values of the replacement rate showed a similar picture. The share of property transfers, when a male offspring, brother, or son-in-law replaced the original holder at a farmstead again rose clearly with the value of the total property, tenure right, and livestock (Tab. 5). This percentage increase was most evident in the value of the tenure right. In contrast, with the poorest farmsteads, which changed holders one or more times between 1438 and 1456, family continuity was reliably maintained in only 8% of the cases – with a fifth of the wealthiest farmsteads it was true in 39% of the cases. Wealthy FCPs were thus reproduced on the same farmsteads as much as five times more frequently than poor FCPs. The leading heirs and their siblings from poor FCPs all left their family farmsteads, whereas the leading heirs of the wealthy FCPs took over their family farmsteads from their fathers.

Quintile 1438	FCPs persisted 1456 (%)	of which 1456 in quintiles (%)					Perished FCPs (%)	of which GFCPs (%)
		I	II	III	IV	V		
I	32.6	60.0	23.3	16.7	0.0	0.0	67.4	12.9
II	34.8	21.9	50.0	9.4	9.4	9.4	65.2	10.0
III	48.9	2.3	20.5	38.6	25.0	13.6	51.1	34.0
IV	51.6	4.2	10.4	10.4	43.8	31.3	48.4	31.1
V	44.1	0.0	4.9	7.3	17.1	70.7	55.9	38.5

A. Total monetary value of the property.

Quintile 1438	FCPs persisted 1456 (%)	of which 1456 in quintiles (%)					Perished FCPs (%)	of which GFCPs (%)
		I	II	III	IV	V		
I	32.6	75.9	17.2	6.9	0.0	0.0	67.4	8.3
II	42.0	21.6	43.2	18.9	10.8	5.4	58.0	21.6
III	40.4	0.0	27.8	61.1	5.6	5.6	59.6	22.6
IV	43.8	2.6	5.1	33.3	46.2	12.8	56.2	28.0
V	52.9	0.0	0.0	0.0	31.8	68.2	47.1	39.0

B. Monetary value of the 'purchased' rights to the farmstead.

Quintile 1438	FCPs persisted 1456 (%)	of which 1456 in quintiles (%)					Perished FCPs (%)	of which GFCP (%)
		I	II	III	IV	V		
I	35.7	63.3	20.0	10.0	6.7	0.0	64.3	20.4
II	44.0	16.2	35.1	18.9	21.6	8.1	56.0	17.0
III	40.0	8.8	5.9	44.1	23.5	17.6	60.0	17.6
IV	48.8	0.0	16.7	16.7	28.6	38.1	51.2	38.6
V	44.0	2.7	2.7	10.8	16.2	67.6	56.0	34.0

C. Monetary value of horses, cattle, and sheep.

Tab. 6a-c: Change of the relative property position of the FCPs in 1438-1456 as presented in terms of a weighted average of the percentage representation by geographic zones. The persisted FCP means the same name of the peasant holder (responsible for the tax payment) appears, with continuity showing in the annual land tax registers (1438, 1441-1456). Property stability of the FCPs marked in bold. (© Tomáš Klír).

II. Relative socioeconomic mobility

The third question is to what extent relative property position rose or declined between 1438 and 1456 for (1) an FCP, which for the entire period was represented by the same head and held the same farmstead, and (2) a GFCP, hence a community, at the head of which there usually stood a male offspring or son-in-law of the original tenant at the same farmstead. In the first case, we analyse the property shift of the FCP within one lifecycle (Tab. 6a-c), and in the second intergenerational property mobility (Tab. 7a-c). It is not important for us how the absolute amount of the property of a specific FCP changed; its relative position in relation to the other FCPs was our concern. We proceeded in a similar fashion as in the previous cases: hence, we sorted the selected FCPs in each geographical zone in ascending order, divided them into

property quintiles for 1438 and 1456, and subsequently followed (a) how many FCPs remained in the same quintile or changed their position; (b) what portion of the FCPs dissolved but at the same farmstead another FCP (GFCP) continued on them; and (c) how many FCPs disintegrated without demonstrable family continuity at the given farmstead.

Naturally, our knowledge possibilities are limited for many reasons. Firstly, the individual FCPs were in various phases of their life cycles in the cross-section of the years of 1438 and 1456 and their demographic characteristics were different. Secondly, we homogenise the position of FCPs within an individual quintile. Thirdly, with regard to geographic mobility we do not even have complete data: some FCPs could have moved to other farmsteads or to other villages (*Lindström 2009*,

Wealth quintile 1438	Wealth quintile 1456				
	I	II	III	IV	V
I	75.0	12.5	12.5	0.0	0.0
II	0.0	50.0	50.0	0.0	0.0
III	0.0	18.8	43.8	31.3	6.3
IV	0.0	7.1	28.6	42.9	21.4
V	5.0	0.0	20.0	15.0	60.0

A. Total monetary value of the property.

Wealth quintile 1438	Wealth quintile 1456				
	I	II	III	IV	V
I	60.0	20.0	20.0	0.0	0.0
II	36.4	45.5	9.1	9.1	0.0
III	0.0	25.0	50.0	8.3	16.7
IV	0.0	14.3	14.3	42.9	28.6
V	6.3	0.0	6.3	25.0	62.5

B. Monetary value of the 'purchased' rights to the farmstead.

Wealth quintile 1438	Wealth quintile 1456				
	I	II	III	IV	V
I	72.7	18.2	9.1	0.0	0.0
II	25.0	25.0	50.0	0.0	0.0
III	0.0	11.1	66.7	22.2	0.0
IV	0.0	23.5	17.6	52.9	5.9
V	0.0	6.3	6.3	50.0	37.5

C. Monetary value of horses, cattle and sheep.

Tab. 7a-c: Intergenerational property mobility. Change of the relative property position of the GFPCs in the period 1438-1456. Weighted average percentage of representation by geographic zones presented. Property stability of the FCPs marked in bold (© Tomáš Klír).

166-168). It is, therefore, not surprising that the data in the comprehensive tables do not correspond precisely to any of the stereotypical models. As with the early modern peasantry, we also encounter in the late medieval Cheb district stability, continuity, and change at the same time. Nevertheless, what is important is that the developmental trajectories of the analysed FCPs differed according to starting property position.

If the FCP survived from 1438 to 1456, then its position remained stable most frequently, whether we monitor any of the property items (Tab. 6a-c). The individual quintiles and property items also differed in terms of the degree of stability (39%-76%). The most stable were the FCPs

in the wealthiest and poorest quintiles. The stability of the FCPs in the first quintile is, however illusive, because the greatest purification took place in it and the highest number of original FCPs disintegrated.

If the FCP changed its original quintile, it was most likely that it moved to the next one (17%-56%). More distinctive changes also appeared, but were rarer (0%-30%).

It was also true with intergenerational property mobility that the property position of the GFPC most often corresponded to the position of the initial FCP, or was one level higher or lower (Tab. 7a-c). However, we find exceptions here, such as with FCPs originally in the fifth quintile according to the value of the horses, cattle, and sheep, but with the subsequent GMRS becoming poorer (64%). We do not find this mobility with the value of the 'purchased' right to the farmstead. It corresponds closely to the situation when the living inventory was divided or sold off, but there was no change regarding the courtyard and land equipment of the farmstead.

If we summarise the testimony of the statistical data, it is true that the wealthier the family was, the greater the chance was that even some of the children would reach a similar level of wealth and that the farmstead would be held continuously by the family.

IV. Absolute socioeconomic mobility

We verified the conclusions from the analysis of relative socioeconomic mobility by analysing the absolute changes of the property position of the individual FCPs and GFPCs. Through this method, the distortion caused by the homogenisation of the property positions of the FCPs and GFPCs within the individual quintiles and the different absolute range of the quintiles was cancelled. Below, we display graphically (1) socioeconomic mobility within the lifecycles of those FCPs that did not disappear in the monitored period, and (2) intergenerational mobility of the GFPCs. Separately, we display the mobility according to the total value of the property, horses, cattle, and sheep and non-farmstead land properties.

Each FCP or GFPC is depicted by one point, the position of which is determined by the value of the property of the partial property item in 1438 (x axis) and in 1456 (y axis) (Figs 4-5). The two diagonals represent the lines of the nominal and the real value stability, the first of which ignores inflation and the second includes a rate of inflation of 27%. The closer the FCP or GFPC is to these lines, the more similar the value of the property was in the given interim period. A position directly on the lines thus indicates stability. A position above the lines means a property value increase and a position below the lines a property value decrease. The vertical distance from the diagonals expresses the absolute change in monetary value. At the same time, the graphs distinguish with the colour red the FCPs, the farmsteads of which were

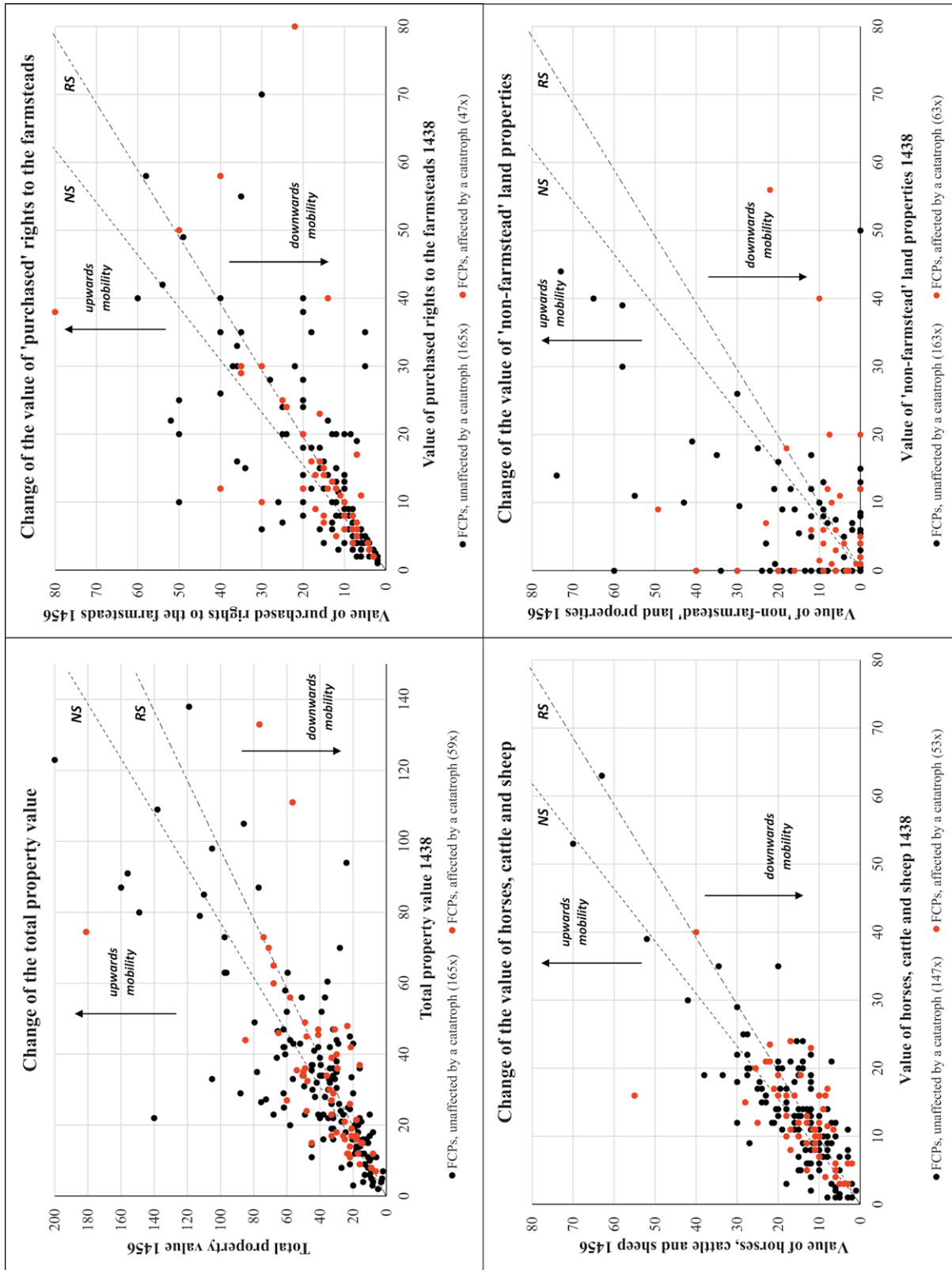


Fig. 4: Comparison of the monetary values of property held by the family communities of property (FCPs) in the Cheb district in 1438 and 1456, all in sexagena of Prague groschen (1 sexagena = 60 groschen) and without extremely high values. For more detail, cf. Klír et al. 2016, 286-410, 439-532. NS: line of nominal value stability; RS: line of real value stability (© after Tomáš Klír et al. 2016).

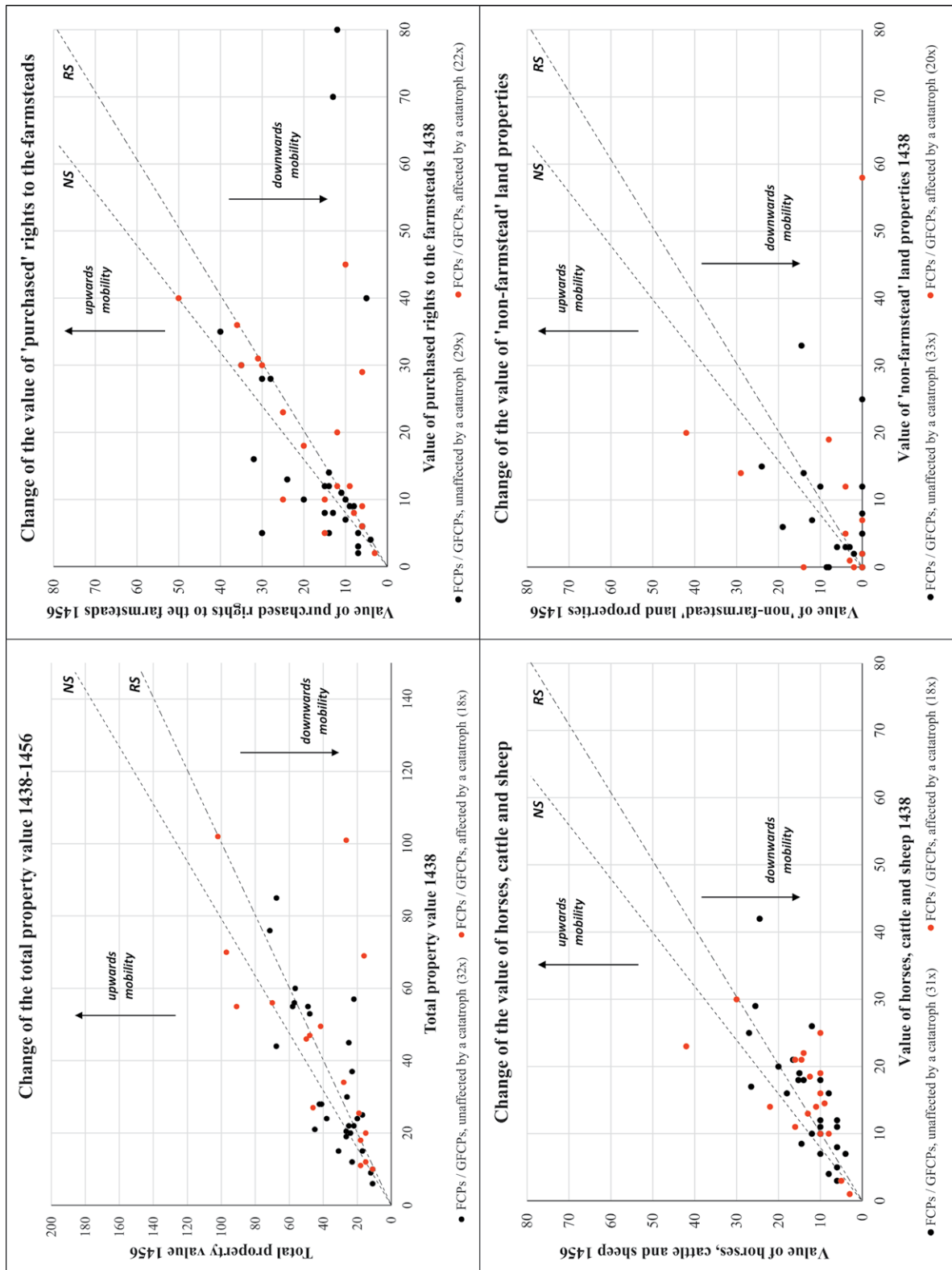


Fig. 5: Comparison of the monetary values of property held by the original family communities of property (FCPs) in 1438 and the genetically related family communities of property (GFCPs) in 1456 in the Cheb district, all in sexagena of Prague groschen (1 sexagena = 60 groschen) and without extremely high values. For more detail, cf. Klír et al. 2016, 286-410, 439-532 (© after Tomáš Klír et al 2016). NS: line of nominal value stability; RS: line of real value stability.

affected by a catastrophe sometime shortly before 1456, specifically in the interval of 1450-1456. We did not divide the FCPs by geographical zones.

The results of the analysis of absolute socioeconomic mobility must be interpreted carefully for many reasons; nevertheless, they testify to the model of uneven reproduction:

Again, stability and change are proven. A large number of the analysed FCPs retained their original property position, but a considerable number changed theirs, where the downwards and upwards tendencies seem to be almost in equilibrium (Fig. 4). It is possible to follow only in outline that the wealthy FCPs tended to become poorer and on the contrary for the poor tended to become richer. Nevertheless, it was precisely the narrow group of the wealthiest FCPs that further accumulated property. The largest dynamic could be seen with the non-farmstead land properties; many FCPs lost them entirely, while others newly acquired them.

The mobility of the GFCPs was more closely linked to the property category than was the case with FCPs (Fig. 5). Poor families tended to retain their property or rather expand, while the property of wealthy families tended on the contrary towards disintegration. The property accumulated by the wealthiest class of the FCP usually did not withstand the generational exchange, but tended to split. This pattern again testifies to the crucial importance of demographic factors and contemporary inheritance practice. Small property could not be further divided and free working capacity forced the holder to put a lot of effort into keeping or increasing resources. On the contrary, when large properties, including sometimes even more farmsteads and other items, were divided in the case of more siblings, the leading heir was not motivated to retain them. Siblings increased the risk of the social decline of the leading heir to the 'subject' farmstead and they themselves had fewer opportunities for an economic ascent.

8. Conclusion

The aim of this study was to discover the nature of the socioeconomic stratification and property mobility among peasants in the late medieval period. We consider this knowledge to be crucial for understanding the material form of the villages, their internal structures, and the degree of continuity and change. It is important for the explication of the processes of settlement expansion and abandonment as well. In accordance with the methodologically inspirational methods of early modern agrarian history, we conceptualized several main explanatory models: differentiating, cyclic, and the model of uneven reproduction (*Lindström 2009*, 95-135).

The situation of the Cheb peasantry between 1438 and 1456 is best described by the model of uneven reproduction. This model highlights the different reproductive possibilities and socio-economic mobility of rich and poor families, as well as the differences between the individual offspring of the wealthy. Stability and continuity should have been characteristic for families on wealthy farmsteads, but the accumulated surplus was not invested, being instead used to support the offspring. The wealthy had so many resources that they could divide them. The families on poor farmsteads were less successfully reproduced and a high degree of geographical mobility was typical for them. This corresponds to our finding for the Cheb district, *i.e.* that: (1) stratification did not change much; (2) wealthy families were reproduced relatively continually at the same farmsteads, but on the contrary the poor left their original farmsteads and perhaps also partially died out in the male line; and (3) the property position of the rich families remained relatively stable and their landed property was sometimes so large that it could be divided among more offspring.

The strength of the model of uneven reproduction lies in its inclusion of all of the crucial factors influencing the socioeconomic mobility of the peasantry, and at the same time it respects the specific nature of the feudal period (*Lindström 2009*, 204-207). It anticipates the imperfect exploitation of the surplus by the land rent, market forces, and relevant differentiation, which, however, was not manifested by a deepening of the inequality between the relatively fixed 'subject purchased' farmsteads, but rather by the geographical mobility of the poorer families and the local continuity of the wealthy. The rich families accumulated the surplus but with different consequences than those predicted by Marxist-Leninist models. The model of uneven reproduction also takes into account the family cycle and the variable labour capacity of the nuclear family associated with that, which, against the background of a limited land market, led to more permanent integration of the additional workforce, usually servants, or to sophisticated marriage strategies. Neither does it leave aside the principle of fission, which was, however, realized preferentially with extremely wealthy families. Yet the presented realization of the model is not generalizable, because it applies only for a society with moderate demographic growth or stability. In a situation of population decline, the socioeconomic or geographical mobility of the peasantry would look different.

Acknowledgement

This study was created as a methodological component of the research project CSF 16-20763S 'The Landscape of Medieval Prague', whose bearer is the Faculty of Arts of Charles University. The output is affiliated with the

programme of Charles University Progress Nr. Q07 'Centre for the Study of the Middle Ages'. Translated by Sean M. Miller (English), Filip Laval (French), and Lubomír Košnar (German).

References

- Alfonso, I. (ed.) 2007:*
The rural history of medieval European societies: trends and perspectives. Turnhout.
- Aston, T.H. – Philpin, C.H.E. 1985:*
The Brenner debate: Agrarian class structure and economic development in pre-industrial Europe. Cambridge.
- Attwood, D.W. et al. 1979:*
Why some of the poor get richer: Economic change and mobility in rural Western India [and comments], *Current Anthropology* 20, 495-516.
- Borgerhoff Mulder, M. et al. 2009:*
Intergenerational wealth transmission and the dynamics of inequality in small-scale societies, *Science* 326, 682-688.
- Byres, T.J. 2006:*
Differentiation of the peasantry under feudalism and the transition to capitalism: In Defence of Rodney Hilton, *Journal of Agrarian Change* 6, 17-68.
- Carrocci, S. 2011:*
Social mobility and the Middle Ages, *Continuity and Change* 26, 367-404.
- Cerman, M. 2008:*
Social structure and land markets in Late Mediaeval Central and East-central Europe, *Continuity and Change* 23, 55-100.
- Ellis, F. 1988:*
Peasant economics: Farm households and agrarian development. 2nd ed. 2003. Cambridge.
- Hatcher, J. – Bailey, M. 2001:*
Modelling the Middle Ages. Oxford.
- Klír T. et al. 2016:*
Knihy chebské zemské berně z let 1438 a 1456 – Die Egerer Landsteuerbücher von 1438 und 1456. Praha/Ústí nad Labem.
- Klír, T. 2017:*
Procesy pustnutí, válečné škody a tzv. sociální úhory: Chebsko v pozdním středověku.–The Processes of Village Abandonment, War Damage and Social Fallows: The Cheb Region in the Late Middle Ages, *Archaeologia Historica* 42, 547-577.
- Lindström, J. 2009:*
Distribution and differences: Stratification and the system of reproduction in a Swedish peasant community 1620-1820. Uppsala.
- McGuire, R. – McC. Netting, R. 1982:*
Leveling peasants? The maintenance of equality in a Swiss Alpine community, *American Ethnologist* 9, 269-290.
- Procházka, V. 1963:*
Česká poddanská nemovitost v pozemkových knihách 16. a 17. století – Die tschechische Untertanenliegenschaft in den Grundbüchern des 16. und 17. Jhdts. Praha.
- Razi, Z. 1980:*
Life, marriage and death in a medieval parish: Economy, society and demography in Halesowen 1270-1400. Cambridge.
- Shanin, T. 1990a:*
Measuring peasant capitalism, in: Shanin, T., *Defining peasants: Essays concerning rural societies, expolary economies, and learning from them in the contemporary world.* Oxford/Cambridge (USA), 229-247.
- Shanin, T. 1990b:*
Socioeconomic mobility and the rural history of Russia 1905-30, in: Shanin, T., *Defining peasants: Essays concerning rural societies, expolary economies, and learning from them in the contemporary world.* Oxford/Cambridge (USA), 209-227.
- Shenk, M.K. et al. 2010:*
Intergenerational wealth transmission among agriculturalists: Foundations of agrarian inequality, *Current Anthropology* 51, 65-83.
- Thorner, D. – Kerblay, B. – Smith, E.E.F. 1986:*
The theory of peasant economy. Madison.

Part Four

**Causes and effects of
colonisation, migration,
conquests, and reconquests
in medieval times**

The Hungarian conquest and the 9th – 10th-century settlements of the Pest Plain

*Tibor Ákos Rácz**

Abstract

The settlement historical processes of the 9th–10th-century Carpathian Basin are extremely important for understanding the early history of the Hungarians, but are very challenging to unravel. Before the 9th century, the Avar Khaganate was a vigorous political formation that dominated the area, while the Christian Hungarian monarchy was born as a sequel to the 10th-century events at the beginning of the new millennium. During this period, the ethnic composition, political structure, and cultural image of the Carpathian Basin were radically transformed. It is difficult to capture the cultural changes in the archaeological record, because there is little data and these are charged with contradictory evaluations and perspectives. Yet the material record and settlement evidence can illuminate an objective narrative on the fate of the Avar population after the Frankish campaigns and the effects of the Hungarian conquest. As a result of large-scale excavations conducted recently on the Pest Plain, we have a unique opportunity to discuss the problems of the indigenous 9th-century population and the birth of the Hungarian village system. Archaeological research was mainly concerned with the villages of the Pest Plain, but systematic excavations were also carried out at the contemporary power centre of Vác. In the present study I use the data obtained from the comparative analysis of pottery assemblages.

Keywords: *Hungarian conquest, 9th-century material culture, settlement continuity, ethnic identity.*

Resume

La conquête hongroise et les occupations du IX^e siècle de la plaine de Pest

Les processus historiques de peuplement du bassin des Carpates du IX^e au X^e siècle sont extrêmement importants pour la compréhension du début de l'histoire des Hongrois, mais sont très difficiles à démêler. Avant le IX^e siècle, le Khaganat avar était une formation politique vigoureuse qui dominait la région, tandis que la monarchie hongroise chrétienne était née à la suite des événements du X^e siècle, au début du nouveau millénaire. Au cours de cette période, la composition ethnique, la structure politique et l'image culturelle du bassin des Carpates se sont radicalement transformées. Il est difficile de saisir les changements culturels à partir des vestiges archéologiques car il existe peu

* Ferenczy Museum Centre
Szentendre
Hungary
racz.tibor.akos@gmail.com

de données et celles-ci sont entachées par des analyses et de perspectives contradictoires. Le mobilier et les vestiges d'habitat peuvent néanmoins éclairer un récit objectif sur le sort de la population avare après les campagnes franques et les effets de la conquête hongroise. À la suite de fouilles à grande échelle menées récemment dans la plaine de Pest, nous avons une occasion unique de débattre des problèmes de la population autochtone du IX^e siècle et de la naissance du système villageois hongrois. Les recherches archéologiques ont principalement porté sur les villages de la plaine de Pest, mais des fouilles systématiques ont également été menées dans le centre de pouvoir contemporain de Vác. Dans la présente étude, j'utilise les données obtenues à partir de l'analyse comparative des assemblages de céramiques.

Mots-clés: *Conquête hongroise, culture matérielle du IX^e siècle, continuité d'occupation, identité ethnique.*

Zusammenfassung

Die ungarische Landnahme und die Siedlungen des 9. – 10. Jahrhunderts in der Tiefebene von Pest

Die siedlungsgeschichtlichen Prozesse des Karpatenbeckens im 9. – 10. Jahrhundert sind bezüglich der Frühgeschichte der Ungarn von großer Bedeutung, gleichzeitig aber auch schwer zu interpretieren. Vor dem 9. Jahrhundert dominierte das awarische Kaganat als starke politische Formation in der Region. In der Folge der Ereignisse des 10. Jahrhunderts entstand die christlich geprägte Monarchie der Ungarn zu Beginn

Introduction

One can hardly find a better moment to observe the interference and forming of early medieval ethnic groups than the Carpathian Basin in the 9th century, where political actions (wars, migrations) and changes in political and cultural influence were taking place at a quick pace, with consequences that have lasted until the present day. The main actors on the historical scene appear as ethnic identities (Avars, Bulgars, Franks, Moravians, and Hungarians); and researchers of the era and region have traditionally sought the ethnic interpretation of the material culture. Of course, the question of equating the coherent material culture or even the language of a particular area with an ethnic identity has long divided researchers and led to theoretical debates influenced, fundamentally, by the evolution of archaeological concepts (Geary 1983; Wendowski 1995; Jones 1997; Sommer 2003). The recent debate reflected in Sebastian Brather's book (Brather 2004) and Florin Curta's review (Curta 2007) reveals ethnicity as the most complex form of

des neuen Jahrtausends. Im Laufe dieses Zeitraums haben sich die ethnische Zusammensetzung, die politische Struktur und das kulturelle Bild des Karpatenbeckens radikal verändert. Es ist komplex, die vielfältigen kulturellen Veränderungen in den archäologischen Daten zu erfassen, da einerseits nur wenige Daten vorliegen und andererseits diese mit widersprüchlichen Bewertungen und Konzepten belastet sind. Die Validität der bisher vorhandenen Konzeptionen zum Schicksal der awarischen Bevölkerung nach den fränkischen Feldzügen und die Auswirkungen der ungarischen Landnahme auf die gegenwärtigen Siedlungsstrukturen können durch eine Analyse der archäologischen Komplexe mit einem Blick über einen längeren Zeitraum durch archäologische Funde und Phänomene beleuchtet werden. Durch die unlängst durchgeführten großflächigen Ausgrabungen in der Tiefebene von Pest besteht die Möglichkeit, die Strukturen der autochthonen Bevölkerung des 9. Jahrhunderts und die Entstehung des ungarischen Dorfsystems zu diskutieren. Die archäologische Forschung befasste sich hauptsächlich mit den Dörfern in der Tiefebene, aber systematische Ausgrabungen fanden auch im ehemaligen Machtzentrum von Vác auch statt. In der vorliegenden Studie habe ich die Daten verwendet, die aus der vergleichenden Analyse von keramischen Fundkomplexen gewonnen wurden.

Schlagwörter: *Ungarische Landnahme, Materialkultur des 9. Jahrhunderts, Siedlungskontinuität, ethnische Identität.*

group identity as well as its importance in eastern Central Europe. Cultural traits of early medieval ethnic groups in the Carpathian Basin are not yet properly defined. The ultimate question of this paper therefore is not ethnicity, but the prerequisites of an ethnic interpretation of the finds: the presentation of new archaeological material from the 9th century, and a possible new evaluation of the settlement historical processes.

The most important series of events determining the end of the 9th century were the appearance of the Hungarians west of the Carpathians (862, 881), followed shortly by the conquest of their new homeland (895-896), and finally their settling down and beginning to strike root during the 10th century. There is a lack of published archaeological data, and scholarly literature provides only sporadic reflections on the question of how these political events – likely to bring about profound demographic and ethnic changes – are mirrored in contemporary settlement structures. The Carpathian Basin has received waves of immigrants from the steppes since the prehistoric times.

One of the last group of settlers were the Hungarians, who – unlike the Huns and Avars – succeeded in adapting in the face of the rapidly changing political and cultural challenges, and whose Finno-Ugric, non-Indo-European language still dominates the central areas of the basin. The Hungarian conquest is a local settlement archaeological problem that also raises more general questions that go beyond the boundaries of the study area. What happens with the indigenous population during and after a conquest? Are they assimilated, acculturated, or annihilated? Conversely, what happens to the conquerors? Do they remain themselves in the new circumstances?

The written sources of the early Christian monarchy founded 100 years after the conquest and the early place names denote a solid and large Hungarian-speaking populace, at least in the central areas (*Engel 2001*, 6). If we assume a mass immigration by the end of the 9th century, the emergence of a completely new material culture and settlement system with the conquest seems natural. Examining the archaeological material, however, we find contradictory evidence at this point. The 10th-century cemeteries reveal the equipment and accessories of armed warriors and the spectacular ornaments of their women. It is the material culture of a group of steppe riders, whom the national romantic view of the mid-19th century proudly identified as the Hungarian ancestors. A century later, scholars realized that the thousands of poor people buried without, or with just simple, grave goods and surely of inferior social status were also part of the Hungarian population, and these were not only the subjugated Slavs (*Szöke 1962*). The elite's richness has little trace in contemporary settlements. We have documented hundreds of villages characterized by pit houses, which are supposed to have served as dwelling places for commoners and perhaps a middle class. From the beginning of settlement archaeology in the 1950s, these were naturally regarded as Hungarian villages. We cannot, however, correlate the clearly identifiable grave goods of the conquering elite with the material culture of the settlements. The research of the cemeteries and that of the settlements is largely disassociated, causing various chronological and terminological problems. While we are trying to separate the first and second generations of conquerors on the basis of rich graves, we cannot, or only to a very limited extent, date the settlements to the 9th, 10th or 11th centuries, because we do not have any of the typical metallurgical objects or coins (*Merva 2017*, 524-525). The material culture of the settlements and that of the graves labelled as Hungarian do not overlap with each other in respect of object types and chronology, and do not fit into the chronological frames of the narrative sources. With the increasing development of settlement archaeology, the following question has arisen only in

recent years: Can the first Hungarian settlements be distinguished, and if so, based on what criteria?

The Great Plain on the eve of the Hungarian conquest

If we want to understand the significance of the Hungarian conquest in the settlement history of the Carpathian Basin, we need to deal with the problems of the native population of the 9th century and its settlement structures. The 9th-century Carpathian Basin was politically fragmented and its ethnic composition multi-coloured, and as a consequence its material culture was not homogeneous and presumably the development of its settlement structures showed different characteristics in different regions. Microregional research may reveal the specificities in the material culture of the different regions, and these may be cautiously traced back to cultural relations, migration, social and economic status, or ethnic diversity.

Following the wars of Charles the Great against the Avars and an internal political crisis in the last decade of the 8th century, the Transdanubian territories soon became integral parts of the Carolingian Empire. Cultural change was gradually taking place, a process vividly illustrated by archaeological data. The material of the Transdanubian Carolingian era is the imprint of the adaptation to the dominant culture (*Szöke 2014*, 26-37). North of the Danube Moravia constituted a political force beginning with the rise of the Slav Prince Mojmir in the 820s until the death of Prince Svatopluk I in 894, powerful enough to threaten Carolingian rule in Transdanubia. The Danubian Khanate of the Bulgars was neighbour to the Franks in the lower course of the Drava and the Sava, and also had the southern territories of Transylvania under its control. As for the Great Hungarian Plain, the lack of written sources has given a wide space to various historical narratives. Following the authority of illustrious historians and archaeologists (*Bóna 1984; Györffy – Zólyomi 1994*), until recent years the idea prevailed that the entire Avar population was destroyed by the campaigns of Charles the Great and Khan Krum of the Bulgarian Empire, and that the Great Plain was virtually empty in the 9th century, forming the periphery of neighbouring empires. These early medieval state formations played an important role in the ethnogenesis of several present-day nations and their historical views tend to reveal the former magnitude with a territorial extension. Thus, for example, Bulgarian rule is often presented as having extended to the Danube and the Upper Tisza, or the Moravian Empire as having the entire Great Plain under control in the second half of the 9th century (*Langó 2016; Takács 2016*).

In fact, after the decline of the Avar Khaganate, neither can a massive Slavic presence be proven by archaeological

finds, nor can the appearance of Bulgarian material culture (*Szalontai 2000*, 285). From the peripheries, a slow migration to the interior areas could have started, as solid Avar domination had previously kept the Slavs out of those areas of the Carpathian Basin. Many Hungarian scientists, archaeologists, and historians now believe that the Great Plain was inhabited in the 9th century by the same Avar population as before, who then merged into Árpád's Hungarians, enriching the stratum of the commoners (*Szöke 1994*, 83; *Olajos 2004*, 118). Researchers of the late Avar period – or, in archaeological terms, the population of the 'griffin and tendril' culture – have successfully identified object types, typically cast belt sets, the use of which extends to the first third of the 9th century (*Madaras 2017*, 10). It is difficult, however, to fill the cultural gap between the late Avars and the early Hungarians. The archaeological horizon created in Transdanubia under Carolingian impact is missing on the Great Plain.

For decades, archaeological research has been concerned with the possibility of the survival of the Avars on the Great Plain into the 9th century (*Bóna 1971*, 324-34; *Lőrinczy 1993*; *Szöke 1990-1991*; *Madaras 2017*). László Kovács a few years ago stated summarily that, east of the Danube, where the cemeteries of late Avars surviving till the 10th century cannot be demonstrated, there are no 9th-century settlements, either (*Kovács 2014*, 186). This was seemingly confirmed by the maps and summaries of archaeological-topography monographs in Pest County, which omit the 9th century and only define late Avar (8th-century) and Conquering Age (10th-century) or early Árpád Age (10th-11th-century) sites, thus creating the image of the 9th-century hiatus. The number of late Avar settlements in the Aszód and Gödöllő districts was 99 and Avar burials could be confirmed at 10 sites. The number of Conquest Age or early Árpád Age settlements was 72 (*Dinnyés et al. 2012*, 16). The materials of both periods appeared as a chain of settlements in the valley of streams. The difficulties of linking to a particular century the fragmented 8th-11th-century ceramics found during field walking are well known, but there are also some remarkable archaeological finds, such as the winged lance of Isaszeg (*Dinnyés et al. 2012*, 304) or the pottery from the village of Szentjakab, which was convincingly dated to the 9th century by Károly Mesterházy (*Mesterházy – Horváth 1983*). It is difficult to imagine that none of the 170 sites mentioned above would fit into the 9th century, but it cannot be proven, so it is to be concluded that at this moment, researchers cannot or dare not distinguish from the available data the material culture of the 9th century. While in Transdanubia several groups and many cultural influences could be delineated (*Tomka 1994*), for the Great Plain the source material does not allow similar differentiation.

The research has not yet given a clear answer as to whether the late Avars actually met the Hungarians and how the relations of the two developed. The possibility of assimilation is rejected by most researchers, saying that in cases where there is Avar and Hungarian material in the same cemetery, Hungarian burials are later and not contemporary, and so continuity cannot be proven (*Bóna 1996*, 39-40). According to one collection of data, there are hardly any cemeteries among the 3,450 known Avar sites that were continuously used by both populations (*Szentpéteri 2014*). The late Avar and the Hungarian cemeteries do not mingle, as Hungarians typically opened new burial places.

New data on 9th- and 10th-century pottery and settlements from the Pest Plain

The picture drawn on the basis of topographical surveys and cemetery analyses can be shaded by the evaluation of the pottery material of the contemporary settlements. The Pest Plain lies east of the Danube, forming the north-western part of the Great Hungarian Plain (Fig. 1). Regarding the 9th-century political situation, it was in the immediate vicinity of the Carolingian Oriens and also of Moravia, and formerly belonged to the core area of the Avar Khaganate.

The excavation at Nevelek-dűlő in Sződ took place as early as 1995-96, as one of the first large-scale preventive excavations in Pest County preceding the construction of Highway M2. Archaeological features were concentrated on two neighbouring sandy hills along the Ilka stream and were dated to the late Avar (8th century) and early Árpád Age (10th-11th centuries). The excavated material, however, was subject to thorough analysis only two decades later, with the aim being to examine the possible continuity of the settlement through the 9th century. In this respect, the results turned out to be negative. The first phase could be dated to the 8th-9th centuries, and after a short break the place was repopulated in the middle of the Árpád Age, in the 11th-12th centuries. The outcomes of pottery analysis were strengthened by ¹⁴C dating, which were the first of their kind in our region for the period under discussion. Thus for example, the long and deep ditch no. 39 and the vast amount of pottery found within (Fig. 2) had been used during the period of 780-860 cal AD (one sigma). Several fragments were found with decoration identical to the pottery material of Szentjakab village (*Mesterházy – Horváth 1983*, Figs. 5-7).

At the intersection of Highway M3 and road no. 31 near Mogyoród excavations were carried out in 2016-2017 and, on a relatively large surface, the early medieval cultural layer could be documented under the topsoil. Not only did the layer yield several early medieval ceramic fragments, but the excavated features also. From

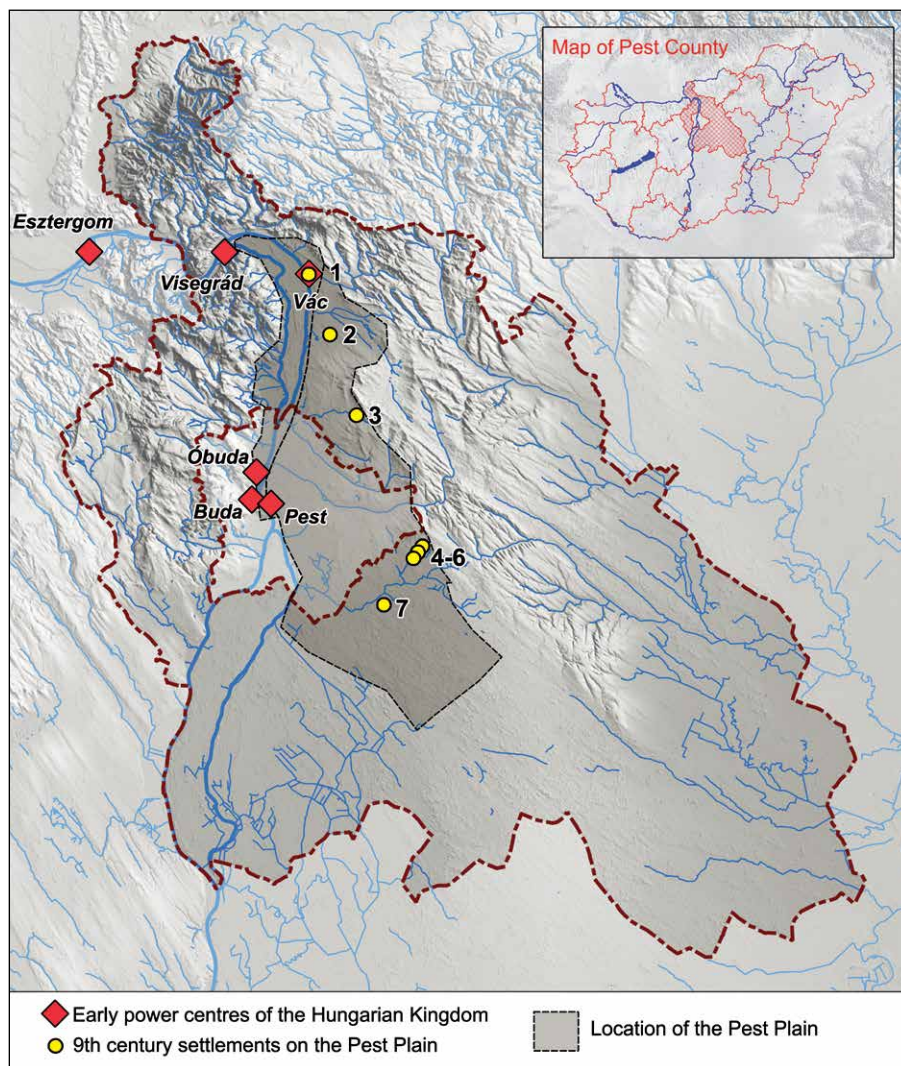


Fig. 1: Locations of the Pest Plain and of the 9th-century settlements in present-day Pest County.

1: Vác, Site – Géza király tér, 2: Sződ, Site – Nevelek-dűlő, 3: Mogyoród, Site – Mély gáti-dűlő, 4: Ecser – Site 6, 5: Ecser – Site 7, 6: Maglód – Site 1, 7: Vecsés – Site 67 (© Ágnes Füredi).

ditch no. 13 at least 4 different pots were extracted. One of them had a funnel-shaped, unarticulated rim, drooping shoulders, and relatively thick wall. It was handmade and fired to brown, with a coarse surface and pebbly fabric (Fig. 3). The form of the other handmade pot could not be fully reconstructed. From the same feature several other pottery shards came to light, which were thrown on a slow wheel and were decorated with incised bunches of wavy lines. They all had a brown base colour, had been fired at low temperatures, and their side walls were relatively thick. The group of ceramics can be dated to the 9th century, based on the proportion of handmade pots and pots thrown on a slow wheel, the vessel forms, the ornamentation technique, and the pebbly raw material.

Along the track of Highway M0, features dated to the period under discussion were unearthed at sites Maglód 1, Ecser 6, Ecser 7, and Vecsés 67 in 2001-2006. In the chronological evaluation of the 9th-10th-century pottery assemblages, we can rely mainly on the characteristics of

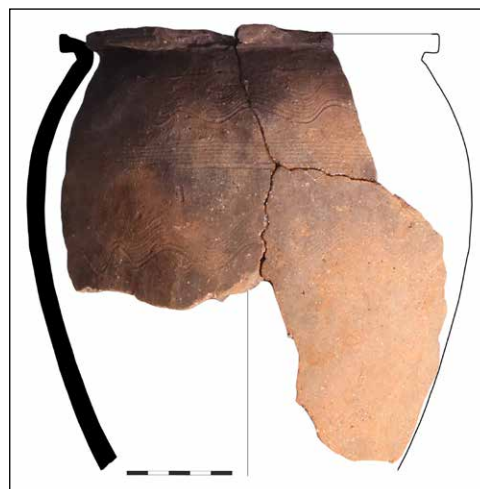
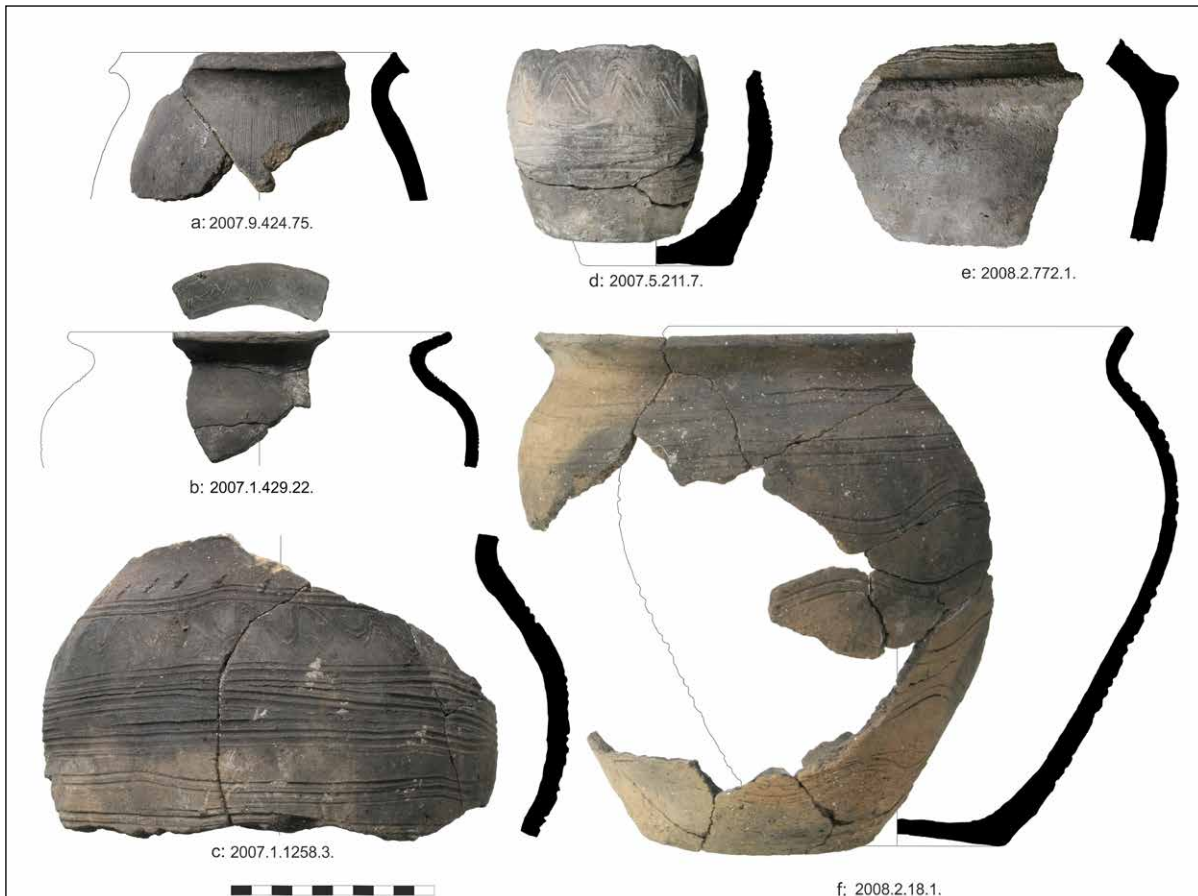


Fig. 2: 9th-century pot from Sződ, site Nevelek-dűlő, ditch 39 (© Zsófia Nádai and András Fazekas).



Fig. 3: 9th-century pots from Mogyoród, site Mély gáti-dűlő, ditch 13 (© Tibor Ákos Rácz).



Tab. 1: 9th-century elements in the pottery assemblages unearthed along the track of Highway M0. a: Ecser, Site 7; b-c: Ecser, Site 6; d: Vecsés, Site 67; e-f: Maglód, Site 1 (© Linda Szászvári, János Jakucs and Tibor Ákos Rácz).

fabrication technology, surface treatment, and decoration. Conclusions based purely on the form of the vessels might be misleading.

In cases where the archaic decoration methods are associated with a pure hand-forming technique, as on the small pot no. 2007.5.211.7. (Table 1/ d) from site Vecsés 67, we may assume a 9th-century dating. Of the whole site's ceramic assemblage, this was the single pot formed without a potter's wheel, and was found together with a bottom fragment of a pot thrown on a slow wheel. In the immediate neighbourhood, pots with ribbed neck and pots with a raw material fired to a reddish orange colour came to light, which point rather to the 10th century (*Takács 1996*, 334, 340; *Takács 1997*, 209-210). The inner rim decoration of the pot no. 2007.1.429.22 (Table 1/ b) from site Ecsér 6 is characteristic for both the 9th and 10th centuries (*Sz. Garam 1981*, 144; *Wolf 2003*, 96). The slant cogwheel decorations forming a row on the shoulder of the pot no. 2007.1.1258.3 (Table 1/ c) are known, yet again, from the period preceding the conquest, but their occurrence may not be excluded in the 10th century, either (*Szőke 1992*, Fig. 1: 6-7; *Herold 2004*, table 13: 2; table 17: 1-2; table 58: 3; *Skriba 2010*, 233, Fig. 7: 12; Fig. 9: 3; Fig. 13: 19). The conic bowl form, the pots with ribbed neck, and pots with a raw material fired to a reddish orange colour found on this site date the majority of the features to the later period. At Ecsér 7, only 30 features may be dated securely to the early Árpád Age (10th-11th centuries), each containing no more than 2 or 3 pottery sherds. Even in this very scant material, there is a decoration form, the upright textile burnishing on pot no. 2007.9.424.75. (Table 1/ a), that is characteristic for the assemblages of the 9th century. The accentuated shoulder and the decoration composed of bunches of wavy lines covering the whole surface of the large pot no. 2008.2.18.1. (Table 1/ f) from site Maglód 1 appear together in the region between the Lower Danube and Dniester in the 8th-10th centuries (*Kozlov 1990*), so the pot cannot be dated precisely. The same chronological uncertainty applies to the pottery sherd 2008.2.772.1. (Table 1/ e) decorated with a strong out-thrust. Its distant analogies have been found at the 9th-century Zalavár power centre (*Mersdorf 2007*, 209, fig. 3: 4), and also in the 11th-century pottery assemblages of Visegrád, St Andrew monastery.

Concluding remarks

Distinguishing the pottery material of the 9th or 10th centuries has always been a major challenge for researchers (*Fiedler 1994*; *Takács 2009*) and, in spite of the fact that we have come closer to capturing the characteristics of both periods (*Takács 2012*), there seems to be no distinct set of finds: we cannot clearly date our materials to only one or

the other century. Despite the emergence of archaic 9th-century marks, most of the sites of Highway M0 can be dated to the 10th century. This is supported by the barely considerable number of handmade pots, the total lack of baking bowls, and, on the other hand, the presence of pots with ribbed neck and vessels fired to a reddish-orange colour. Surviving elements of earlier pottery traditions have been recorded on the Little Hungarian Plain and in the northern part of the Carpathian Basin long ago (*Merva 2014*, 199-205), but the cultural connections demonstrated in the pottery production of the Pest Plain in the 9th and 10th centuries are new results and, in light of the historical narratives presented above, they are of key importance regarding the issue of continuity.

It is worth considering the example of Vác, where a large proportion of the pottery material may be dated before the conquest (*Rácz 2016*). The life of the 9th-century settlement continued into the 10th century without any destruction, and at the beginning of the 11th century in the thriving settlement King St Stephen (1000-1038) founded a bishopric. There is no reason to doubt the partial continuity of the population in this city. This phenomenon warns us that the event of the Hungarian conquest did not mean a drastic change, and so a well-defined time limit for settlement structures. By contrast, we can refer to the Mongol Invasion in 1241-1242, which produced evidence of the mass destruction everywhere in the country (*Tari 2007*; *Vargha 2015*). Political events seldom reveal such spectacular traces in the archaeological data (*Takács 2012*, 146-147).

If we want to capture the birth of the Hungarian village system, we face a very strange situation. In each of the archaeological sites considered in this essay, the same problem appears: the beginnings fade away, or rather, the early villages have their roots in the as-yet very misty 9th-century structures. We have serious difficulties regarding the dating within the 9th century. The Sződ and the Mogyoród sites were inhabited in an uncertain period in the 9th century, and Vecsés, Ecsér, and Maglód were populated by the end of the century and remained in use in the 10th century as well. There is neither evidence of a completely newly constituted 10th-century village network, nor of the devastation of earlier villages. In fact, among the early medieval settlements of the Pest Plain there is no sign of the Hungarian conquest. There are hardly any elements in ceramic art that cannot be deduced from the 9th-century antecedents. New elements in the 10th century, such as pots with ribbed necks, could have been created either through cultural influence or by a technological response to practical needs that are difficult to reconstruct today. Thus, for example, in the 13th century in the surroundings of Zagreb, pots with ribbed necks appeared without any precedent (*Antonić – Rácz 2017*, 267-270).

Written sources suggest that in the second half of the 9th century there was no organized state authority in the eastern part of the Carpathian Basin. Archaeological data denote that it was not a 'no man's land' either. It is unlikely that such a large area would be empty, or just a borderland, while in the neighbourhood the frontiers of dynamically expanding empires were stretching. Why had not the Hungarians already occupied this area, if in the second half of the 9th century they possessed the land between the Dnieper and the Eastern Carpathians? There was obviously a good reason: either the base population represented such a mass that the Hungarians for a long time did not risk a war with them, or they had developed a relationship that excluded the possibility of armed conflict.

The variations of different elements in the material culture of Transdanubia and also of Moravia reflect cultural interrelationship as an important characteristic of the communities present. But even a territorially delineated cultural entity cannot be viewed as a biological community (*Chapman 1993*). A particular element of the material culture, such as pottery in the case of the Pest Plain, is far from sufficient to be equated with an ethnic identity. In such cases we need to consider properly what constructions may be built on the archaeological sources. DeCorse's study has clearly shown that the material culture, and in particular the ceramics of the groups defining themselves as an independent ethnic entity, do not reflect at all the separation (*DeCorse 1989*). Pottery does not speak a language, and lacks other ethnic signs, too, but it reflects the continuation of a tradition that lasted throughout the 9th-11th centuries. These cultural traditions are not identical to biological continuity or ethnic continuity. In the case of the villages discussed, and mainly at Vác, however, settlement continuity is very likely. The excavation and analysis of 9th-century cemeteries in the future might lead to the identification of cultural relations and probably the identification of particular ethnic groups on the Pest Plain, too.

The above evidence points to the conclusion that a base population of considerable mass, but of unknown language and ethnic identity, was continuously present in the century before the Hungarian conquest, which was peacefully taken over by the conquerors. They populated the 9th- and 10th-century settlements, leading a settled way of life, and were buried in large field cemeteries in the time before the churches and the cemeteries around them appeared. The number of elite burials with rich grave goods is scant, compared to the poor and simple graves. At the moment the greatest secret of early Hungarian history lies in the ethnic composition and language of the commoners, since it is impossible to say what proportion of them may be considered the descendants of the Avars or, in some regions, Slavs, who survived the campaigns of

the Franks and Bulgars and later the Hungarian conquest, or Hungarian commoners who came from the east with the armed conquerors. It is certain that the narrow elite would not have been enough for the Hungarian language to last for centuries.

The occupation of Transdanubia in 900 and later the devastating raids upon the Christian kingdoms of the west by the Magyars has been recorded by the contemporary written sources, but the territories east of the Danube remained out of the sight of the clerks. We can rely on settlement archaeological data at the moment, which suggest that Hungarians took possession of the eastern half of the Carpathian Basin without bloodshed. The wars fought with Moravia and Bulgaria in 894-895 did not affect the settlements of the Great Plain. It is customary to link the land taking of the Hungarians to a historical moment, or to a short sequence of events, but this is archaeologically invisible. The settling of Hungarians thus could have been a longer process. One of the most suitable expressions, descriptive for the act of taking a land into possession, is the military term 'conquest', deeply ingrained in Hungarian archaeology and historiography. It describes the fact that the Hungarians took political control of the area, but its meaning does not fully reflect the ongoing processes. In addition to the term 'conquest' emphasizing the feat of arms, in order to picture the settlement historical processes, the term 'settling' is also appropriate and justified, and the two together carry the antecedents of the founding of the state.

References

Antonić, N. – Rácz, T. Á. 2017:

Selected medieval finds from site Kobilić 1 in Turopolje, in: Sekelj Ivančan, T. – Tkalčec, T. – Krznar, S. – Belaj, J. (eds), *Srednjovjekovna naselja u svjetlu arheoloških izvora. Mediaeval settlements in the light of archaeological sources*. Zagreb, 255-277.

Bóna, I. 1971:

Ein Vierteljahrhundert Völkerwanderungszeitforschung in Ungarn (1945-1969), *Acta Archaeologica Scientiarum Hungaricae* 23, 265-336.

Bóna, I. 1984:

A népvándorlás kor és a korai középkor története Magyarországon. (The history of the Migration Period and early Middle Ages in Hungary), in: Székely, Gy. (ed.), *Magyarország története*. I. kötet. (The history of Hungary. Vol. I.). Budapest, 265-373.

Bóna, I. 1996:

Honfoglalás és régészet. (Hungarian conquest and the archaeology), *Korunk* 8, 21-40.

- Brather, S. 2004:*
Ethnische Interpretationen in der frühgeschichtlichen Archäologie. Geschichte, Grundlagen und Alternativen. Reallexikon der Germanischen Altertumskunde 42. Berlin/New York.
- Chapman, M. 1993:*
Social and biological aspects of ethnicity, in: Chapman, M. (ed.), Social and biological aspects of ethnicity. Biosocial Society Series 4. Oxford/New York/Tokyo, 1-46.
- Curta, F. 2007:*
Some remarks on ethnicity in medieval archaeology, Early Medieval Europe 15:2, 159-185.
- DeCorse, C. R. 1989:*
Material aspects of Limba, Yalunka and Kuranko ethnicity: archaeological research in north-eastern Sierra Leone, in: Shennan, S. J. (ed.), Archaeological approaches to cultural identity. London/New York, 125-140.
- Dinnyés, I. – Kövéri, K. – Kvassay, J. – Miklós, Zs. – Tettamanti, S. – Torma, I. 2012:*
Pest megye régészeti topográfiája XIII/3. Az aszódi és a gödöllői járás. (Archaeological topography of Pest county XIII/3. The districts of Aszód and Gödöllő). MTA BTK Régészeti Intézete. Budapest.
- Engel, P. 2001:*
The realm of St. Stephen: a history of medieval Hungary 895-1526. London/New York.
- Fiedler, U. 1994:*
Zur Datierung der Siedlungen der Awaren und Ungarn nach der Landnahme. Ein Beitrag zur Zuordnung der Siedlung von Eperjes, Zeitschrift für Archaeologie 28, 307-352.
- Gearý, P. J. 1983:*
Ethnic identity as a situational construct in the early middle ages, Mitteilungen der Anthropologischen Gesellschaft in Wien 113, 15-26.
- Györffy, Gy. – Zólyomi, B. 1994:*
A Kárpát-medence és Etelköz képe egy évezred előtt. (The image of the Carpathian basin and of Etelköz one thousand years ago), in: Kovács, L. (ed.), Honfoglalás és régészet. (Hungarian conquest and the archaeology) Budapest, 13-37.
- Herold, H. 2004:*
Die frühmittelalterliche Siedlung von Örménykút 54. Varia Archaeologica Hungarica 14. Budapest.
- Jones, S. 1997:*
The archaeology of ethnicity. Constructing identities in the past and present. London/New York.
- Kovács, L. 2014:*
Elnöki zárzó – Régészet, embertan, genetika szekció (The chairman's concluding remarks – Archaeology, anthropology, genetics section), in: Sudár, B. – Szentpéteri, J. – Petkes, Zs. – Lezsák, G. – Zsidai, Zs. (eds), Magyar őstörténet. Tudomány és hagyományörzés. (Hungarian early history. Science and traditionalism). MTA BTK Magyar Őstörténeti Témacsoport. Budapest, 179-189.
- Kozlov, V. I. 1990:*
Die Keramik der Siedlungen der Balkan-Donau-Kultur im 8-10. Jh. an der Meeresküste des Flußbinnenlandes Dneser Dnester-Donau, in: Bálint, Cs. (ed.), Die Keramik der Saltovo-Majaki Kultur und Ihrer Varianten. Varia Archaeologica Hungarica 3. Budapest, 171-191.
- Langó, P. 2016:*
A morva fejedelemség. (The principality of Moravia), in: Sudár, B. – Petkes, Zs. (eds), Honfoglalás és megtelepedés. Magyar Őstörténet 4. (Conquest and settling. Hungarian early history 4), MTA BTK Magyar Őstörténeti Témacsoport. Budapest, 46-53.
- Lőrinczy, G. (ed.) 1993:*
Az Alföld a 9. században. (The Great Plain in the 9th century). Szeged.
- Madaras, L. 2017:*
Húsz év múltán. Eredmények és problémák az Alföld 9. századi történetének kutatásában. (Twenty years later. Results and problems in the research of the 9th century history of the Great Hungarian Plain), in: Takács, M. (ed.), Az Alföld a 9. században II. (The Great Plain in the 9th century. Vol II.). Monographs from the Archaeological Department of the University of Szeged. Szeged, 9-25.
- Mersdorf, Zs. 2007:*
Technológiai nyomok a zalavári Karoling-kori edények felületén. (Technologische Spuren auf der Oberfläche der Karolingerzeitlichen Gefäße von Zalavár), Communicationes Archaeologicae Hungariae 2007, 195-213.
- Merva, Sz. 2014:*
The analysis of pottery from 10th-11th century graves in the Carpathian Basin. Technological and typochronological studies. in: Doncheva-Petkova, Ly. – Balogh, Cs. – Türk, A. (eds), Avars, Bulgars and Magyars on the Middle and Lower Danube. Studia ad Archaeologiam Pazmaniensiae 1. Sofia-Piliscsaba, 197-262.
- Merva, Sz. 2017:*
Gondolatok a Kárpát-medencei 9-10. századi kerámiaegyüttesek természettudományos keltezési lehetőségeiről – Lehetséges mintavételezési stratégiák. (Thoughts on the various scientific dating methods applied on 9th – 10th century pottery assemblages – Potential sampling strategies.), in: Türk, A. (ed.), Hadak útján XXIV. A népvándorlaskor fiatal kutatóinak konferenciája. 2. kötet. (Conference of young scholars on the Migration Period. Vol II.). Budapest/Esztergom, 523-530.

- Mesterházy, K. – Horváth, L. 1983:*
Településtörténeti kutatások Verese gyház határában. (Siedlungsgeschichtliche Forschungen in der Gemarkung von Verese gyház), *Archaeologiai Értesítő* 110, 112-124.
- Olajos, T. 2004:*
Az avar továbbélés kérdéséről. A 9. századi avar történelem görög és latin nyelvű forrásai. (On the questions of Avar continuity. Greek and Latin sources of the 9th century Avar history), in: Erdei, Gy. – Nagy, B. (eds), *Változatok a történelemre. Tanulmányok Székely György tiszteletére. Monumenta Historica Budapestiensia XIV.* Budapest, 111-118.
- Rácz, T. Á. 2016:*
9-11. századi kerámialeletek a váci püspöki székhelyről. (9th-11th century finds from the bishopric seat of Vác), in: Simonyi, E. – Tomka, G. (eds), 'A cserép igazat mond, ha helyette nem mi akarunk beszélni'. *Opuscula Hungarica IX.* Budapest, 103-114, 455-492.
- Skriba, P. 2010:*
9. századi település a Hosszú-víz völgyében (Vát – Telkes-dűlő, Vas megye). (Eine Siedlung des 9. Jahrhunderts im Tal des Hosszú-víz (Vát – Telkes-dűlő, Kom. Vas)), *Archaeologiai Értesítő* 135, 209-240.
- Sommer, U. 2003:*
Materielle Kultur und Ethnizität. Eine Sinnlose Fragestellung? in: Veit, U. – Kienlin, T. L. – Kümmel, Ch. – Schmidt, S. (eds), *Spuren und Botschaften: Interpretationen materieller Kultur. Tübinger Archäologische Taschenbücher 4. Münster/New York/München/Berlin*, 205-223.
- Szalontai, Cs. 2000:*
Kritische Bemerkungen zur Rolle der Bulgaren im 9. Jahrhundert in der Großen Ungarischen Tiefebene und in Siebenbürgen, *Móra Ferenc Múzeum Évkönyve – Studia Archaeologica* 6, 263-286.
- Szentpéteri, J. 2014:*
Kritikai megjegyzések az avar-magyar asszimiláció kérdésköréhez. (Reflections on the problems of the Avar – Hungarian assimilation), in: Sudár, B. – Szentpéteri, J. – Petkes, Zs. – Lezsák, G. – Zsidai, Zs. (eds), *Magyar őstörténet. Tudomány és hagyományörzés. (Hungarian early history. Science and traditionalism).* MTA BTK Magyar Őstörténeti Témacsoport. Budapest, 43-53.
- Szőke, B. 1962:*
A honfoglaló és kora Árpád-kori magyarság régészeti emlékei (Archaeological records of the Conquering Age and Early Árpád Age Hungarians). Budapest.
- Szőke, B. M. 1990-1991:*
The question of continuity in the Carpathian Basin of the 9th century A. D. *Antaeus* 19-20, 145-157.
- Szőke, B. M. 1992:*
7. és 9. századi településmaradványok Nagykanizsán. (Siedlungsreste aus dem 7. und 9. Jh. in Nagykanizsa, SW-Ungarn), *Zalai Múzeum* 4, 129-167.
- Szőke, B. M. 1994:*
A Kárpát-medence a 9. században. (The Carpathian Basin in the 9th century), in: Kovács, L. (ed.), *Honfoglalás és régészet. (Hungarian conquest and the archaeology).* Budapest, 77-84.
- Szőke, B. M. 2014:*
The Carolingian Age in the Carpathian basin. Permanent exhibition of the Hungarian National Museum. Budapest.
- Sz. Garam, É. 1981:*
VIII-IX. századi telepnyom Tiszafüred határában. (Siedlungsspur aus dem 8.-9. Jh. in der Gemarkung von Tiszafüred), *Communicationes Archaeologicae Hungariae* 1981, 137-147.
- Takács, M. 1996:*
Veszprém megye 10-11. századi kerámiája. (Die Keramik des 10-11. Jahrhunderts im Komitat Veszprém), *Pápai Múzeumi Értesítő* 6, 329-351.
- Takács, M. 1997:*
A honfoglalás kori edénművesség (The Conquest Age pottery), in: Kovács, L. – Paládi-Kovács, A. (eds), *Honfoglalás és néprajz. (Conquest and ethnography).* Budapest, 205-223.
- Takács, M. 2009:*
Über die Chronologie der Mittelalterlichen Siedlungsgrabungen in Ungarn. Erläuterungen zu zwei Chronologischen Tabellen, *Acta Archaeologica Academiae Scientiarum Hungaricae* 60, 223-252.
- Takács, M. 2012:*
Die Chronologie der Siedlungen und besonders der Siedlungskeramik des Karpatenbeckens des 8.-11. Jahrhunderts im Spannungsfeld zwischen den verschiedenen Datierungsmöglichkeiten und ihre Einwänden, in: Tobias, B. (ed.), *Die Archäologie der frühen Ungarn. Chronologie, Technologie und Methodik.* RGZM Tagungen 17. Mainz, 145-166.
- Takács, M. 2016:*
Bolgárok a 9. századi Kárpát-medencében. (Bulgars in the 9th century Carpathian basin), in: Sudár, B. – Petkes, Zs. (eds), *Honfoglalás és megtelepedés. Magyar Őstörténet 4. (Conquest and settling. Hungarian early history 4).* MTA BTK Magyar Őstörténeti Témacsoport. Budapest, 62-64.
- Tari, E. 2007:*
Pest megye pusztulása a régészeti adatok tükrében. (The destruction of Pest county in the light of

archaeological data), in: Ritoók, Á. – Garam, É. (eds), *A tatárjárás. Kiállítási katalógus.* (The Mongol invasion. Exhibition catalogue), Magyar Nemzeti Múzeum. Budapest, 47-49.

Tomka, P. 1994:

9. századi népesség a Kisalföldön. (9th century population on the Little Hungarian Plain), in: Kovács, L. (ed.), *Honfoglalás és régészet.* (Hungarian conquest and the archaeology). Budapest, 99-107.

Vargha, M. 2015:

Hoard, grave goods, jewellery. Objects in hoards and in burial contexts during the Mongol invasion

of Central-Eastern Europe. *Archaeolingua Central European Archaeological Heritage Series 8.* Oxford.

Wendowski, M. 1995:

Archäologische Kultur und ethnische Einheit: Möglichkeiten und Grenzen der Identifikation. *Arbeiten zur Urgeschichte des Menschen 19.* Frankfurt am Main.

Wolf, M. 2003:

Adatok 10. századi edényművességünkhöz. A borsodi leletek tanúságai. (Informationen zu unserer Töpferkunst des 10. Jahrhunderts. Die Lehre der Funde in Borsod), Herman Ottó Múzeum Évkönyve 42, 85-108.

Settlements, communication and power

Transforming spatial structure in the Danube-Tisza interfluvium region in the 15th – 17th centuries

*Edit Sárosi**

Abstract

Abrupt and dramatic changes are rarely identifiable in settlement history. Instead, transformations in the settlement system can often be described as long-term tendencies or processes, which are strongly interconnected with long-term socio-economic changes and varying ecological factors accompanying major historical events. The aim of this paper is to present both the constant features and the processes of transformation in the settlement pattern of central Hungary between the 15th and 17th centuries. The study also focuses on the road network of the region, exploring in what ways the changes in political authority during the era of Ottoman occupation (1541-1686) affected late-medieval structures in the central part of the Danube-Tisza interfluvium region.

Keywords: *Late medieval settlement network, settlement desertion, road system.*

Résumé

Peuplement, communication et pouvoir. Transformation des structures spatiales dans la plaine Danube-Theiss au 15e – 17e siècle

Les changements brusques et importants sont rarement identifiables dans l'histoire des peuplements. Au lieu de cela, les transformations de l'habitat peuvent souvent être décrites comme une évolution ou un processus à long terme, qui est fortement interconnecté avec les changements socio-économiques et les différents facteurs écologiques qui accompagnent les événements historiques majeurs. Le but de cet article est de présenter à la fois les caractéristiques constantes et les processus de transformation du modèle de l'habitat de la Hongrie centrale entre les XVe et XVIIe siècles. L'étude porte également sur le réseau routier de la région en analysant de quelle manière les changements d'autorité politique intervenus pendant l'ère de l'occupation ottomane (1541-1686) dans la partie centrale de la région entre les fleuves Danube et Tisza, ont affecté les structures de la fin du Moyen Âge tardif.

Mots-clés: *réseau de peuplement du Moyen Âge tardif, désertion de l'habitat, réseau routier.*

* Budapest History Museum
Szent György tér 1.
H-1014 Budapest
Hungary
sarosi.edit@btm.hu

Zusammenfassung

Siedlungen, Kommunikation und Autorität. Transformation von Raumstrukturen in der Donau-Theiss Ebene im 15.-17. Jahrhundert

Scharfe klar definierte Veränderungen werden selten im Laufe der Siedlungsgeschichte dokumentiert. Ein Wandel der Siedlungsstrukturen und damit langfristige Tendenzen und Prozesse, die an gesellschaftlich-wirtschaftliche Veränderungen und variable ökologische Faktoren anknüpfen, können eher erkannt werden. Das Ziel dieser Studie ist es, die konstanten und veränderlichen

Introduction

The Carpathian Basin seems to be an integrated geographical region in the heart of Europe. In reality, however, its territory has been occupied by numerous peoples and powers, and various political and/or cultural borders evolved in it from prehistory onwards. In terms of political formations, it was the Roman Empire that first created statelike organizations there: these were the provinces of Pannonia and Dacia. The Roman settlement structure barely survived into the centuries following the fall of the Western Roman Empire, but some important elements of the Romanized landscape, such as the road networks, remained in use for centuries (*Laszlovszky 1995; Szende – H. Németh 2014*).

Regarding general spatial structure, the latest analyses of the historical and archaeological datasets revealed that the settlement zones as well as the main traffic channels were quite similar in the Avar Period and the 11th century (*Gabler 2011; F. Romhányi 2018*). The sources reveal that an active communication network was in use in the central part of the Danube-Tisza interfluvium region, where an intense traffic and road system can be sketched in the post-Roman and early medieval periods. One major ancient road led along the Roman Ripa Pannonica and the *limes* by the Danube bank, which became one of the most important medieval communication routes in the region (*Szilágyi 2014*, 117-118). The most important ferry points on the Danube were at Aquincum (Buda/Pest), Intercisa (Dunaújváros), Annamatiá (Dunaföldvár), (Bölcske), and Lugio (Dunaszekcső). On the Tisza River crossing points were at Szolnok, Csongrád, Szeged, Kanjiža/Senta, and Bečej. Neither the dissolution of the Avar Khaganate nor the Hungarian conquest in the 10th century interfered much with this system. The Hungarian Kingdom was also founded on the inherited spatial pattern, which was slightly modified due to the southern expansion of Hungarian state power in the late 11th century, but remained fundamentally untouched until the early 13th century. It seems, however, that beginning in the 1200s, several former centres lost their importance in

Faktoren sowie die Entwicklung und Transformation des Siedlungsgefüges zwischen dem 15. und 17. Jahrhundert zu untersuchen. Der Beitrag konzentriert auf die Gebiete der historischen Straßenverbindungen im Donau-Theiss-Region und diskutiert die Auswirkungen der Herrschaft der Osmanen (1541-1686) und deren Effekte auf spätmittelalterliche Strukturen im mittleren Donau-Theiss-Raum.

Schlagwörter: *Siedlungsnetz, Spätmittelalter, Wüstungen, Straßensystem.*

the region, such as most of the early privately founded monasteries, or former administrative centres like Szolnok or Csongrád. A more centralized spatial system developed with new administrative and economic centres, among which the most important was Buda, the later capital of the Hungarian Kingdom (*F. Romhányi 2018*).

In respect of political power, the next fundamental change took place in 1541, when the advancing Ottoman Empire occupied the central territories of the Hungarian Kingdom. The present paper aims to present the development of the settlement pattern in the late medieval and the Ottoman periods, and to explore in what ways the changes in political authority affected the spatial structure in the region. The study also seeks to identify those elements in the past landscapes, *e.g.* settlements or roads, that were integral parts of this network.

Formation of the late medieval settlement network

Historical periodization usually has changes in political authority as its milestones. Yet, such clear-cut events or marked changes are rarely identifiable in settlement studies. In medieval Hungary, both historical and archaeological sources suggest that the dispersed landscape of the Árpáadian period was significantly transformed in the 13th-14th centuries and is often interpreted as one of the most substantial realignments of the settlement system in the entire history of Hungary. During this process, a massive desertion led to the emergence of nucleated villages and market towns, which became the dominant settlement forms in the 15th-17th centuries (*Szabó 1966; Kubinyi 2000; Laszlovszky 1999; Sárosi 2009; 2016*).

The transformation in the settlement structure coincided with the end of a dryer, milder climatic optimum in the Carpathian Basin, followed by the gradually cooling climate of the Little Ice Age from the second half of the 13th century on. Thus, the changing environmental circumstances probably also contributed to the structural changes. The increased precipitation and rising groundwater



Fig. 1: The deserted medieval village of Aranyegyháza, a typical late medieval Cuman village that occupied a former habitation site (© Otto Braasch, Katona József Museum, Photo Archives).

levels in particular led to a shift from the lower-lying habitation zones to the more-elevated areas in the flat landscape of the Great Hungarian Plain, and stimulated the spread of large-scale extensive animal husbandry instead of arable farming (Vadas – Rácz 2013; Pinke et al. 2017).

In the Danube-Tisza interfluvium region, this rearrangement and nucleation of settlements was accompanied by the arrival of the Cuman people from the second half of the 13th century on. The settlement and integration of the Cumans required a special adjustment to the existing human geographical frameworks of the area. Studies on the early Cuman settlement area revealed that the Cumans in part occupied former, deserted village sites from the late 13th century in the Danube-Tisza interfluvium region, where their settlement and cemeteries are the direct continuation of earlier habitation. Another group of Cuman dwellings comprise sites where no earlier habitation could be detected. At the same time, there is only incidental documentary evidence for the temporary dwellings of the Cumans. That is why it is hard to know exactly how many inhabited sites existed, or to estimate how many of the former Cuman dwellings developed into villages (Pálóczi Horváth 1989; 2014; Rosta 2010; Sárosi 2016) (Fig. 1).

Interestingly enough, the central part of the interfluvium region is basically missing from the early medieval urban map of Hungary. However, numerous significant early foci surround the area, such as the administrative centres of Szolnok, Csongrád, and Pest, besides the archbishopric seat of Kalocsa (Laszlovszky 1995; Szende 2015). The archaeological topographical investigations revealed that the region was steadily populated in the Árpáadian period, yet it is not yet fully understood how the urban functions were present in that period. The most recent research suggests that the early monastic institutions, such as the privately founded monasteries of Szer and Pétermonostora or the royal foundation at Ócsa, were most probably actively involved in the system (F. Romhányi 2015; 2018; Sárosi – Rosta 2017). The spatial reorganization in the 13th-14th centuries also resulted in essentially a new pattern in terms of urbanity. Most of the early monasteries disappeared during the 13th century, while a new urban settlement type emerged from the villages, called *oppidum* ('market town', 'mezőváros'), and it had appeared in written sources by the mid-14th century.

Another indication for the changes in the settlement structure is the restructuring of ownership in the area: the massive royal estate body that existed in the central part of

the interfluvial region in the Árpadian period disappeared after the Mongol Invasion (1241-1242) (*Györffy 1963*, 884-889; *1998*, 498-507; *Zsoldos 2001*, 45-47, 58-59; *Font 2011*). In the absence of detailed written evidence, it cannot be determined whether all these settlements were destroyed by the Mongols in 1241-1242 or if some sites survived the invasion, and their disappearance can be connected to a conscious reorganization process. One part of the deserted village sites was handed over to the Cumans in areas where royal authority allotted their habitation areas. Another significant part of the uninhabited or not viable royal properties was reorganized and attached to surviving and/or developing settlements, local market centres such as the later Kecskemét, Cegléd, and Nagykovács. The fact that clusters of deserted early villages are usually found around and on the site of the later urban cores can be regarded as an indicator for this rearrangement.

This shift towards the new emerging urban cores is clearly noticeable, if the topography and hierarchy of early centres and late medieval market towns are compared. According to the set of criteria set forth by András Kubinyi to classify the central places in terms of central functions and urban hierarchy, there were 2 major, primary urban centres in the interfluvial area in the late 15th century, namely Pest and Szeged. They are directly followed by Kalocsa, one of the most important ecclesiastical and administrative centres. Kecskemét and Cegléd are both representative examples of emerging urban cores, which can be grouped into the fourth hierarchical subgroup, defined by moderate urban functions. They were both located at the junction of important regional roads, had market privileges, and had their own town administration body. Yet, in legal terms, they were subjugated to various landlords. In addition, no mendicant houses or guilds are mentioned in connection with them in the late medieval period, which reflects an incomplete state of urbanity. Still, this means that the 2 sites of the area can be ranged among the 35 sites in the central part of the interfluvial region. At a lower level of hierarchy, settlements with limited urban functions are recorded in the next group, among them the former important administrative centre Szolnok, accompanied by the emerging Cuman seat of Halas, the market centre of Dunapataj, and the ferry sites Ráckeve and Solt. The important early county seat of Csongrád together with Nagykovács, Szer, Pótharasz, and Vacs can be categorized into the 6th subgroup, identified as villages resembling market towns, whose urban functions were mainly restricted to weekly market rights with minor local administrative functions. Finally, the 7th and lowest stratum consists of villages having minor central functions, mostly being sites of local weekly markets, such as Akasztó, Jakabszállás, or Fajsz (*Kubinyi 2000*, 59-101).

Traffic in the late medieval period

It is clear from the comparison of archaeological topography, documentary sources, and the earliest cartographic representations that access and the communications networks played a crucial role in the desertion or emergence of settlements in the region. Based on the earliest mapping of traffic routes and medieval church ruins in the 18th century, it is obvious that the late medieval village sites are depicted as being located along the roads that were used in the 18th-19th centuries, which suggests that the main routes were permanent landscape features. In search of the roots of this phenomenon, it is evident that the presence of extended wet or marshy areas was the geographical factor that has influenced both the possible sites of settlements and the connections between them in the region since prehistoric times. The east-west directed traffic especially represented a challenge, because of the extended north-south aligned series of marshlands called Órjég, which stretches parallel with the flow of the Danube River over a length of 130 km from the region of Dabas and Kunadacs to Akasztó and Kalocsa in the south (*Biró – Iványosi-Szabó – Molnár 2015*). Consequently, sites at permanently accessible route ways were more likely to be successful and viable settlement areas. At the same time, minor changes in groundwater level could exert significant changes in accessibility. A series of alternative traffic routes developed between the main nodes, influenced by environmental circumstances. Even if there were considerable changes in the political or economic circumstances, affecting the hierarchy of the regional roads, the backbone of the network basically was determined by the 15th century and remained untouched until the 20th (*Blazovich 1998; Sárosi 2003; Rosta 2010*).

In terms of the connections between these centres, it has to be pointed out that the major route along the western bank of the Danube remained one of the most important traffic channels throughout the medieval period (*Szilágyi 2014*, 118). Its significance is highlighted by several important ecclesiastical foundations located at strategic crossing points, including monasteries at Tolna, Madocsa, Földvár, and Pentele, with the associated sites developing into significant market centres, ferries, and custom stations after the monasteries had ceased to exist. At the same time, another early *via magna* developed on the opposite side of the river, starting at Baja, and connecting the archbishopric seat at Kalocsa and a set of smaller villages and market centres, such as Dunapataj, Solt, Apostag, Dunavecse and Tass, Dömsöd, and Ráckeve with the town of Pest.

Concerning the correlation between the settlements and the pattern of transport, two main traffic channels can be reconstructed between the two major medieval urban centres, Pest and Szeged: one early route started at Szeged, and ran either through Szermonostora or

Dorozsmamonostora to Pétermonostora, where it turned towards Kecskemét, Dabas, and the royal monastery at Ócsa and Pest. The other main route led from Szeged in the direction of Szeged-Sáregyháza-Félegyháza-Kecskemét-Nagykőrös-Cegléd-Pilis, or Nagykőrös-Ócsa, before arriving at Pest. This latter route probably gained particular importance in the late 13th-14th centuries, when, on occasion, the main route of the *via magna* avoided the re-developing central areas and shifted towards the eastern border of the unsettled Cuman habitation zones, providing urban prospects especially for Kecskemét, Nagykőrös, and Cegléd, but contributing considerably to the retrogression and decay of the Pétermonostora monastery (Sárosi – Rosta 2017).

Along the Tisza River, the most important medieval ferry sites were Szeged, Csongrád, Alpár, Jenő, Várkony, and Szolnok, all actively involved in the trade and distribution of salt (F. Romhányi 2016) since the Roman period. It seems that from the early Árpadian period the main traffic routes ran along the edge of the extended inundation zone of the river from Szeged to Szermonostor-Csongrád and Alpár. However, unlike the situation described along the Danube, the crossing sites north of Alpár were not connected to this routeway. They rather served as individual stations of the south-east-north-west oriented communication routes. There were, for instance, separate links between the Jenő, Alpár, Csongrád, and Szolnok ferries and Nagykőrös, which could then turn towards Cegléd and Pest, or to Kecskemét in the direction of Solt/Dunaföldvár or Kalocsa.

Transformations in the settlement network during the Ottoman period

The Battle of Mohács in 1526 ended with the victory of the Ottomans and led to the division of the medieval Hungarian Kingdom. The area between the Danube and Tisza Rivers became part of the Ottoman occupation zone from the 1530s to the end of the 17th century. However, it seems that the constant presence of military forces and the warfare conditions did not affect the general existence and the structure of settlements in the 16th century. It is remarkable that both historical and archaeological evidence suggest that the number, location, and most probably the size of the villages did not change considerably in that period, as the majority of those villages that are recorded as populated sites around 1500 were likely to be among the inhabited places throughout the 16th century in the central interfluvial area (Sárosi 2016, 80-84).

Yet, there is a smaller group of villages that appear in documentary sources and archaeological material as inhabited sites even in the early 16th century, but the first Ottoman defter roll in 1546 records them as being deserted (Káldy-Nagy 1985; 2008). Thus, their

disappearance can be directly connected to the immediate and short-term effects of the change in authority. Although it seems logical that the desertion of these settlements was caused by the Ottoman military campaigns, it is worth looking behind this phenomenon more carefully. One may consider that the purpose of the Ottomans was not to depopulate the subjugated territories, but rather to maximise profit from them, mainly through taxation (Fodor 2001). Furthermore, it is apparent that these deserted lands almost immediately became the rented lands of surrounding larger urban settlements. Both the Hungarian tax rolls and the Ottoman defter lists indicate that there was no long hiatus or intermission in the cultivation of the arable lands of the freshly deserted villages, as large parts of the fields appear as regularly and intensively cultivated areas, either as arable fields or pastures for export-oriented stockbreeding.

It is difficult to assess changes in the village network, and the extent to which the disappearance of settlements was caused by the literal destruction and death of inhabitants; it is also possible that the disappearance of settlements was in part a planned evacuation after the first major waves of Ottoman military attacks in the 1530s. The documentary sources suggest that landowners instantly leased out their possessions to viable settlements, usually to market towns. At the same time, the leaseholder settlements redistributed the rented deserted village lands to their citizens for cultivation, including the accommodated fleeing peasants from the area. Eventually, it can be hypothesized, in practice the inhabitants of the deserted villages moved to safer towns and cultivated the fields of their former homelands. Consequently, it is possible that this pattern of sudden desertion can be interpreted as a conscious economic strategy, or a dynamic process that continually adapted settlement patterns to maximise productivity by protecting taxpayers and facilitating new expansion zones as well as extra profit from the economic production of the deserted lands for both market towns and landowners.

In the period between 1541 and 1590 the people and the system adapted to the new conditions: a large part of the villages survived the Ottoman attacks and the transition of power. The management of both the inhabited and the deserted lands was complex: besides subsistence arable farming, large-scale extensive animal breeding was dominant. The export of cattle flourished. Customs rolls report that every year tens of thousands of cattle left the area towards Vienna and the South German territories and to Venice (Makkai 1971; Pickl 1979; Blanchard 1979; Sárosi 2011; Fara 2015; 2017; Nagy 2018). The developing urban cores, such as Kecskemét, Ráckeve, Cegléd, and Nagykőrös increased their economic production, mainly through the management of deserted village lands. The number of town dwellers

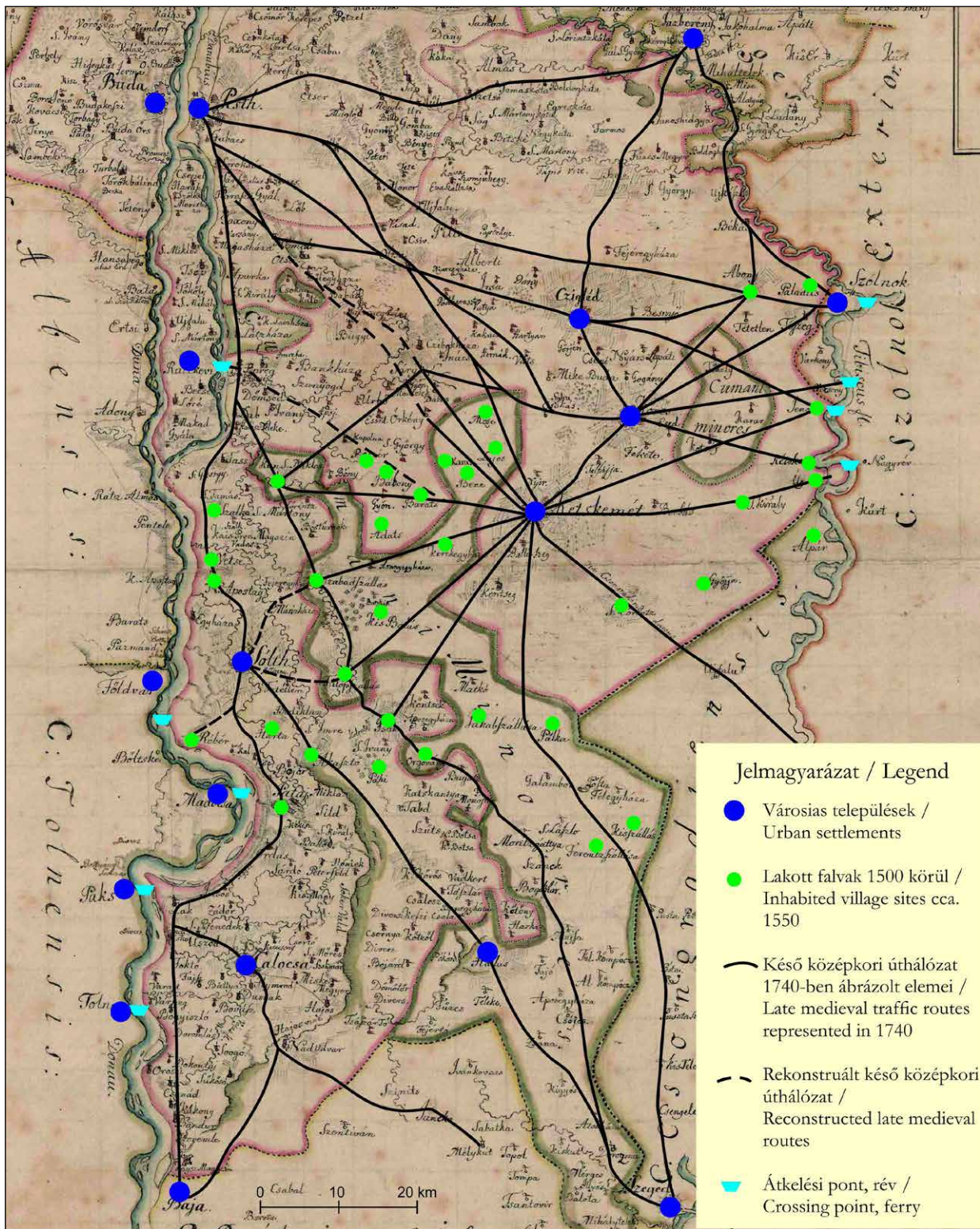


Fig. 2: Late medieval occupied and deserted settlements and urban sites, with the reconstructed main traffic roads and ferry points/custom stations delineated around Kecskemét on *Mappa Unitorum Comitatum Pestiensis Pilisiensis et Solthensis Non Minus Districtum Cumanorum Minorum*, cartographer unknown, 1740 (© National Széchenyi Library Budapest, TK 1086).

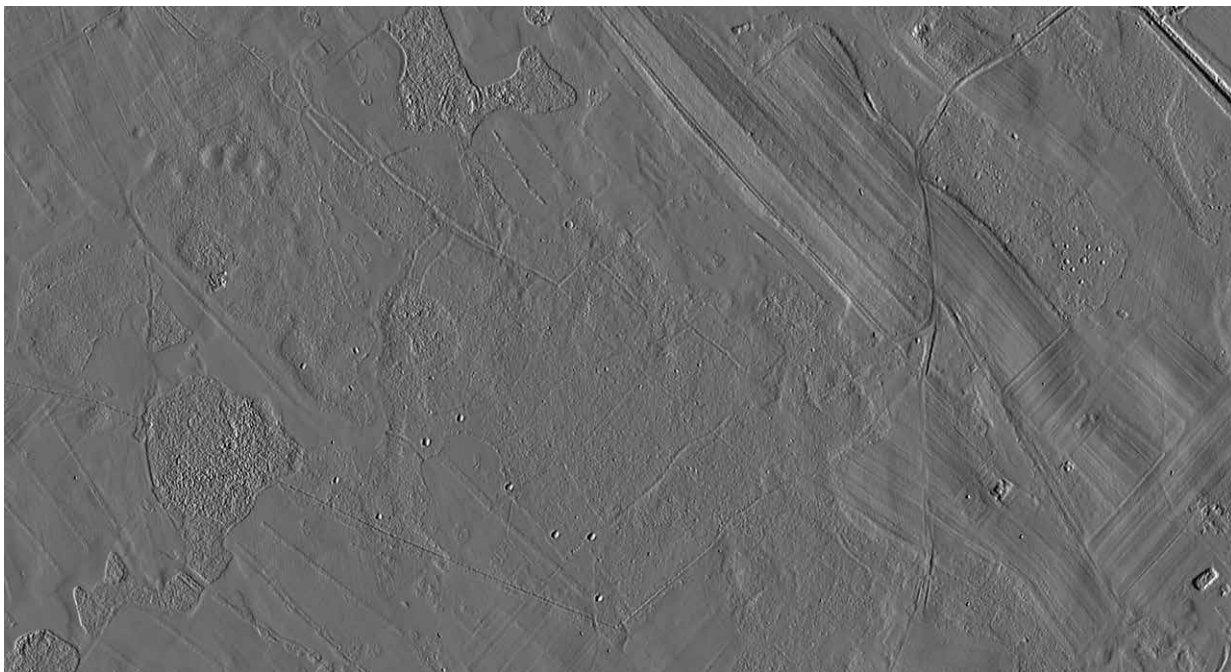


Fig. 3: The deserted medieval village of Páhi, medieval plots, and the section of the causeway (the LiDAR survey was financed by the HELM Solutions GINOP-2.1.1-15-2015-00695 project titled 'Development of remote sensing research centre for the protected cultural and natural heritage, and the elaboration of new survey technics and documentation procedures' in 2017, © HELM Solutions Ltd).

multiplied. For instance, at Kecskemét the defter roll listed 200 taxpayers in 1546, and 580 taxpayers in 1590 (*Káldy-Nagy 1985, 347-350*). Furthermore, it has even been recently questioned whether the slowing or reversal of demographic trends and the stagnation or weakening of crafts, which were interpreted as the two most emblematic signs of decline in other parts of Europe, affected all towns in Hungary with the same intensity (*Bessenyei 2005*). Those *oppida* that were intensively involved in export-oriented agricultural production, including Kecskemét, rose to the highest level in the hierarchy of towns, both from economic and demographic points of view. Thus, the latest discussions interpret this process as a significant rearrangement in the hierarchy of urban settlements (*Bácskai 2002*).

The rise of animal export in particular intensified traffic in the region, as the largest breeding zones were located in the central and south-eastern part of the interfluvial region and east of the Tisza River. Beginning with this period, it seems that the routes or direct links crossing the central Cuman habitation zones revived in regional traffic and transport, which can be detected in the emergence of smaller and larger local market centres, such as Halas. From Szeged to Pest one route passed the Cuman seat at Halas, then reached Kiskőrös and Akasztó and approached Révfalu/Dunaföldvár or turned towards Dunapataj or Kalocsa and the Tolna or Madocsa ferry. Another road, after leaving Szeged, led through the

Cuman territories like Majsa, Bodoglár, Monostor, Bugac, Izsák, and Fülöpszállás to Szabadszállás, where it turned towards Kunszentmiklós and reached the customs and ferry at Ráckeve, or turned towards the Révbér/Földvár ferry. Another direct route is documented from Kecskemét to Révbér/Dunaföldvár, passing by the Cuman villages Szabadszállás, or Fülöpszállás when heading towards Dunapataj or Kalocsa, via Baracs and Kunszentmiklós if going towards Ráckeve and Lajos and Mizse if oriented towards Örkény and Pest (Fig. 2).

Still, the set of marshes and swamps presented challenges to travellers. The crossing of the marshlands with hundreds of animals especially required a definite plan and extensive expertise. Unfortunately, there is no detailed contemporary description about travelling in the region, but based on the cartographic evidence and preserved landscape features, one part of these roads were the consciously built and maintained causeways, while in other sections the drovers used the natural access options, which are regularly represented on early maps. Some of these drove roads are preserved in remarkable condition, such as the causeway at Fülöpszállás, which was documented as a 2.5 m high and 5-7 m wide embankment, accompanied by parallel ditches. A similar but smaller causeway led from the medieval village of Orgovány to Kiskőrös, through the marshy areas in Páhi, where the remains of the road was documented as a 3-4 m wide and 1-1.5 m high embankment, with ditches on



a.



b.



c.

Fig 4: a) The causeway section of the main traffic road leading from Kecskemét to Solt/Dunaföldvár at Fülöpszállás (© Map Collection of the Institute of Military History, Budapest: B IX a 527 Coll: XV Section 26); b) Fülöpszállás, the causeway from the air (© Google Earth, 2018); c) Fülöpszállás, causeway (© Edit Sárosi 2017).

both sides. The exact dating of these constructions is not possible, yet the fact that they connect and pass medieval settlement sites is a strong indication that they were used in that period (Figs. 3-4).

The consequences of the Long War period on the settlement pattern

Without doubt, it was the period of the Long War (1591-1606) between the Habsburg monarchy and the Ottoman Empire that can be interpreted as creating a clear division point in terms of the late medieval pattern of settlements in the Danube-Tisza interfluvium region. This prolonged wartime period resulted in the most severe desertion of settlements in the area. The general destruction and abandonment of settlement sites is apparent, when the Ottoman defter lists from 1590 and the tax reports from the early 17th century are compared: the tax lists mention several inhabited villages in the 1590s, but by the 1610s almost all settlements have disappeared in the region, except for market towns like Kecskemét, Cegléd, Nagykőrös, and Ráckeve and a handful of minor local market sites. The subsequent development and flourishing of urban sites is not a new phenomenon, but rather a continuation of the 15th-16th-century trend. These urban cores made use of the new wave of settlement desertion, which provided extra opportunity to increase their population and acquire new agricultural production zones by expanding their territories to deserted settlements (Szakály 2001, 481; Sárosi 2016, 85-95). What is more striking in terms of the overall settlement network is the slow but steady growth of the former smallest market places and ordinary village sites in the settlement hierarchy, located mostly in the central Cuman areas. Some of these sites, in fact, had already appeared among the settlements with local central functions such as Dunapataj and Solt in the late 15th century, but most were ordinary villages in the Cuman settlement area, such as Fülöpszállás, Szabadszállás, Izsák, Kunszentmiklós, or, in the Hungarian settlement area, Akasztó, Dunapataj, Tass, Dunavecse, and Szalkszentmárton during the 16th century. Yet it is clear that their development from villages to small local market centres is closely connected to their location, as they were all along the major traffic routes of the flourishing long-distance animal trade. Further on, the characteristically Protestant (Calvinist) communities of these sites also attested their viability as, from the early 17th century, several church and school foundations are registered as connected to them. Thus, they can be seen as residuum settlements among the vast deserted areas in the 17th century that became the nuclei and stimulators for resettlement of the deserted village lands in the following two centuries.

Another important feature in the spatial structure of the interfluvium region in the 17th century was the emergence and spread of the isolated farmsteads, which became the emblematic features of local landscape by the 19th century. The development of the farmstead system is a widely discussed and fully elaborated topic in Hungarian scholarly literature, the presentation of which would exceed the limits of this paper (Den Hollander 1980; Bárb 1996; Béres 2000; Sárosi 2016, 103-107). In connection with settlement structure, it is important to mention that the roots and early forms of isolated farmsteads can be connected with the appearance of allotted gardens as the substantive appurtenances of settlements, mainly on leased deserted lands from the 1650s. The appearance of temporary, later permanent buildings were the indicators of the functional transformation of such gardens, which developed into permanently inhabited isolated farmsteads based on a subsistence economy by the late 19th century.

Finally, by the 19th century almost all characteristics of the medieval patterns had disappeared from the settlement system. The dense network of smaller nucleated villages and larger market towns gave way to a looser network of regional and local market centres, which were surrounded by thousands of permanently inhabited farmsteads. Villages were basically missing from the structure until the late 18th century, when the first deserted lands were repopulated.

Summary

Both the patterning and inner structure of settlements were part of a dynamic system from the 15th to the 17th century, in which various frameworks were adopted for living and production in the changing political, economic, and environmental circumstances. The emergence of the market towns and the gradual desertion of the village network can only partially be explained as the direct consequences of change in political authority or the general destruction associated with the Ottoman military campaigns in the 16th century. Economic reasons, such as the transformation of the land management system, formed an equally relevant background for this process, as the deserted lands provided new and free expansion areas for export-oriented large-scale livestock husbandry. The regional road network dynamically followed the shifts in settlement hierarchy. It seems that the early routes, especially those that crossed the central territories, lost their importance after the settlement of Cumans in the 13th century, and the main regional and long-distance routes moved to the borders of the Cuman habitation zone and provided urban prospects for the developing market cores, such as Félégyháza, Kecskemét, Nagykőrös, and Cegléd along the eastern border of the Cuman settlement, and the Kalocsa-Dunapataj-Akasztó-Solt line

along the early communication route on the eastern side of the Danube.

No considerable break or recession can be observed in the settlement network until the Long War (1591-1606), while the 17th century opened a relatively new development phase. Along with the general desertion of the village system, only local and regional market centres survived, and this pattern became combined with the earliest isolated farmsteads from the late 17th century on. The viability and development of local residuum sites was to a great extent connected with and dependent on the intensifying and flourishing livestock trade. Apparently, these settlements, including Szabadszállás, Izsák, Fülöpszállás, and Kunszentmiklós, represent a well-defined group mostly in the central Cuman habitation zones, indicating that these areas successfully connected with and integrated to the regional economic and commercial network.

References

- Bácskai, V. 2002:*
Városok Magyarországon az iparosodás előtt (Towns in Hungary before the industrialization). Budapest.
- Bárth, J. 1996:*
Szállások, falvak, városok. A magyarság települési hagyománya (Lodgings, villages and towns: The settlement tradition of the Hungarians). Kalocsa.
- Béres, M. 2000:*
Archäologische Angaben zur Einzelhöfe in der Türkenzeit zwischen der Donau und Theiß, in: Klápsťe, J. (ed.), Conference Rurality 3, Maynooth, 3-9 September 1999. Rurality III. Praha, 69-82.
- Bessenyei, J. 2005:*
Änderungen im Städtenetz Ungarns in der Anfangsphase der türkischen Besetzung unter besonderer Berücksichtigung der geflohenen Bürger. Miskolc, 3-20.
- Biró, M. – Iványosi-Szabó, A. – Molnár, Zs. 2015:*
A Duna-Tisza köze tájtörténete (The landscape history of the Danube-Tisza interfluvium region), in: Iványosi-Szabó, A. (ed.), A Kiskunsági Nemzeti Park Igazgatóság 40 éve. Kecskemét, 1-59.
- Blanchard, I. 1979:*
The continental cattle trades 1400-1600, Economic History Review 2/9, 427-460.
- Blazovich, L. 1998:*
Az Alföld 14-16. századi úthálózatának vázlata (The draft of the traffic routes in the Great Plain Region between the 14th to the 16th centuries), Tanulmányok Csongrád megye történetéből 26, 51-61.
- Den Hollander, A. N. J. 1980:*
Az Alföld települései és lakói (The settlement and people of the Great Hungarian Plain). Budapest.
- Fara, A. 2015:*
An outline of livestock production and cattle trade from Hungary to Western Europe in the late Middle Ages and early Modern Period (XIVth-XVth centuries), Crisia 45, 87-95.
- Fara, A. 2017:*
Production of and trade in food between the kingdom of Hungary and Europe in the Late Middle Ages and Early Modern Era (Thirteenth to sixteenth centuries). The roles of markets in crises and famines, Hungarian Historical Review 6/1, 138-179.
- Fodor, P. 2001:*
Some notes on Ottoman tax-farming in Hungary, Acta Orientalia Academiae Scientiarum Hungaricae 54, 427-435.
- Font, M. 2011:*
The crises of medieval society: the Mongol invasion in Eastern and Central Europe, in: Litvin, M. (ed.), Studies in honor of Leonty Voytovych. LVIV, 691-698.
- F. Romhányi, B. 2015:*
Kolostorhálózat – településhálózat – népesség. A középkori Magyar Királyság demográfiai helyzetének változásaihoz (Monastic network – settlement system – Population. On the demographic changes of the medieval Hungarian Kingdom), Történelmi Szemle 57, 1-51.
- F. Romhányi, B. 2016:*
A beregi egyezmény és a magyarországi sókereskedelem az Árpád-korban (The Bereg agreement and the salt trade in the Árpadian period), in: Kövér, Gy. – Pogány, Á. – Weisz, B. (eds), Magyar Gazdaságtörténeti Évkönyv. 2016. Válság, kereskedelem. Budapest, 265-301.
- F. Romhányi, B. 2018:*
Changes of the spatial organization of the Carpathian Basin (5th-14th century), Zeitschrift für Archäologie des Mittelalters, in press.
- Gabler, D. 2011:*
Utak Pannonia és Dacia között a 'barbaricum' át. (Strassen zwischen Pannonien und Dakien durch das Barbaricum), in: Bajusz, I. – Benő, E. – Emődi, T. – Kovács, A. – László, A. (eds), Dolgozatok az Erdélyi Múzeum Érem és Régiségtárából 2008-2010. Kolozsvár. 43-61.
- Györffy, Gy. 1963:*
Az Árpád kori Magyarország történeti földrajza (The historical geography of Hungary in the age of the Árpáds), vol.1. Budapest.
- Györffy, Gy. 1998:*
Az Árpád kori Magyarország történeti földrajza (The historical geography of Hungary in the age of the Árpáds), vol.4. Budapest.
- Káldy-Nagy, G. 1985:*
A budai szandzsák 1546-1590. évi összeírásai (Taxation lists from the Sanjak of Buda, 1546-1590). Budapest.

- Káldy-Nagy Gy. 2008:*
A szegedi szandzsák települései, lakosai és török birtokosai 1570-ben (The settlement, population and Ottoman landowners of the Szeged Sanjak). Szeged.
- Kubinyi, A. 2000:*
Városfejlődés és városhálózat a középkori Alföldön és az Alföld szélén (The development and network of towns in the Great Hungarian Plain in the medieval period). Csongrád Megyei Levéltár. Szeged.
- Laszlovszky, J. 1995:*
Frühstädtische Siedlungsentwicklung in Ungarn, in: Brachman, H. (ed.), Burg-Burgstadt-Stadt. Zur Genese mittelalterlicher nichtagrarischer Zentren in Ostmitteleuropa. Berlin, 307-316.
- Laszlovszky, J. 1999:*
Field systems in medieval Hungary, in: Nagy, B. – Sebök, M. (eds), ...The man of many devices, who wandered full many ways... Festschrift in Honor of János M. Bak. Budapest, 432-444.
- Makkai, L. 1971:*
Der Ungarische Viehhandel 1550-1650, in: Ingomar, B. (ed.), Der Aushandel Ostmitteleuropas 1450-1650. Köln/Wien, 483-506.
- Nagy, B. 2018:*
Foreign trade of medieval Hungary, in: Laszlovszky, J. – Nagy, B. – Szabó, P. – Vadas, A. (eds), The economy of Medieval Hungary. Leiden, 473-490.
- Pálóczi Horváth, A. 1989:*
Steppe traditions and cultural assimilation of a nomadic people: the Cumanians in Hungary in the 13th-14th century, in: Shennan, S. (ed.), Archeological approaches to cultural identity. London, 291-302.
- Pálóczi Horváth, A. 2014:*
Keleti népek a középkori Magyarországon. Besenyők, úzok, kunok és jászok művelődéstörténeti emlékei. (Peoples of eastern origin in medieval Hungary. The cultural heritage of Pechenegs, Uzes, Cumans, and the Jász.) Budapest.
- Pickl, O. 1979:*
Die Viehhandel von Ungarn nach Oberitalien vom 14. bis zum 17. Jahrhundert, in: Ekkehard, W. (ed.), International Ochsenhandel (1350-1750). Stuttgart, 39-81.
- Pinke, Zs. – Ferenczi, L. – F. Romhányi, B. – Gyulai, F. – Laszlovszky, J. – Mravcsik, Z. – Pósa, P. – Gábris, Gy. 2017:*
Zonal assessment of environmental driven settlement abandonment in the medieval Trans-Tisza region, Central Europe, Quaternary Science Reviews Feb 1/2017.
- Rosta, Sz. 2010:*
A Kiskunság középkori úthálózata (The medieval road network of the Kiskunság region), Múzeumőr 8, 9-14.
- Sárosi, E. 2003:*
Landscape and the possibilities of archaeological topography, in: Laszlovszky, J – Szabó, P. (eds), People and nature in historical perspective. Budapest, 313-343.
- Sárosi, E. 2009:*
The development of 'Puszta' lands in the Danube-Tisza interfluvium region, in: Klápště, J. – Sommer, P. (eds), Medieval rural settlement in marginal landscapes. Ruralia VI. Turnhout, 403-413.
- Sárosi, E. 2011:*
Hungarian grey cattle on the European market between the 15th and the 17th century, in: Klápště, J. – Sommer, P. (eds), Processing, distribution of food. Food in the medieval rural environment. Ruralia VIII. Turnhout, 391-398.
- Sárosi, E. 2016:*
Deserting settlements – emerging market towns. Settlement dynamics and land management in the Great Hungarian Plain 1300-1700. Budapest.
- Sárosi, E. – Rosta, Sz. 2017:*
Privately founded Benedictine monasteries in medieval Hungary. Case study: Pétermonostora, the monastery and a settlement without written history, in: Bis-Worch, C. – Theune, C. (eds), Religion, cults and rituals in the medieval rural environment. Ruralia XI. Leiden, 103-114.
- Szabó, I. 1966:*
A falurendszer kialakulása Magyarországon, X-XV. Század. (The development of the villages in Hungary from the tenth to the fifteenth century). Budapest.
- Szakály, F. 2001:*
A hódolt megye története (The history of Pest county in the Ottoman occupation period), in: Zsoldos, A. (ed.), Pest Megye Monográfiája – a honfoglalástól 1686-ig. Budapest, 329-544.
- Szende, K. – H. Németh, I. 2014:*
Research of the towns of medieval and early modern Hungary since 1989, Vana Tallin 25, 266-294.
- Szende, K. 2015:*
Power and identity: royal privileges to the towns of medieval Hungary in the thirteenth century, in: Pauly, M. – Lee, A. (eds), Urban liberties and civic participation from the Middle Ages to modern times. Trier, 27-67.
- Szilágyi, M. 2014:*
On the road: the history and archaeology of medieval communication networks in east Central Europe. Budapest.
- Vadas, A. – Rácz, L. 2013:*
Climatic changes in the Carpathian Basin during the Middle Ages: the state of research, Global Environment 12, 199-227.
- Zsoldos, A. 2001:*
Pest megye az Árpád korban. (Pest county in the Árpadian Period), in: Zsoldos, A. (ed.), Pest Megye Monográfiája – a honfoglalástól 1686-ig. Budapest, 32-74.

The transformation of rural settlements in Slavonia in the period from the 12th to the 15th centuries

*Andrej Janeš & Ivana Hirschler Marić**

Abstract

Until recently in Croatian archaeology, research of medieval rural settlements was very rarely a subject of scientific interest. Over the past 15 years, extensive protective excavations have been carried out intensively on the routes of future motorways. Large areas have now been explored, which has led to new and more-accurate insights into medieval rural settlements, but there is still a need for the systematic publication of research. The settlements are dated from the Early Middle Ages to the Early Modern Age. Dispersed and nucleated settlements prevailed among the several types of rural settlements during the reigns of the Árpád and Angevin dynasties. This paper discusses the transformation of rural settlements in Slavonia with reference to numerous examples. An earlier group of dispersed settlements, dated from the 10th to 13th centuries, was characterized by occasional dispersed structures, a small number of pits, and hearths. The buildings are characterized as dwellings and/or working buildings. They were built in the form of huts with steep roofs. Settlements dated from the 13th and 14th centuries to the first half of the 16th century show different features. They consist of larger dwellings with the remains of posts combined with postholes and hearths. Different types of settlements are represented among these buildings; from single-spaced structures that are reminiscent of earlier periods, to the multi-spaced buildings with house plots. This period is characterized by the development of a fixed plot system. Organized compact settlements replaced the former dispersed and isolated ones, and are connected to the reorganization of the field system. Settlements established during the 15th century have been recorded and their existence has been established, even after the Ottoman conquest of Slavonia. By the shape of the structures and their organization they indicate continuity from the Middle Ages.

* Department for Archaeology,
Division for Archaeological
Heritage, Croatian Conservation
Institute
N. Grškovića 23,
10000 Zagreb,
Croatia.
ajnes@h-r-z.hr,
iharasa@h-r-z.hr

Keywords: *Transformation of settlements, Slavonia, High Middle Ages, Late Middle Ages.*

Resumé

La transformation des habitats ruraux en Slavonie entre le XIIe et le XVe siècle

Jusqu'à l'époque récente, les habitats ruraux médiévaux ne faisaient que très rarement l'objet de fouilles archéologiques croate. Cependant, pendant les derniers quinze ans,

la construction d'autoroutes a donné lieu à d'importantes opérations d'archéologie préventive. Grâce à ces opérations, des larges surfaces ont été fouillées apportant ainsi de nouvelles connaissances sur l'habitat rural médiéval. Toutefois, de nombreux résultats ne sont pas encore publiés ni même étudiés complètement. Les habitats ruraux mis au jour datent du haut moyen Age jusqu'à l'époque moderne. L'habitat dispersé et l'habitat concentré prédominent comme types d'habitat rural médiéval durant les périodes hautes (les deux dynasties des Arpad et des Anjou).

Le présent article traite de la transformation des habitats ruraux en Slavonie. Le groupe de l'habitat dispersé, datant du Xe au XIII siècle, est caractérisé par de rares structures éparses, ainsi que par la faible quantité de fosses et de foyers. Ces structures pourraient avoir soit la fonction d'une unité d'habitation soit d'un atelier/espace de travail. Il s'agit des structures sans murs, ressemblant plutôt à des tentes.

Les habitats datant de la période allant du XIII-XIVe jusqu'à la première moitié du XVIe siècle, comportent des unités d'habitation plus vastes, avec des traces de poteaux, des fosses et des foyers. Ces unités peuvent comporter seulement une pièce (une réminiscence à la période antérieure?), ou être composées de plusieurs pièces et d'une cour. Cette période est caractérisée par le développement du système agraire qui est la raison principale de la transformation de la typologie de l'habitat dispersé en habitat bien organisé et concentré. Il a été possible de constater que certaines agglomérations rurales fondées durant le XVe siècle continuaient à exister durant l'époque ottomane. Certains types d'unités d'habitation et d'organisation montrent ainsi la persistance des modèles médiévaux.

Mots-clés: *transformation des villages, Slavonie, Haut Moyen Age, Bas Moyen Age.*

Zusammenfassung

Die Transformation ländlicher Siedlungen in Slavonien vom 12. bis zum 15. Jahrhundert

Bis vor kurzem stand die Erforschung mittelalterlicher ländlicher Siedlungen nur selten im Fokus des wissenschaftlichen Interesses in der kroatischen Archäologie. In den vergangenen etwa 15 Jahren wurden umfangreiche Ausgrabungen auf geplanten Autobahntrassen durchgeführt. Inzwischen sind große Gebiete erforscht worden, was zu neueren und genaueren Erkenntnissen über mittelalterliche ländliche Siedlungen geführt hat, aber es besteht nach wie vor Bedarf an systematischen Veröffentlichungen der Forschungen. Die untersuchten und hier vorgestellten Siedlungen stammen aus dem frühen Mittelalter bis in die frühe Neuzeit.

Dieser Beitrag beschreibt die Transformation ländlicher Siedlungen in Slavonien mit der Angabe zahlreicher Beispiele. Eine ältere Gruppe von Siedlungen aus dem 10. bis 13. Jahrhundert war durch wenige verstreute Strukturen und eine kleinere Anzahl von Gruben und Feuerstellen gekennzeichnet. Solche Strukturen können als Wohn- und/oder Arbeitsgebäude bezeichnet werden. Die Gebäude haben lediglich einen Raum. Die Siedlungen aus dem 13. und 14. Jahrhundert bis zur 1. Hälfte des 16. Jahrhunderts weisen unterschiedliche Merkmale auf – grössere Wohngebäude mit Überresten von Pfosten, Gruben und Feuerstellen. Es sind verschiedene Objekte vertreten, von Einraumgebäuden bis zu Gebäuden mit mehreren Räumen sowie einem Garten. Dieser Zeitraum ist zudem durch die Entwicklung eines festen Feldsystems gekennzeichnet. Organisierte dichte Siedlungen ersetzen die älteren verstreuten und isolierten Siedlungen, was mit der Reorganisation des Feldsystems zusammenhängt. Diese Siedlungen wurden im 15. Jahrhundert gegründet, und ihre Existenz kann auch nach der osmanischen Eroberung von Slavonien nachgewiesen werden. Durch die Form der Strukturen und der Organisation weisen sie auf eine Kontinuität seit dem Mittelalter hin.

Schlagwörter: *Transformation der Siedlungen, Slavonien, Hochmittelalter, Spätmittelalter.*

Sažetak

Transformacija ruralnih naselja u Slavoniji u razdoblju od 12. do 15. stoljeća

Sve donedavno istraživanje srednjovjekovnih ruralnih naselja u hrvatskoj je arheologiji rijetko bilo predmetom znanstvenog interesa. Tijekom zadnjih petnaestak godina intenzivno su provedena velika zaštitna iskopavanja na trasi budućih autocesta. Zahvaljujući tome istražene su velike površine što je dovelo do novijih i točnijih spoznaja o srednjovjekovnim ruralnim naseljima, no još uvijek je prisutna potreba za sustavnim objavljivanjem istraživanja. Istražena naselja su datirana od ranog srednjeg vijeka do ranog modernog doba. Među nekoliko tipova ruralnih naselja tijekom vlasti Arpadovića i Anžvinaca prevladavali su tipovi raspršenih i organiziranih naselja.

U radu se raspravlja o transformaciji ruralnih naselja u Slavoniji uz navođenje brojnih primjera. Ranija grupa raspršenih naselja, datirana od 10. do 13. stoljeća, obilježena je rijetkim raspršenim objektima, malim brojem jama i ognjišta (vatrišta). Objekti su određeni kao stambene i / ili radne zgrade. Bili su izgrađeni bez zidova u obliku kolibe s kosim krovom. Drugačije osobitosti pokazuju naselja datirana od 13. i 14. stoljeća do prve polovice 16. stoljeća, koja se sastoje se od većih stambenih objekata s ostacima stupova u kombinaciji s

jamama, vatrištima i ognjištima. Među objektima su zastupljeni različiti tipovi nastambi, od jednodostornih s reminiscencijom ranijih razdoblja do višeprostornih objekata s okućnicom. To razdoblje karakterizira razvoj fiksnog zemljišnog sustava. Organizirana zbijena naselja će zamijeniti prijašnja raštrkana i izolirana, što je povezano upravo s reorganizacijom zemljišnog sustava. Zabilježena

su naselja osnivana tijekom 15. stoljeća, utvrđeno je njihovo egzistiranje i nakon osmanskog osvajanja Slavonije, a oblikom objekata i organizacijom ukazuju na kontinuitet iz srednjeg vijeka.

Ključne riječi: transformacija naselja, Slavonija, razvijeni srednji vijek, kasni srednji vijek.

History of the research on medieval rural settlements

Since the development of medieval archaeology in Croatia at the end of the 19th century, the research of settlements has been neglected. During the 20th century, studies of early medieval cemeteries, churches, and monasteries, mainly in Dalmatia, were dominant. The research on religious architecture was incorporated into artistic-historical studies, being influenced by cultural history. Only early medieval cemeteries in northern Croatia were the subject of archaeological research (Jarak 2006, 192-196), while in recent overviews of medieval archaeology in Croatia, settlement archaeology was completely omitted (Petrinec 2009, 555-590).

The pioneering work of Tajana Sekelj Ivančan of collecting data on medieval finds in continental Croatia opened up the possibility of studying finds of settlement features (Sekelj Ivančan 1995). She began a new chapter in the study of medieval settlements and pointed to the potential offered by settlement archaeology (Sekelj Ivančan 2001). Sekelj Ivančan's excavations around Torčec near Koprivnica contributed to the exploration of rural settlements from the 6th to the 14th centuries (Sekelj

Ivančan 2010). Legislation requiring archaeological excavations before construction work has led to an increase in research and new data collection. Since 2005, due to large infrastructural projects, large site areas have been excavated archaeologically, including the settlements of the Middle Ages, from the 4th to the 17th centuries (Fig. 1). Although the number of excavated sites is extremely high, the publication of the research results has not kept pace. Still a large number of sites remain unpublished while the results are available from expert reports. Therefore, conclusions are subject to change. The data provided in this paper is mainly from rescue excavations on the A5 motorway route in Eastern Slavonia and is supplemented with results from other sites in the areas of northern Croatia and Slavonia.

Settlements of the High Middle Ages

The crucial year of Croatian medieval history is considered to be 1102, as it marks the unification of the Kingdom of Croatia with the Hungarian Crown. It is difficult to conclude how much this event is reflected in the corpus of archaeological material. In the area of

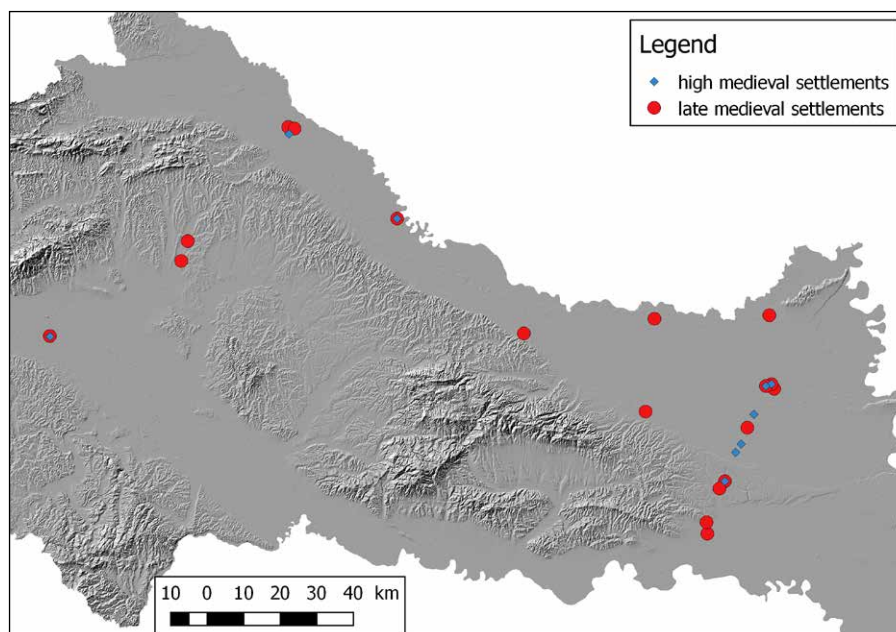


Fig. 1: Map of high and late medieval settlements researched archaeologically in the territory of Slavonia (© Andrej Janeš).

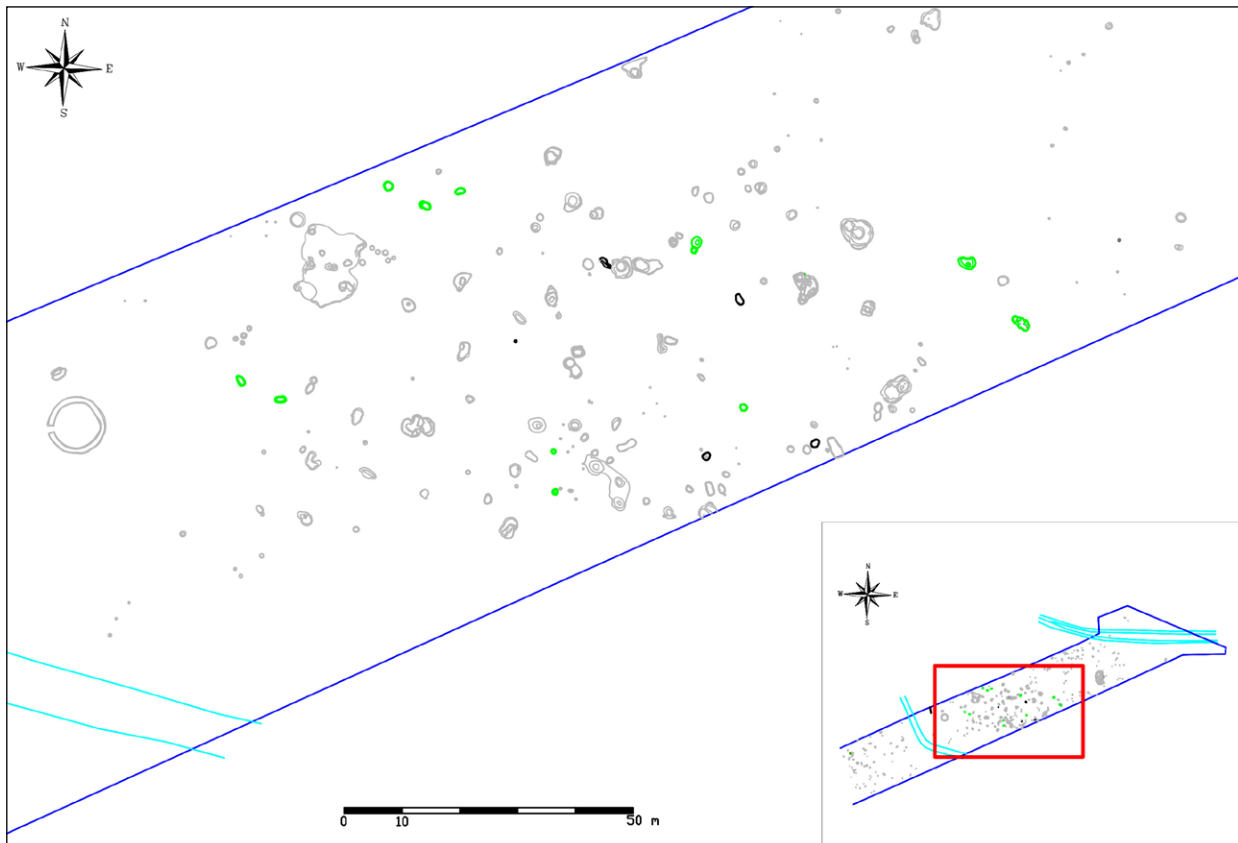


Fig. 2: High medieval features on the Josipovac Punitovački – Veliko polje I site (© Lea Čataj and Andrej Janeš).

Slavonia, excavations have revealed several sites dating back to the High Middle Ages, *i.e.* the beginning of the formal Hungarian authority. This research, unfortunately, did not cover the entire areas of the settlements, which limits the interpretation of the finds and structures found. At Josipovac Punitovački – Veliko polje I, parts of a settlement dated to the 13th century were explored. Situated on a mild elevation in the mostly lowland area (Hirschler 2009, 11), the medieval structures form four groups. The first consists of two pits in the south-east portion of the site, interpreted as dwelling and working structures. Traces of a fireplace have been explored in one of the structures. The group in the north consists of three pits: one is interpreted as a working structure and the other two as waste pits. The third group in the west consists of two pits, characterized as a dwelling and with working objects and traces of a fireplace. Finally, there is a group of two joined pits in the central part of the excavated area, located between the second and third groups of pits. All groups are equidistant, at between 40 and 44 m apart (Janeš 2009, 235-236, 239) (Fig. 2).

It is difficult to reconstruct the appearance of the structures, but the finds of postholes inside the pit indicate a tent structure. Most of the structures, whether

for dwelling or working, measured 2.5-3.3 m long and 1.15-2.2 m wide. Such dimensions are also conditioned by agricultural exploitation of the land. The size of the structures that at the time of functioning were not drastically larger suggests the need for more facilities for the inhabitants. One was used for dwelling or sleeping, the other for food preparation. The grouping of structures indicates social division.

In the immediate vicinity a contemporary site was excavated at Jujrevac Punitovački – Stara Vodenica, where the remains of the settlement dated to the 12th and the first half of the 13th centuries (Bunčić 2016, 266) were found with a small number of dispersed pits and one well (Bunčić 2012, 207). The pits are grouped in the northern portion of the site, with one isolated on the south (Bunčić 2016, Fig. 2).

Two more sites were explored in the nearby area. At Franjevac near Đakovo, dispersed structures were explored with the first phase dated to the end of the 11th to the beginning of the 13th centuries (Dugonjić 2017, 308). The structures were divided into two larger groups; one in the northern portion of the site and the other in the southern. The structures are approximately 40 or more m apart (Dugonjić 2017, Fig. 10). Similarly separated

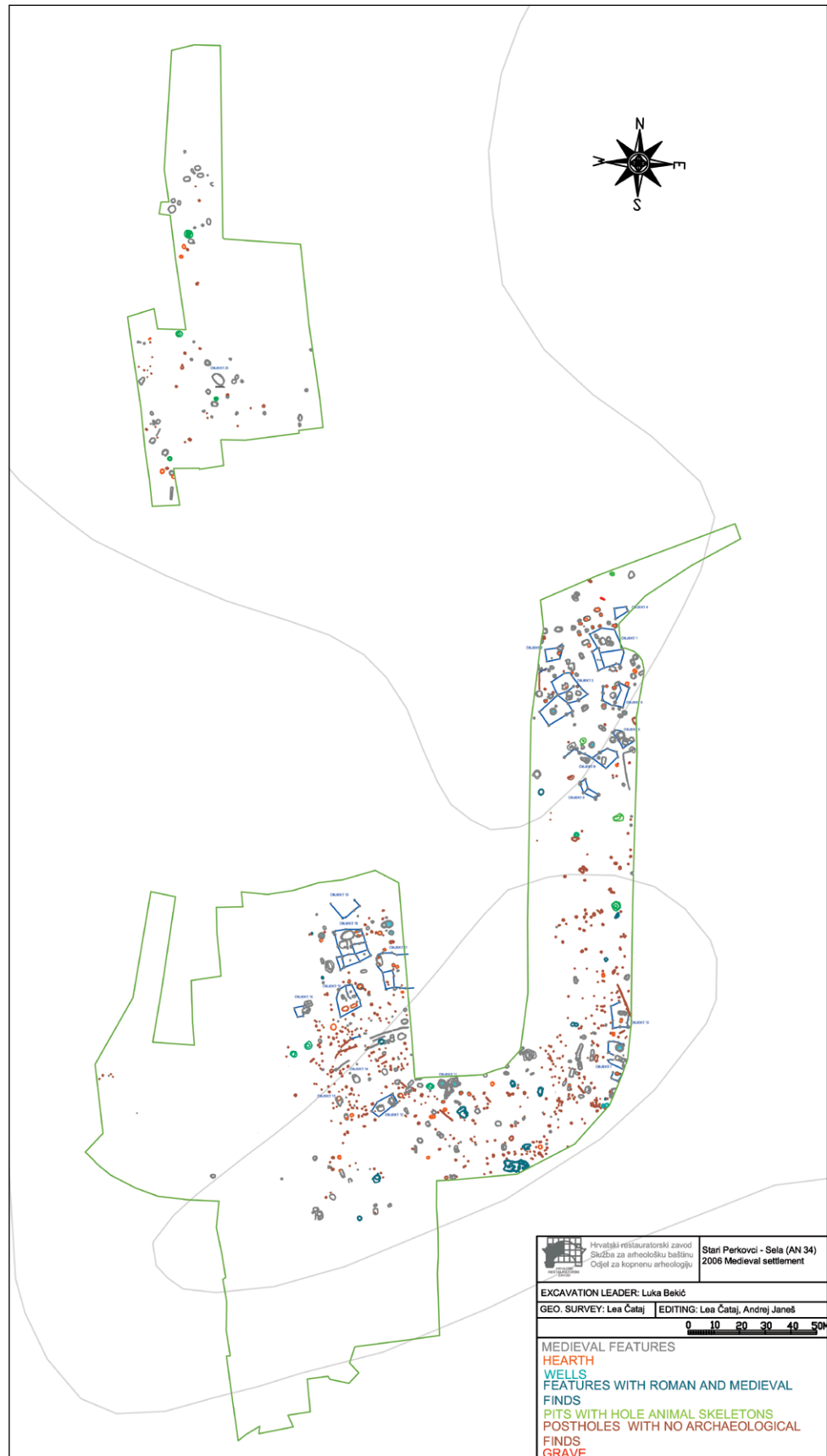


Fig. 3: Late medieval village at Stari Perkovci – Sela site (© Lea Čataj and Andrej Janeš).

structures were also explored at the Čepinski Martinci – Dubrava site, dated to the 12th and early 13th centuries. Three structures were explored on the eastern edge, as well as some in the northern part. In the east, one structure is a mildly dug-in single-spaced house built in the so-called *Blockbau* technique. At the structure in the northern part, the remains of wattle and daub coated walls were found (Tkalčec et al. 2017, 236, Fig. 2, 243).

Two sites in the vicinity of Osijek are dated to the 12th century. At Josipovac – Selište, there are several irregularly distributed pits. At Josipovac – Verušed, three pits attributed to the 12th century were excavated, where two are about 10 m apart, while the third one is about 50 m to the north (Šiša-Vivek 2012, 104, 207).

At Ivanovci Gorjanski – Palanka, a few groups of structures dated from the 10th to the 12th centuries have been excavated. The structures are mostly concentrated in the central portion of the site, with six isolated in the south and two in the north (Šegvić 2010, 7, 37, Fig. 3).

In the north-western part of Croatia, two settlements have been investigated. At the Velika Gorica – Šepkovića site, one component of the settlement along a stream is dated from the 9th to the first half of the 13th centuries. Structures dated to the 11th and 12th centuries consist of a large pit surrounded by four or six postholes and a space defined exclusively by the postholes. There was also a structure enclosing a large area bounded by postholes and smaller rectangular spaces within. These structures are assumed to be above ground, with raised floors, and appear to date to the 11th century (Bugar 2008, 181-2). At Torčec – Ledine, structures with walls constructed out of interweaving branches and covered with mud had lightweight roofs reaching the ground that were wider than the pit. The settlement in this area existed from the end of the 10th and during the 11th centuries (Sekelj Ivančan 2010, 160).

Settlements of the Late Middle Ages

The settlement at Stari Perkovci – Sela is situated in a mildly elevated position, 500 m away from the stream. The structures were spread over two low hills, with a flooding valley between them. The analysis has shown that there were 20 separate units that can be interpreted as structures, 21 wells, and 65 hearths and fireplaces (Janeš et al., 2017, 343) (Fig. 3). The 20 units were classified into 5 types. Type 1 includes single-spaced semi-subterranean structures with no traces of postholes. Type 2 includes multi-spaced semi-subterranean structures consisting of one or more pits near the postholes for holding the roof structure up. In the Type 3 classification are multi-spaced above-ground structures with a basement and house croft, and they represent the most complex form of structures at the site, consisting of several pits. The deeper

pit with vertical walls and stairs on one side represents the basement. The rest of the surface was determined by several rows of stakes either carrying the roof structure or making a fence around the house. Most of the defined units belong to Type 4, an above-ground building with basement. These were assumed, according to the remains of the postholes that supported the roof structure and pits with flat floors that functioned as basements. Type 5 is characterised by structures consisting of a few postholes, which probably represent enclosed spaces that were gardens or pens for cattle (Fig. 4). The settlement was founded during the first half of the 14th century, as part of Anjou colonization, and abandoned at the beginning of the 15th century (Janeš et al. 2017, 344-345). The village of Perkovci is mentioned in the *List of the Požega Sanjak 1579*, as is the *mezra* (temporary settlement, abandoned village, agricultural area) named Gašparovica, which was in the vicinity (Sršan 2001, 209).

Close to Sela, the site of Stari Perkovci – Debela šuma was excavated. It consisted of an elongated settlement at the highest hill of a mild flood-protected elevated area. North-east of the site flows the Breznica stream. The excavated portion consisted of densely arranged structures and buildings that form several units with postholes, pits, wells, and hearths. It was founded during the first half of the 13th century and abandoned during the first half of the 16th (Šiša-Vivek 2012, 36, 41-42).

At Beketinci – Bentež, a larger settlement dated from the 13th to the middle of the 16th century was divided into an earlier group with 19 houses in the northern portion of the site and a later group of 15 buildings in the southern. Survey of the surrounding area established that it extended to 116,000 m². In the north, above-ground houses are arranged in three rows grouped concentrically around an empty space. They had one or more premises and their dimensions range from 4 to 5 m in width and up to 10 m in length. One structure constructed using the timber-frame technique was confirmed, while the majority are defined by postholes. There were pithouses measuring 3-4.5 m x 4-6.5 m, which were either single-spaced or multi-spaced buildings. Leather workshops, blacksmiths, pottery workshops, and stables were also identified. The settlement is associated with the medieval market town of Kisújlak (Minichreiter – Marković 2013, 190, 200, 204-206, 216-218).

In the later horizon of the Franjevac site near Đakovo, more densely grouped features were recorded. The site consisted mainly of pithouses, divided into three major groups: two groups of smaller structures made up of pits of all shapes; and a northern group with more structures, hearths, and wells that indicate the dwelling's purpose (Dugonjić 2017, 309-312). A single-spaced sunken feature from the 15th century was investigated at Donji Miholjac-Đanovci (Tkalčec 2016, 54). At Torčec – Rudičevo, a




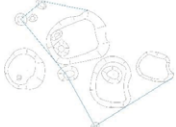
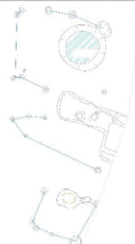



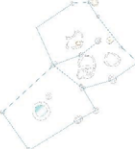
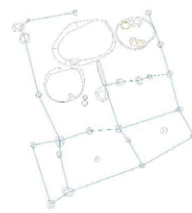


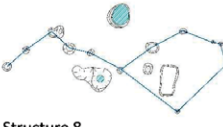




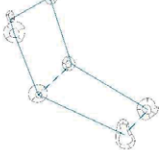

Type	Description				
1	Single-spaced semi-dug in structures				
		Structure 13	Structure 14	Structure 20	
2	Multi-spaced semi-dug-in structures				
		Structure 6	Structure 7	Structure 11	Structure 16
3	Multi-spaced above-ground structures with basement and house lot				
		Structure 1	Structure 3	Structure 18	
4	Above-ground premises with basement				
		Structure 2	Structure 5	Structure 8	Structure 10
					
		Structure 15	Structure 17		
5	Above-ground structures/fences				
		Structure 4	Structure 9	Structure 19	

Fig. 4: Typology of habitations in Stari Perkovci – Sela (© Andrej Janeš).

pithouse with a narrow ditch was excavated and dated to the second half of the 13th to the early 14th century (Sekelj Ivančan 2010, 163).

A richer household isolated from the centre of a rural community belongs to a rare form of settlement. In the southern part of Buzadovec – Vojvodice, the household, *i.e.* landed property of 50 x 60 m, was investigated. It consisted of a large residential building (longitudinal house with three rooms) with a basement,

with a separate farming facility and a cattle pen. The structure has no traces of timber posts, and the three-room arrangement is assumed based on the length of the basement of 20.99 m. The surrounding supporting structures are defined by the lines of the postholes or elongated cuts. In the northern part, a workshop section was found that consisted of a number of pits. The site was occupied from the 13th to the 15th century (Tkalčec 2013, 79, 85).

In the vicinity of Osijek, two sites were investigated. At Josipovac – Selište, a settlement was discovered on the western slope of a lower elevation cut by the old riverbed of the Kravica River. It dates back to the 15th century, when the structures were distant from the watercourse on the western part. The settlement consisted of sunken and above-ground structures with postholes. No discontinuity caused by the Ottoman conquest is seen among the structures. On the contrary, in this period the settlement experienced its peak, the buildings were more densely arranged, and the settlement approached the watercourse. Two types of new wells were dug: a square-shaped one with a wooden structure and a circular one covered with brushwood. The layout of the structures indicates that the grouping around the space may have served as a street. Above-ground structures consisting of postholes prevail. The building stands out with a 2-meter deep basement, with a surface area of 5-6 m². The village of Illiaschevo or Illisfalva is mentioned in the *List of the Požega Sanjak 1579*, as an abandoned village in the *Habsburg Census of 1698 and 1702*, and as a village of 10 houses inhabited by Calvinist Hungarians (Šiša-Vivek 2012, 103, 106-107).

On a low hill, protected from the flooding of the surrounding rivers and the creeks, the remains of a settlement established in the second half of the 15th century were discovered at Josipovac – Verušed. The architecture is characterized by large above-ground structures with rectangular or complex layouts. Individual sunken features were also excavated. In the northern and north-western parts densely organized structures are arranged, while on the eastern and south-western side the structures showed a more regular pattern. Two separated buildings with associated wells were explored. A larger building with huge hearths and a large amount of dross was also investigated (Šiša-Vivek 2012, 170-171, 208). The expansion of the settlement during the 16th century was associated with the arrival of the Ottomans. In the *List of the Požega Sanjak 1579* the village of Verušut, inhabited by Calvinist Hungarians, is mentioned. The village of Vörösed was recorded in the *Chambers list of 1698* as being abandoned due to military operations by Nicholas Zriny in 1664 (Šiša-Vivek 2012, 168-169).

At Markovac Našički – Stara Branjevina, dated from the 15th to the late 16th century, is a settlement that survived the Ottoman conquest. Two concentrations of objects were identified. In the eastern portion of the site was a space enclosed by a canal, and in the western was an area formed around the well. Two types of structures were recognized, above-ground houses with one or more rooms and a rectangular ground floor, with dimensions of 5-6 x 2-3 m, and larger single-spaced pit structures surrounded by postholes. A large, two-space pit structure with improperly laid postholes, sized 6.40 x 3.15 m, with a find of a silver coin hoard, was especially unique

(Paraman 2011, 42-43). It is thought that the settlement was abandoned after 1596 during one of the rebellions against the Ottoman authorities.

Discussion

According to the published data, there is a similarity between the sites of settlement features dated to the High Middle Ages, to the 12th and 13th centuries, and the difference from the settlements dated to the second half of the 13th or 14th centuries. The settlements of the High Middle Ages have several common characteristics. Mostly sunken or semi-sunken features prevail, rarely with additional constructions made of postholes. The pits are grouped into concentrations of two or three and are distant from one another. For some structures it can be stated that they are dwellings, while others appear to be food preparation premises. It is assumed that the shape of a semi-dug-in house indicates it was covered with a tent-shape structure, probably of brushwood. The alternative to this reconstruction is the so-called *Blockbau* construction technique, assumed at the Čepinski Martinci – Dubrava site (Tkalčec et al. 2017, 243). The settlement Velika Gorica – Šepkovića, with the finds of above-ground objects represented by postholes, differs from this type. The topography in Turopolje could have led to a change in the shape of houses in that part of the country, unlike most examples from Eastern Slavonia.

The current stage of research points to large areas of empty land between buildings, and such settlements are usually defined as dispersed types of settlement (*Sekelj Ivančan 2010*, 160). The so-called *Einzelhofsiedlung* type of settlement has analogies in Hungary during the 12th and early 13th centuries (Takács 2000, 248-249). One example of a settlement similar to that in Čepinski Martinci is the Hungarian Levey-Kaszás-dűlő (Takács 2000, 245). The sites of Josipovac Punitvački – Veliko polje I and Đakovo – Franjevac can be included in the same group, and maybe Josipovac – Selište and Josipovac – Verušed as well. Surfaces between objects are interpreted as spaces for gardens or fields for livestock breeding, but it is also possible that there existed above-ground structures that left no traces. In eastern Slovakia, this type of settlement persisted until the 13th century (*Habovštiak 1961*, 455, 459, 463). Excavations in north-eastern Bosnia have revealed the existence of semi-dugout structures from the 12th to the 14th century (*Čremošnik 1980*, 154).

Changes in housing culture and organization can be traced from the end of the 13th century. A more consistent grouping of buildings can be seen, and settlements became more compact. In the examples mentioned above, there is a grouping of structures on certain parts of the site, often interpreted by the pattern of the finds. The most obvious example was the isolated forges at Beketinci – Bentež.

Some of the structures were arranged around the empty space defined as kind of a square (*Minichreiter – Marković 2013, 204*). In this type of the settlement a larger number of hearths were observed, mostly located outside the buildings. Above-ground buildings prevail, identified by lines of cuts of postholes. The so-called *Pfostenbau* technique prevails, which consists of vertically mounted posts supporting the construction. The space between the posts is filled with wattle and daub, which is indicated by the remains of daub finds. This technique enabled the construction of multi-space buildings. The spread of this type of structure can be connected to the finds of amorphous pits for clay collection, used for coating the walls of buildings. These pits are dated to the first half of the 13th century when there was an increased need for clay and sand, due to the increase in the number of houses that were not semi-subterranean (*Takács 1998, 184, 187-188*). Until now, only one structure with timber-frame construction, *i.e.* wooden-frame construction technique (*Fachwerkbau*), has been identified. The space within the timber frame is filled with brushwood, mud, clay, and daub (*Völmer – Zimmermann 2012, 19-20*). The structure at Beketinci – Bentež is interpreted as a mill and is dated to the 13th century (*Minichreiter – Marković 2013, 204-206, 362*). Semi-dug-in structures still appear, but are mostly related to above-ground buildings. As autonomous objects, they may be associated with some special activity. They can also be interpreted as forges by dross finds. Some dug-in pits are interpreted as parts of houses constructed using the *Blockbau* technique, which is proposed for the objects at the Donji Miholjac – Đanovci site (*Tkalčec 2016, 54*).

At Torčec – Rudičevo, near a semi-dug-in building, a narrow ditch was found that is linked to the structural and planning organization of the settlement. In settlements in the territory of Hungary, from the 11th to the 13th century such traces are interpreted as enclosures for horses. But such cuts can form the inner zone of a rural farm, *i.e.* a croft (*Sekelj Ivančan 2010, 163*). A similar ditch was found at the Stari Perkovci – Sela site (*Janeš et al., 2017, Fig. 2*). Both finds are dated to the 14th century. The emergence of settlements at the end of the 13th and during the 14th century in the area of medieval Hungary is linked to the reorganization of the field system *i.e.* the development of a fixed plot system (toft and croft) (*Laszlovszky 1999, 439*). In some buildings a house plot can be reconstructed by the line of postholes, and some contained wells, such as building 3 from Stari Perkovci – Sela (*Janeš et al., 2017, Fig. 4*).

As a special type of settlement, Buzadovec – Vojvodice, interpreted as a rich household, stands out. The structure at this site was interpreted as a three-spaced house constructed using the *Blockbau* technique, which is demonstrated by the absence of postholes. Finds of

accompanying buildings and of more-luxurious vessels indicate the presence of a high-ranking inhabitant.

Special attention should be paid to sites excavated in the vicinity of Osijek and Našice, which point to organized settlements established during the 15th century that survived the Battle of Mohács in 1526 and continued to exist during the Early Modern Age. Josipovac – Selište, Verušed, and Markovac Našički – Stara Branjevina point to the same organization of settlements, with the arrangement of buildings around the assumed communications-roads, or streets. Workshop segments, mostly for metallurgy, are often separated from the rest of the settlement. The Josipovac – Selište and Verušed sites, which flourished during the 16th century, indicate that the Ottoman conquest had no catastrophic consequences for the settlements. Most of the buildings were built using the *Pfostenbau* technique, and above-ground buildings prevail overwhelmingly. At Stara Branjevina, a fenced part of the settlement was found, indicating this tradition was established by the 14th century.

The lack of religious buildings related to the settlements described is evident. The rescue excavations are, of course, defined and limited by the areas of construction work, but the lack of churches and related cemeteries can be viewed in the light of the royal decree on the establishment of parishes, where up to 10 villages were served by 1 church. At Torčec – Cirkvišće, a church with a cemetery built in the second half of the 15th century was excavated. Nearby was part of the settlement that had been in existence during the second half of the 13th and early 14th centuries, but the church from that period was not located (*Krznar 2017, 80*). In Đakovo, in the site Župna crkva, a cemetery and a nearby settlement were excavated dating to the second half of the 13th to the middle of the 16th century. The remains of the church were not found during the excavations (*Filipec 2012, 215-216*).

Conclusion

New discoveries of medieval rural settlements in Slavonia and Northern Croatia were made as a result of large-scale rescue excavations. The sites presented are only a sample of the sites recovered. The results of the excavation of a large number remain unpublished, but robust unpublished reports are available. Due to the very large amount of data, the need for drawing up a survey that could point to further directions for research on rural settlements has been shown here.

Previous research has demonstrated the existence of a dispersed type of settlement during the 12th and 13th centuries in the area bordered by the Rivers Sava and Drava. The characteristic of this settlement is the grouping of clusters of pithouses or dug-in buildings. In Croatia, but also in neighbouring Hungary, Bosnia,



Fig. 5: Ground plan and hypothetical reconstruction of a 14th-century house at Stari Perkovci – Sela (© Marin Mađerić).

and Serbia the roots of such settlements lie in the Early Middle Ages (Takács 2000, 248-249; Čremošnik 1980; Milošević 1997, 170). They are considered to be the *Einzelhofsiedlung* type of settlement, where dispersed groups of structures were used for dwelling and for farming, presumably belonging to one family. Some remains are interpreted as traces of temporary settlements (Takács 2000, 249), as is the case at Jurjevac Punitovački – Stara Vodenica (Bunčić 2012, 207). Finds of pottery vessels, mainly pots, prevail in these types of sites, while other types of finds are missing or rarely represented.

During the Late Middle Ages, important changes occurred in the layout and organization of settlements, which included changes in shapes and layouts of buildings. Several building techniques were used, although some, such as wooden-frame construction (*Fachwerkbau*) and log cabins (*Blockbau*), can only be assumed. There are still semi-dug-in buildings, but mostly as working / farming premises. The settlements are more compact and show the regularity and grouping of buildings, but not in the same form as in other parts

of the Kingdom of Hungary. In the aforementioned area, there was no proper form of settlement such as Mstěnice and Pfaffenschlag in the Czech Republic (Nekuda 1975; 1985) or Sarvaly, Csut and Szentmihály (Pálóczi-Horváth 1998, 199, 201). A certain order can be seen in later settlements founded in the 15th century, and can be compared, conditionally, with the Hungarian settlement Nyarsapat, which existed from the 15th to the early 17th century (Pálóczi-Horváth 1998, 198).

It is thought that the change in the way of living in Hungary occurred from the middle of the 13th to the middle of the 14th centuries (Pálóczi-Horváth 2003, 308). This change affected dwellings that emerge from the earth and become above-ground structures and over time multi-room buildings. Changes can be traced from Slovakia across the Carpathian Basin (Ruttikay 2003, 271) to the regions south of the Danube, the territory of Serbia (Milošević 1997, 170). As a result, changes took place in the organization of settlements. The division of land is not fully explored, as in Czech and Hungarian examples, but we can find its traces (Fig. 5) in the examples of the Torčec – Rudičevo and Markovac Našički – Stara

Branjevina sites, suggesting land development from the end of the 13th to the late 16th century. Finds within the settlement are more diverse, and the appearance of tableware and horse trappings point to greater social differentiation within the communities. A separate property at Buzadovec – Vojvodice testifies to the appearance of noblemen in the rural milieu. Buildings with house lots appear from the 13th century on, at the same time as the consolidation of a solid organization of rural farms appears, *i.e.* the structures are grouped around the courtyard (*Hausen*-form) (Tkalcic 2013, 86). Multi-space above-ground houses of wood or fine wattle and daub appear in rural settlements in Hungary beginning in the 14th century (Bálint *et al.* 2003, 388). The reasons for the new village formation in the Late Middle Ages are the arrival of noblemen, the organization of a new seat on the estate, population growth, changes in agriculture, and increase in the rights of peasants (Tkalcic 2013, 86). Comparison with written sources suggests the possibility of locating or identifying certain villages mentioned in the documents. The best examples are Josipovac – Selište and Verušed, which represent the potential for the study of other religious communities that existed in the territory of Slavonia during the Middle Ages and Early Modern Age.

Acknowledgements

We wish to thank our colleagues Robert Čimin, Krešimir Filipec, Vedran Katavić, Martina Miletić, Ina Miloglav, Lujana Paraman, and Tatjana Tkalcic for providing us with unpublished data from their excavations.

References

Bálint, M. – Laszlovszky, J. – Romhányi, B – Takács, M. 2003:

Medieval villages and their fields, in: Visy, Z. (ed.), Hungarian archaeology at the turn of the millenium. Budapest, 383-388.

Bugar, A. 2008:

Naselje ranog srednjeg vijeka Velika Gorica – Šepkovčica, in: Guštin, M. (ed.), Srednji vek. Arheološke raziskave med Jadranskim morjem in Panonsko nižino. NMS, Univerza na Primorskem. Ljubljana, 179-196.

Bunčić, M. 2012:

O upotrebi pračke u srednjovjekovnoj Slavoniji u povodu brojnih nalaza keramičkih projektila na položaju Stara Vodenica kod Jurjevca Punitovačkog, Starohrvatska Prosvjeta III/39, 193-220.

Bunčić, M. 2016:

Srednjovjekovno naselje na položaju Stara Vodenica kod Jurjevca Punitovačkog, Vjesnik Arheološkog muzeja u Zagrebu 49, 249-280.

Čremošnik, I. 1980:

Tipovi slavenskih nastambi nađenih u sjeveroistočnoj Bosni, Arheološki Vestnik 31, 132-158.

Dugonjić, A. 2017:

Medieval settlement at the site Franjevac near Đakovo, in: Sekelj Ivančan, T. (ed.), Srednjovjekovna naselja u svjetlu arheoloških izvora. Serta Instituti Archaeologici 6. Zagreb, 293-336.

Filipec, K. 2012:

Srednjovjekovno groblje i naselje Đakovo – Župna crkva. Filozofski fakultet u Zagrebu. Zagreb.

Habovštiak, A. 1961:

Prispevok k poznanju naše nižinje dediny v XI.-XIII. storoči, Slovenska archeologia IX/1-2, 451-482.

Hirschler, I. 2009:

Geografski okvir, in: Čataj, L. (ed.), Josipovac Punitovački – Veliko polje I. Eneolitičko, brončanodobno i srednjovjekovno naselje. Hrvatski restauratorski zavod. Zagreb, 11-13.

Janeš, A. 2009:

Srednji vijek, in: Čataj, L. (ed.), Josipovac Punitovački – Veliko polje I. Eneolitičko, brončanodobno i srednjovjekovno naselje. Hrvatski restauratorski zavod. Zagreb, 233-246.

Janeš, A. – Hirschler Marić, I. – Azinović Bebek, A. 2017:

Stari Perkovci – Sela, ruralno naselje 14. stoljeća, in: Sekelj Ivančan, T. (ed.), Srednjovjekovna naselja u svjetlu arheoloških izvora. Serta Instituti Archaeologici 6. Zagreb, 337-388.

Jarak, M. 2006:

Smjernice u razvoju srednjovjekovne arheologije u Hrvatskoj. Opuscula Archaeologica 30, 183-224.

Krznar, S. 2017:

Rezultati istraživanja lokaliteta Torčec – Cirkvišće 2016. godini Annales Instituti Archaeologici XIII, 77-81.

Laszlovszky, J. 1999:

Field System in Medieval Hungary, in: Nagy, B. – Sebők, M. (eds), The man of many devices who wandered full many ways ... Festschrift in Honor of János Bak for His 70th Birthday. Budapest/New York, 432-444.

Milošević, G. 1997:

Stanovanje u srednjovjekovnoj Srbiji. Beograd.

Minichreiter, K. – Marković, Z. 2013:

Beketinci – Bentež. Naselja iz eneolitika, ranog i kasnog srednjeg vijeka. Zagreb.

Nekuda, V. 1975:

Pfaffenschlag, Zaniklá středověká ves u Slavonic. Studia Musei Moraviae. Brno.

Nekuda, V. 1985:

Mstěnice: Zaniklá středověká ves u Hrotovic, Hrádek – Tvrz – Dvůr – Předsunutá opevnění 1. Brno.

- Pálóczi-Horváth, A. 1998:*
Variations morphologiques des villages désertés en Hongrie et la société rurale du Moyen Âge. *Ruralia* II, 192-204.
- Pálóczi-Horváth, A. 2003:*
Development of the late-medieval house in Hungary, *Ruralia* IV, 308-319.
- Paraman, L. 2011:*
Markovac Našički – Stara Branjevina, Hrvatski arheološki godišnjak 7/2010, 42-43.
- Petrinec, M. 2009:*
Srednjovjekovna arheologija u 20. stoljeću, in: Balen, J. – Čečuk, B. (eds), *Hrvatska arheologija u XX. stoljeću*. Matica hrvatska. Zagreb, 555-590.
- Ruttkay, M. 2003:*
Der ländliche Hausbau des 5. bis 15. Jh. im nördlichen Karpatenbecken (Slowakei), *Ruralia* IV, 264-271.
- Sekelj Ivančan, T. 1995:*
Catalogue of medieval sites in continental Croatia. BAR International Series 615. Oxford.
- Sekelj Ivančan, T. 2001:*
Early medieval pottery in Northern Croatia. BAR International Series 914. Oxford.
- Sekelj Ivančan, T. 2010:*
Podravina u ranom srednjem vijeku. IARH. Zagreb.
- Sršan, S. 2001:*
Popis sandžaka Požega 1579. Državni arhiv u Osijeku. Osijek.
- Šegvić, N. 2010:*
Analiza srednjovjekovnog keramičkog materijala s lokaliteta Ivanovci Gorjanski – Palanka. Graduate thesis. University of Zagreb.
- Šiša-Vivek, M. 2012:*
Oblici kasnosrednjovjekovnog posuđa na primjeru triju arheološki istraženih sela u Slavoniji. PhD Thesis. University of Zagreb.
- Takács, M. 1998:*
Dörfliche Siedlungen der Árpádenzeit (10.-13. Jh.) in Westungarn, *Ruralia* II, 181-191.
- Takács, M. 2000:*
Nucleated and/or dispersed settlements from the Árpádan and the Angevin age in the west hungarian region of Kisalföld, *Ruralia* III, 240-251.
- Tkalčec, T. 2013:*
Kasnosrednjovjekovno naselje Buzadovac – Vojvodice (AN 3) na trasi autoceste A12 Sveta Helena-GP Gola, *Annales Instituti Archaeologici* IX, 76-87.
- Tkalčec, T. 2016:*
Prapovijesna, rimska i srednjovjekovna naselja na lokalitetu Donji Miholjac-Đanovci – zaštitna arheološka istraživanja u 2015. godini. *Annales Instituti Archaeologici* XII, 46-58.
- Tkalčec, T. – Sekelj Ivančan, T. – Kalafatić, H. 2017:*
Naseobine iz razvijenog srednjeg vijeka na položaju Čepinski Martinci – Dubrava, in: Sekelj Ivančan, T. (ed.), *Srednjovjekovna naselja u svjetlu arheoloških izvora*. Serta Instituti Archaeologici 6. Zagreb, 235-254.
- Volmer, L. – Zimmermann, W.H. 2012:*
Glossary of prehistoric and historic timber buildings. *Studien zur Landschafts- und Siedlungsgeschichte im südlichen Nordseegebiet*, Bd. 3. Rahden/Westf.

No smoke without fire

Burning and changing settlements in 10th-century central-northern Portugal

Catarina Tente*

Abstract

In the last decade, several settlements dated to the 10th century have been under excavation in central-northern Portugal (the districts of Guarda and Viseu). They all share similar features: small in area, built with perishable materials (including palisades), and occupied by kin groups. An intriguing coincidence is that they were all destroyed around the transition between the 10th and the 11th centuries by a fire that led to their abandonment and to dramatic changes in settlement patterns. This paper discusses the extant field record and points out some of the causes and consequences of the fires. Clearly, changing sociopolitical scenarios in a frontier zone between Christians and Muslims and the emerging lordship systems in the region are unavoidable contexts in which to understand these events.

Keywords: *Local communities, local elites, lordship system, peasant lifestyles.*

Résumé

Pas de fumée sans feu. Habitats incendiés et déplacés du centre-nord du Portugal du Xe siècle
Au cours des dix dernières années, plusieurs établissements datant du Xe siècle ont été excavés dans le centre-nord du Portugal (districts de Guarda et de Viseu). Ils présentent tous des caractéristiques similaires: surfaces d'occupation réduites, construits en matériaux périssables (y compris les palissades), et occupés par groupes familiaux. Une coïncidence intrigante est qu'ils ont tous été détruits autour de l'An mil par le feu qui a conduit à leur abandon et à des changements dramatiques dans les modes de peuplement. L'article traite le dossier des données de terrain disponibles et souligne certaines des causes et des conséquences des incendies. De toute évidence, l'évolution des scénarios socio-politiques dans une zone frontalière entre chrétiens et musulmans et les systèmes de seigneurie émergents dans la région sont des contextes incontournables pour comprendre les événements mentionnés.

Mots clés: *communautés locales, élites locales, système de seigneurie, mode de vie paysanne.*

* Instituto de Estudos Medievais
Universidade Nova de Lisboa,
Portugal
Av. Berna 26C
1069-061 Lisboa
Portugal
catarina.tente@gmail.com

Zusammenfassung

Kein Rauch ohne Feuer. Brennende Siedlungen im zentral-nördlichen Portugal des 10. Jahrhunderts

In den letzten 10 Jahren wurden mehrere Siedlungen aus dem 10. Jahrhundert in Zentral-Nord-Portugal (Bezirke Guarda und Viseu) ausgegraben. Sie alle teilen ähnliche Merkmale: klein in der Fläche, gebaut mit organischen Materialien (einschließlich Palisaden) und bewohnt von Familienverbänden. Durch einen Zufall sind die Siedlungen am Übergang vom 10. zum 11. Jahrhundert durch ein Feuer zerstört und aufgegeben worden, was zu

Introduction

In 711, Muslims entered the Iberian Peninsula and conquered the Visigoth kingdom. Between that year and the middle of the same century, an emirate state dependent on the Damascus caliphate was established on the peninsula. A vast area under Muslim control was then formed between northern Iberia and the southern territories. A buffer zone was consequently established in the frontier between Christians in the north and Muslims in the south. The buffer zone was not controlled politically by either the Muslims, who were settled in the southerly areas, or by the northern Asturian kingdom (Fig. 1), and the communities in this zone remained politically independent from the dominant powers on the Iberian Peninsula at the time.

In the second half of the 9th century, King Alfonso III of Asturias started a series of military campaigns against the Muslims. His objective was to take control of the frontier territories south of his kingdom. During his reign, he succeeded in advancing the line of frontier to the Mondego River Valley in the south, and the C \hat{c} o valley in the east. By the end of the 9th century, the southern frontier embraced the Mondego Valley (*Barroca 2003*).

However, a century later, the Muslims recaptured a large area in the north-west sector of the peninsula. The person responsible for those campaigns was the commander of the Cordoba caliph army, al-Mansur, who created a professional army and therefore improved its fighting capacity. Between 978 and 997, he attacked the most important cities in the north-west, reaching as far north as Santiago de Compostela (*Sénac 2011*, 93-99). As a result, the region between the Douro and the Mondego Rivers came under the political control of the caliphate.

But this situation did not last for long. After the death of Caliph Hisham II in 1012/1013, the caliphate collapsed and several small, independent Islamic kingdoms formed, known as *taifas* (*Macías 1992*). This new political scenario in Muslim Iberia created the conditions for new Christian military campaigns. Between 1055 and 1064 the Christian king Fernando I

dramatischen Änderungen der Siedlungsmuster führte. In diesem Dokument werden die verfügbaren Felddaten besprochen und einige der Ursachen und Konsequenzen der Brände aufgezeigt. Zweifellos bieten wechselnde soziopolitische Szenarien in einer Grenzzone zwischen Christen und Muslimen und die aufkommenden neuen Herrschaftssysteme in der Region die Grundlage, um die genannten Ereignisse zu verstehen.

Schlagwörter: *Lokale Gemeinschaften, Lokale Eliten, Herrschaftssystem, bäuerlicher Lebensstil.*

carried out a campaign in the area between the Douro and Mondego Rivers, which passed definitively to the Christian domain (*Barroca 2003*).

It is precisely in this buffer zone between Christians and Muslims that our study area – and the archaeological sites that will be presented below – is situated.

The area is located in the highlands of central-northern Portugal, between the Douro and the Mondego River basins (Fig. 1). These highlands are bordered by a series of mountains, of which Estrela Mountain to the east is the highest summit at 1,993 masl. To the north, the territory is delimited by the left banks of the Douro River and its surrounding hills. It is also separated from the coastal plain to the west by a chain of mountains. Two important river basins (the Mondego, the Vouga, and their tributaries) cross this territory and drain to the Atlantic, respectively, by the south-west and the west.

Archaeological data for the 10th century in central-northern Portugal

Among the several sites that have been under excavation in recent years, I have chosen 4 for which there is presently more robust information. There are, of course, other sites known in the region, but these have not been excavated or did not provide relevant information.

Why are these sites important, and what do they have in common? An important aspect is that they all share the same chronology. Given the lack of well-structured pottery typologies or type fossils, a project of systematic radiocarbon dating of short-lived samples was carried out to obtain detailed absolute chronologies (*Tente – Carvalho 2011*). This project determined that these sites were built and destroyed around the 10th century. Moreover, these are all ex novo foundations. Only in one case (Penedo dos Mouros) was it possible to identify a previous occupation datable to the Early Neolithic period (*Carvalho et al. 2017*). All sites are enclosures, with walls and palisades, hidden in the landscape, with a limited visual control over the surrounding territory. Clearly the aim was,

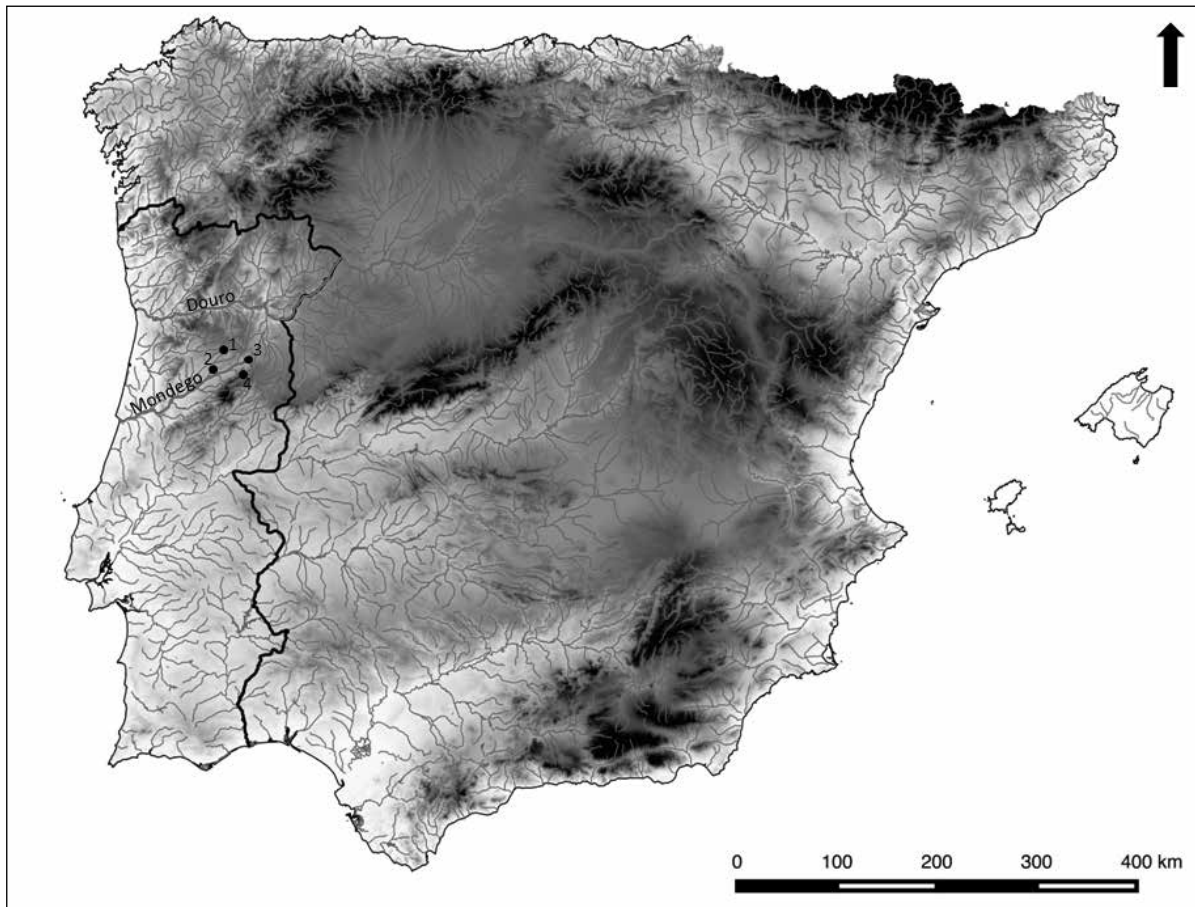


Fig. 1: Basins of the Mondego and Douro Rivers showing a distribution of sites mentioned: 1 – Senhora do Barrocal; 2 – Penedo dos Mouros; 3 – São Gens; 4 – Soida (© Catarina Tente and Tomas Cordero).

in most cases, to obtain some visual control, while remaining invisible in this landscape characterized by granite outcrops. In the majority of cases, the structures were formed by a thick stone wall, with a height of less than one metre. On top of the walls palisades were built, usually using oak or chestnut trunks. The use of perishable materials was a common feature to all sites (Tente 2010; 2012; Tente et al. 2018a). The sites are also similar in size; with a small surface area and inhabited by 3 to 6 families. We estimate periods of occupation of between 2 and 4 generations (Brookes et al. 2017). Both necropolises and settlements indicate a household organization. These were communities deeply rooted in their territory, exploiting locally available resources. There is direct evidence for agriculture, herding of sheep and goats, hunting of cervids and wild boar, and gathering of wild food sources (Tente 2012; Tente et al. 2018a; Tereso et al. 2016). These communities were also able to produce most of their everyday utensils, such as pottery, using local resources only (Tente et al. 2014).

In Penedo dos Mouros (which means literally ‘Boulder of the Moors’), several excavation seasons identified a

fortified settlement located on a platform overlooking the Boco stream valley, which is the most fertile sector of the surrounding area. The valley must have been exploited by this group, since hundreds of broad beans among other botanic remains were recovered during the excavations. A big granite *tor* in the south sector of the settlement dominates the area: it supported a wooden structure with at least two storeys and a rock-cut tomb on top of the *tor*. In this sector there is also a rock shelter where two main occupations were identified: one in the Neolithic and the other in the early medieval period, when the space was used as a sheepfold. The site was abandoned after a fire that took place, probably sometime in the second half of the 10th century (Tab. 1), leading to its destruction and the collapse of the wooden building.

The second site is Soida. This placename is of Arabic origin, meaning ‘high place’. It is a narrow plateau in the northern sector of the Estrela mountain range where a fortified medieval site was identified. From the location, it is possible to control the whole surrounding landscape, including the lowlands of the Mondego Valley. In contrast, it should be noted that the site is not easily



Fig. 2: Soida (© Catarina Tente).



Fig. 3: São Gens (© Catarina Tente).

identifiable from below. Some huts built in perishable materials were identified, as well as the remains of a wall and a collapsed palisade (Fig. 2). Given its location on a high mountain plateau, Soida probably specialised in the seasonal mountain grazing of sheep and goats and was perhaps dependent on lowland settlements (*Fernández-Mier – Tente 2018*). Unfortunately, the lack of faunal remains prevents further considerations. Like Penedo dos Mouros, Soida was destroyed by a fire probably in the second half of the 10th century (Tab.1)

The third site is São Gens (Fig. 3). It is an archaeological complex that is almost imperceptible in the landscape and with very limited visual control over the area. In the valley where it is located, there is also a Roman settlement that was abandoned by the end of the 4th century or the start of the following. The medieval settlement had a walled perimeter, oval in shape. Excavations inside brought to light its wall and palisade. Immediately adjacent to the settlement there is also a necropolis with more than 50 rock-cut graves (*Brookes et al. 2017*). Several huts and fireplaces were identified and, like the other contemporary settlements, the huts were built in perishable materials (*Oliveira et al. 2017*). Radiocarbon determinations showed that the site was abandoned after a fire, just like its counterparts of Penedo dos Mouros and Soida (Tab. 1).

The last site is Senhora do Barrocal. It is found on top of a large granite *tor* that provides topographic conditions for defensive purposes (Fig. 4). Apparently, the option to build a settlement here aimed to control the surrounding territories, but without a prominent location in the landscape. Three seasons of excavations enabled the study of 2 habitation areas. They also recovered thousands of burnt seeds of pulses and charcoal remains (*Téreso et al. 2016; Tente et al. 2108b*). These were all very well preserved because, once again, this site was subjected to a fire that completely destroyed it, probably by the end of

the 10th century. However, unlike the previous examples, Senhora do Barrocal was not abandoned after the fire. The building of the wall must have taken place only a few days or weeks after the fire, as the wall was built over boulders that were still darkened with soot, and the inner part of the wall was filled with debris from the fire – the sediments still contained potsherds, charcoal, and burnt seeds. This is a crucial observation, because it demonstrates that this site was not abandoned after this event; it reveals a life history that contrasts with the evidence obtained elsewhere in the region. Although the pottery production and the metal artefacts are similar to those identified in the other settlements, a few artefacts stand out because of their singularity. This is the case of exogenous pottery in Islamic style – a find that contrasts sharply with material cultures identified elsewhere in the region – that were found in the destruction level associated with the local productions. These are exceptional pieces, not only in this specific northern Christian context, but also at any Islamic site. They can therefore be considered prestige goods. To these pottery finds we can also add an iron spur, which is a unique find in the region. But at Senhora do Barrocal there is another remarkable find: an inscription that was discovered some years ago (*Estefânio 2009*). It contains a date: 2 February AD 971. This inscription came from a religious building that was located on the site of a modern chapel, built in the 18th century. The church itself was a prestige item, according to the definition of Quirós Castillo of the three groups of social inequality markers visible in the archaeological record (those expressing power, those deriving from the elite's lifestyle, and those resulting from the exercise of power (*Castillo 2013; 2014*). It should be noted that epigraphic elements were added at the church of Senhora do Barrocal, which clearly shows the knowledge of epigraphic rules by its builders. The date referred to in the inscription and its correlation with the radiocarbon



Fig. 4: Senhora do Barrocal (© Catarina Tente).

Site	Provenance	Lab Number	Sample	Date BP	cal BC/AD
Penedo dos Mouros	Sector I, SU22	Sac-1947	<i>Vicia faba</i> L. var. <i>minuta</i>	1070 ± 45	876-1036 (95.4%)
	Sector I, SU22	Sac-1950	<i>Vicia faba</i> L. var. <i>minuta</i>	1060 ± 40	892-1028 (95.4%)
São Gens	Sector 10, SU9 (collapsed palisade)	Wk-25175	<i>Quercus</i> sp. (cork)	1161 ± 30	773-906 (72.8%), 916-968 (22.6%)
	Sector 10, SU8 (hearth)	Wk-27455	<i>Quercus pyrenaica</i>	1136 ± 30	777-793 (4.6%), 802-847 (9.0%), 856-985 (81.8%)
Soida	Sector II, SU5 (hearth)	Wk-27454	<i>Sorbus aucuparia</i>	1098 ± 30	888-1013 (95.4%)
Senhora do Barrocal	Sector 1, UE9 (fire level)	Wk-40079	<i>Vicia faba</i> (broad bean)	1040 ± 21	974-1025 (95.4%)
	Sector 1, UE125 (fire level)	Beta – 46513	<i>Secale cereale</i> (rye)	1170 ± 30	771-903 (80.8%), 918-965 (14.6%)

Tab. 1: Radiocarbon determinations for the four sites mentioned in the text (© Catarina Tente). Calibrations were obtained using Version 3.10 of the OxCal Program (Bronk-Ramsey 2009) and based on the IntCal09 curve (Reimer et al. 2013).

determinations (Fig. 5) suggests that the church may have been built before the fire and may have been rebuilt by the same community (or family) who used the imported Islamic pottery and practised a very diversified form of agriculture. This community reproduced models of expressing power that would be typical of regional elites. Contrasting with communities at other sites in the region, this one was of clearly differentiated social rank. It is likely that the inhabitants of Senhora do Barrocal in the 10th or early 11th century were local lords related either directly or indirectly to the Islamic powers, despite the supposed integration of the region with the Asturian kingdom. According to this hypothesis, this archaeological record is testimony that control over the territory by the kingdom was very localized in geographical terms. Other sectors of this frontier region may have been controlled by emerging local powers with which both Asturian and Islamic powers had to negotiate.

The reoccupation that took place after the fire, when the wall was raised, was not like the previous one. Although it is still under study, it seems to correspond to a very short military occupation of the granite *tor*. It is probable that this reoccupation was not carried out by the same population; instead, this second occupation may have been carried out by the people responsible for the fire.

Discussion

At all the sites, a fire occurring around the second half of the 10th century and the beginning of the following was identified (Tente – Carvalho 2011). With the exception of Senhora do Barrocal, the majority of the sites possess a single occupation level, which was destroyed by a fire that allowed the preservation of plant remains. Fires are unexpected in settlements where the dominant building material is wood or straw. The extraordinary thing with

these fires is the coincidence in their chronology (Tab. 1). With the exception of Senhora do Barrocal, the sites were all abandoned afterwards. The question arising from the data is twofold: What was the cause of the dramatic shift in settlement strategies at the time? And what, or who, was behind this large-scale phenomenon? Associated with this question is the reason for why the only site to reveal a large spectrum of social markers expressing power is also the only site that was immediately reoccupied.

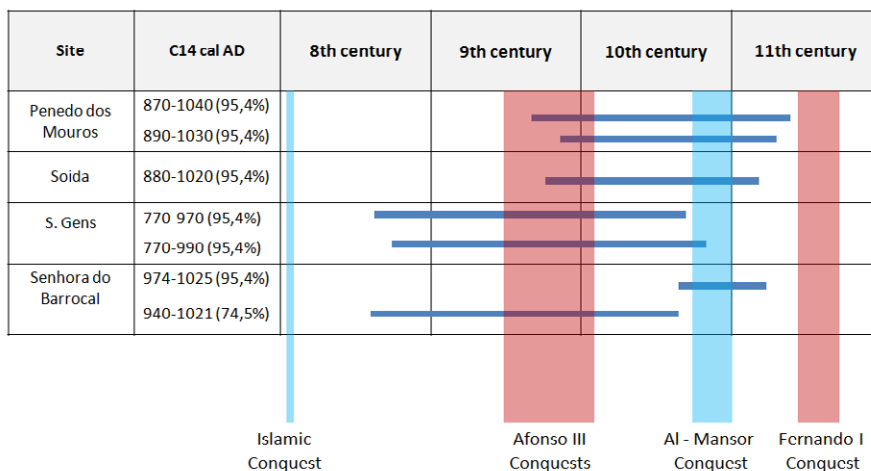
Looking at the available radiocarbon chronologies, and comparing them with the military campaigns that took place between the 8th and the 12th centuries, only those led by al-Mansor fall within the time period during which these fires occurred. Therefore, the temptation is obvious to relate these fires with al-Mansor. However, two obstacles must be pointed out.

Firstly, a Muslim author, Ibn Idahari, writing about al-Mansor's life, mentions that before the attack on Santiago de Compostela in 997 he met in the town of Viseu, right in the middle of our study area, with Christian counts, who accepted his authority and supported him in his attack on Santiago de Compostela. If this was indeed the case, there was no need for the Muslim army to destroy these settlements because al-Mansor was already counting on the support of the local elites or perhaps of the local communities. Also of interest in this regard is the fact that, according to another Muslim author (Al-Kardabus), al-Mansor would later admit that he should have destroyed all the territories he conquered (Sénac 2011, 101).

Secondly, even if the intention of al-Mansor and Caliph Hisham II was to change the settlement structure in the region, they did not have the necessary time to do so. Between the attack on Santiago de Compostela and the fall of the caliphate, there was little more than a decade.

Then the question remains: If these fires and the shift visible in the settlement system were not due to the al-Mansor campaigns, what may have been the cause of

Fig. 5: Graph showing the radiocarbon determinations for the fires and the several principal military campaigns that affected the study area (© Catarina Tente).



this phenomenon? The period is marked by the start in the region of the implementation of the lordship system. For this specific process, I propose a twofold origin: one external as result of Alfonso III's military campaigns, although with very localized impact in the territory. Indeed, the Asturian elites started to establish themselves in some areas from the second half of the 9th century on, as testified to by the building of castles and churches. The other possible origin is an internal process, originating in the local elites who found in the political instability in the region a window of opportunity for their territorial ambitions. These elites became more visible in written documents from the 11th and 12th centuries.

Three areas can be noted as the first to be integrated into the lordship system: the Côa Valley located in the north-east sector of the region, where a document dated to 960 mentions a number of counts' castles. Another focus is in and around the town of Viseu. A third focus is in the Lafões area, known for its Roman baths that were still in use in medieval times. Here a group connected to a brother of King Alfonso III was established (Real 2014). In this area, documents from the 10th and 11th centuries also provide an account of the churches that were being donated to monasteries by their owners. Indeed, the lordship powers start to establish themselves in these areas from the end of the 9th century on.

On the other hand, all scenarios are admissible in a frontier area, as the Viseu territory was in the second half of the 10th century. Despite being under Asturian authority between the last quarter of the 9th century and the end of the 10th, sites such as Senhora do Barrocal show the capacity of some groups for the acquisition of exceptional imported goods. On the other hand, the region must have been kept under the authority of the caliphate after al-Mansor's military campaigns, though this authority was probably not effective. Indeed, even before the campaign of Fernando I, Islamic attacks must have taken place, like the one led by

Abu-l-Qasin Muhammad on the northern sector of the Viseu area in 1025 (Maillo Salgado 2016, 38). This type of attack shows that the region was not effectively controlled by the Islamic authorities. The most likely scenario is that of a region where local communities played a major role in its control, with some sectors within the communities having stood out. These must have become important enough to be able to act outside the local space and to establish lasting relations with both the dominant caliphal and Asturian powers. Probably, these were groups that rose to become an 'upper social class', as defined by Reyna Pastor as one of the group types within the 'free rural communities' (Pastor 1980, 43). It is possible that these emerging elites in frontier areas were some of the actors responsible for the changes in settlement visible in the region around the passage from the 10th to the 11th century.

According to the current state of research, I suggest that the fires that are being identified in the archaeological record are the consequence of an emerging lordship system that was starting in the 10th century in the region. It is possible, from this point of view, to consider that this process mainly involved the local elites and their struggle to control territories and communities.

The inception of the lordship system has been seen as a piecemeal, negotiated process, in which violence took place when communities resisted it (Mattoso 2015, 310-312). These fires, I believe, clearly show that this process was not always negotiated. It may sometimes have included war, which means that there was some resistance by the smaller communities.

We do not know where the populations from the burned villages may have been relocated to. They were probably displaced to found the modern-day villages, where castles would be built during the second half of the 11th century. In order to test this hypothesis, we will need to excavate selected areas of the modern villages, which has not been possible to date.

References

- Barroca, M. J. 2003:*
História das campanhas. Nova História Militar de Portugal, Vol. I. Lisbon, 22-68.
- Bronk-Ramsey, C. B. 2009:*
Bayesian analysis of radiocarbon dates, *Radiocarbon* 51:1, 337-360.
- Brookes, S. – Tente, C. – Prata, S. 2017:*
Interpreting rock-cut grave cemeteries: the early medieval necropolis and enclosure of São Gens, *Medieval Archaeology* 61/2, 215-238.
- Carvalho, A. F – Pereira, V. – Duarte, C. – Tente, C. 2017:*
Neolithic archaeology at the Penedo dos Mouros rock-shelter (Gouveia, Portugal): oldest evidence for herding practices in the Estrela Mountain range, *Zephyrus* LXXIX, 19-38.
- Estefânio, A. 2009:*
Lintel, imposta? Arte, poder e religião nos tempos medievais. A identidade de Portugal em construção. Viseu, 108-109.
- Fernández-Mier, M. – Tente, C. 2018:*
Transhumant herding systems in Iberia, in: Costello, E. – Svensson, E. (eds), *Historical archaeologies of transhumance across Europe*. London, 219-232.
- Macías, S. 1992:*
Resenha de factos políticos, in: Mattoso, J. (ed.), *História de Portugal* Vol. 1. Lisboa, 417-429.
- Maillo Salgado, F. 2016:*
Acerca de la conquista árabe de Hispania. Imprecisiones, equívocos y patrañas. Madrid.
- Mattoso, J. 2015:*
A Identificação de um País. Oposição composição. Lisbon.
- Oliveira, C. – Jesus, A. – Tente, C. – Tereso, J. P. 2017:*
Estudo arqueobotânico do povoado alto-medieval de S. Gens: perspetivas sobre a exploração de recursos lenhosos e agrícolas. II Congresso da Associação dos Arqueólogos Portugueses – Arqueologia em Portugal. O Estado da questão. Lisbon, 1463-1476.
- Pastor de Togneri, R. 1980:*
Resitencias y luchas campesinas en la época del crecimiento y consolidación de la formación feudal. Castilla y león, siglos X-XIII. Madrid.
- Quirós Castillo, J. A. 2013:*
Archaeology of power and hierarchies in early medieval villages in Northern Spain, in: Klápšte, J. (ed.), *Hierarchies in rural settlements*. Rurality IX. Turnhout, 199-212.
- Quirós Castillo, J. A. 2014:*
Aristocracias, élites y desigualdad social en la primera Edad Media en el País Vasco, in: Catalán, R. – Fuentes, P. – Sastre, J. C. (eds), *Las fortificaciones en la Tardoantigüedad. Élités y articulación del territorio, siglos V-VIII d.C.* Madrid, 143-158.
- Real, M. L. 2014:*
A dinâmica cultural em “Portucale” e “Colimbriae” nos séculos VIII a XI”, in: De Man, A. – Tente, C. (eds), *Estudos de Cerâmica Medieval. O Norte e o Centro de Portugal. Séculos IX a XII*. Lisbon, 13-56.
- Reimer P. J. – Bard, E. – Bayliss, A. – Beck, J. W. – Blackwell, P. G. – Bronk Ramsey, C. – Buck, C. E. – Cheng, H. – Edwards, R. L. – Friedrich, M. – Grootes, P. M. – Guilderson, T. P. – Haflidason, H. – Hajdas, I. – Hatté, C. – Heaton, T. J. – Hoffmann, D. L. – Hogg, A. G. – Hughen, K. A. – Kaiser, K. F. – Kromer, B. – Manning, S. W. – Niu, M. – Reimer, R. W. – Richards, D. A. – Scott, E. M. – Southon, J. R. – Staff, R. A. – Turney, C. S. M. – Van Der Plicht, J. 2013:*
IntCal13 and marine13 radiocarbon age calibration curves 0-50,000 years cal BP, *Radiocarbon* 55:4.
- Sénac, P. 2011:*
Almanzor. El azote de año mil, València.
- Tente, C. 2010:*
Arqueologia Medieval Cristã no Alto Mondego. Ocupação e exploração do território nos séculos V a XI. PhD thesis FCSH-UNL. Lisbon.
- Tente, C. 2012:*
Settlement and territory in the upper Mondego Basin (centre of Portugal) between the 5th century and the 11th century. *Archeologia Medievale* XXXIX. Siena, 385-398.
- Tente, C. – Carvalho, A. F. 2011:*
The establishment of radiocarbon chronologies for early medieval sites: a case study from the upper Mondego Valley (Guarda, Portugal), *Munibe*, 62, 461-468.
- Tente, C. – Prieto, P. – Lantes, O. 2014:*
A produção cerâmica dos séculos IX a XI da região do Alto Mondego (Portugal), in: De Man, A. – Tente, C. (eds), *Estudos de Cerâmica Medieval. O Norte e o Centro de Portugal. Séculos IX a XII*. Lisbon, 110-139.

Tente, C. – Prata, S. – Brookes S. – Moreno-García, M. – Souza, G. – Cuésta, F. 2018a:

Povoamento e modos de vida no limite oriental do território viseense durante o século X. O Povoado de S. Gens, in: Tente, C. (ed.), *Do Império ao Reino. Viseu e o território entre os séculos IV a XII*. Viseu, 196-228.

Tente, C. – Baptista, H. – Tereso, J. P. – Cércio, M. – Veloso, J. L. – Oliveira, C. – Seabra, L. – Meira, C. – Souza, G. – Cordero-Ruiz, T. – Real, M. L. 2018b:

A Senhora do Barrocal (Sátão) na viragem do milénio. Primeira abordagem à sequência

ocupacional, cultura material e função do sítio arqueológico, in: Tente, C. (ed.), *Do Império ao Reino. Viseu e o território entre os séculos IV a XII*. Viseu, 262-295.

Tereso, J. P. – Tente, C. – Baptista, H. 2016:

O sítio da Senhora do Barrocal (Sátão, Viseu): vestígios das práticas agrícolas e de exploração dos recursos agrários no século X. *International Conference Old and New Worlds: the global challenges of Rural History*. Lisbon, 1-14. <https://lisbon2016rh.files.wordpress.com/2015/12/onw-0168.pdf>

One land, two peasantries

Moriscos and Old Christians in the upper Genal Valley, Málaga (16th – 18th centuries)

*Esteban López-García, Ignacio Díaz and Félix Retamero**

Abstract

We present the results of research undertaken in the Genal Valley (Málaga, Spain), where Morisco and Castilian peasants coexisted for most of the 16th century. Our analysis of the written record, which was combined with fieldwork, enabled us to identify the agricultural areas used by both communities. Our examination of the distribution of land ownership has revealed that Morisco and Castilian fields formed separate compact blocks, and that the larger and flatter plots of land were owned by Castilians. We have also noted that the property of Moriscos tended to be fragmented into small plots, which must have prevented any single Morisco landowner from amassing large, compact blocks of land. The expulsion of the Moriscos in 1570 triggered a tendency towards the concentration of land in fewer hands.

Keywords: *Castilian settlers, Morisco peasants, agriculture, Genal Valley, 16th century.*

Résumé

Une terre, deux paysanneries: morisques et « vieux » chrétiens dans la vallée de l'Alto Genal, Málaga (XVIe-XVIIIe s.)

Cet article présente les résultats de la recherche menée dans deux villes de la vallée de l'Alto Genal (Málaga, Espagne) où cohabitaient des paysans morisques et castillans pendant la majeure partie du XVIe siècle. L'analyse des sources écrites en combinaison avec le travail sur le terrain a permis d'identifier les espaces agraires utilisées par les deux communautés. La répartition des différents biens fonciers montre deux types de possession bien distincts entre les champs des morisques et ceux des castillans. Il paraît que les champs vastes de la plaine appartiennent plutôt aux castillans, tandis que les petits champs fragmentés étaient en mains des morisques. La distribution fragmentée des possessions des morisques a – sans aucun doute – freiné la formation de propriétés étendues et compactes entre les mains d'un seul propriétaire et l'expulsion des morisques, en 1570, a certainement accéléré ce processus de concentration.

Mots-clés: *Colons castillans, paysans morisques, agriculture, Vallée de l'Alto Genal, XVIe siècle.*

* Department of Antiquity and
Middle Age Studies,
office B7/ 177
Faculty of Philosophy and Humanities,
Building B
Autonomous University of Barcelona
B-08193 Bellaterra (Barcelona)
Catalonia
Spain
esteban.lopezg@e-campus.uab.cat
nachods92@gmail.com
felix.retamero@uab.cat

Zusammenfassung

Ein Land, zwei Bauernhöfe: Morisken und Christen im Oberen Genal-Tal, Málaga (16.-18. Jh.)

Dieser Beitrag stellt die Ergebnisse der Forschungen vor, die in zwei Städten im Genaltal (Málaga, Spanien) durchgeführt wurden, in denen moriske und kastilische Bauern während eines Großteils des 16. Jahrhunderts koexistiert haben. Die agrarisch genutzten Felder beider Gemeinschaften konnten durch schriftliche Dokumentation und Feldarbeit identifiziert werden. Darüber hinaus hat unsere Untersuchung der Landverteilung ergeben, dass die Felder von Morisken

Introduction

The conquest of the Nasrid emirate of Granada by Castile (1482-1492) was followed by the arrival of thousands of Castilian settlers. For nearly a century, the indigenous Muslim community and the new colonists inhabited the same villages and worked adjacent fields. The indigenous people had experienced forced conversion in the early 16th century, but it was still politically subjugated and had its own, heavier, tax regime. This period of coexistence came to an end with the expulsion of the former Andalusí population – known as Moriscos – from the Kingdom of Granada in 1570.

Our research aims to define the agricultural areas at the time of the expulsion of the Moriscos, to analyse the distribution and use of these areas, and to outline how they were managed according to the different agricultural traditions of Castilians and Moriscos. The examples presented in this paper are in the region of Alto Genal, near the city of Ronda, in the westernmost expanses of the former Nasrid emirate. The region, which was known at the time of the Christian conquest as Havaral, is a mountainous area between the cities of Ronda and Marbella, measuring approximately 260 km², and is traversed by the upper course of the Genal River, which is a tributary of the Guadiaro (Fig. 1).

Havaral was conquered in 1485, when the inhabitants of the fourteen Andalusí hamlets that constituted the district surrendered to the Castilians, in exchange for being allowed to remain in their homes (*Acién 1979, 147-148; Becerra – Siles 2013, 21-25*). In 1500, the indigenous population revolted in protest against the discriminatory measures being implemented by the colonial administration, and this led to the emigration of a substantial proportion of the inhabitants of Havaral and the forced conversion of those who remained (*López de Coca 2007*). At this point, the Crown began settling Castilian colonists to replace the Andalusí who had died or fled. The most reliable demographic data available to

und Kastilien getrennte kompakte Blöcke bildeten und dass die größeren und flacheren Grundstücke im Besitz der Kastiler waren. Wir haben zudem festgestellt, dass das Eigentum der Morisken tendenziell in kleine Parzellen zersplittert war, was die einzelnen Grundbesitzer daran gehindert haben muss, große, kompakte Landbesitze zu erwerben. Die Vertreibung der Morisken im Jahre 1570 löste eine Tendenz zur Konzentration von Land in weniger Händen aus.

Schlagwörter: *Kastilische Siedler, moriske Bauern, Agrikultur, Genaltal, frühe Neuzeit.*

us are dated to the 1560s, when Havaral was inhabited by 318 Morisco and 214 Castilian heads of household (*López-García 2015, 208*).

To date, 2 of the 14 hamlets of Havaral – Moclón and Igualaja – have been studied. These were the settlements with the largest overall area of irrigated land in the mid-16th century. By undertaking a study of the written record and fieldwork, we have been able to identify the distribution of Morisco and Castilian agricultural fields at the time of the expulsion in 1570 (Fig. 2).

Methodology

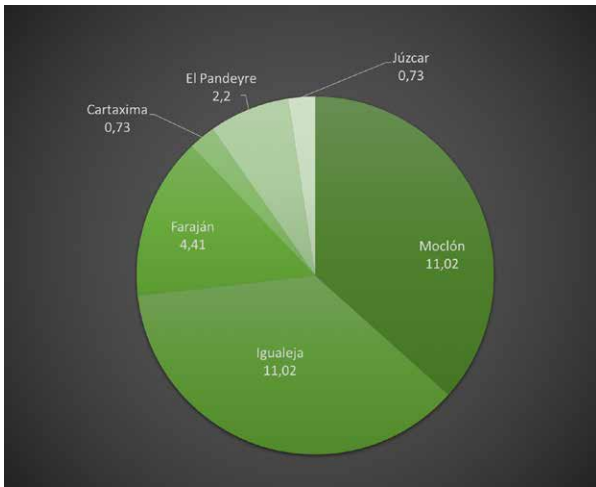
In the present work, we have applied the methodology that has been used for decades elsewhere on the Iberian Peninsula and the Balearic Islands by those studying Andalusí agricultural areas and the transformations introduced by the Christian conquerors (see, for example, *Barceló et al. 1996; Kirchner 2009; Kirchner – Navarro 1994; Guinot – Esquilache 2012*). Essentially, this methodology involves:

- Analysing the written record, especially documents generated during the process of conquest and colonisation (often the only documents available). In this context, the *apeo* and *repartimiento* books are particularly useful, as they contain detailed inventories of the properties confiscated by the Crown following the expulsion of the Moriscos.
- Identifying, drawing, and measuring cultivated lands, the structures related to them (*i.e.* channels, dams, cisterns, watermills, roads, etc.), and also those sectors that remained uncultivated or were only broken up sporadically. During this phase of study, the spaces recorded in the written record and their distribution were identified on the ground. Although



Fig. 1: Location of Haval de Ronda (© Esteban López, Félix Retamero and Ignacio Díaz).

Fig. 2 (below): Distribution of irrigated land in Haval in 1570 (© Esteban López, Félix Retamero and Ignacio Díaz).



some place names have changed, many of the toponyms used in the record remain in use. This phase of study also involved undertaking an ethnographic survey, which was especially useful for identifying microtoponyms, which are only alive in the form of oral memory, and for understanding local agricultural practices. The use of aerial photographs and historical maps was also essential.

Moclón: The segregation of fields

The former hamlet of Moclón is uninhabited today, and since the 19th century it has been part of the municipality of Júzcar. As is the case for the rest of the region, our evidence for Moclón prior to the expulsion of the Moriscos is very limited. In 1492 the hamlet was inhabited by 35 male adult Muslims (*Acién 1979, 61*), but the revolt in 1500 and the forced conversion that followed led to important changes in the demography of the settlement. Before the expulsion in 1570, Moclón was the smallest hamlet of Haval, in terms of population. In 1560, it was inhabited by 12 families, of which 5 were Castilian and 7 Morisco (*López-García 2015, 208*).

After the expulsion of the Moriscos in 1570, the Castilian authorities contemplated the possibility of leaving Moclón uninhabited, and allowing the land to be worked by the residents of nearby Pujerra, which had been inhabited by Castilian settlers since the early 16th century. However, in 1572 7 new Castilian families were settled in the hamlet (in addition to the other 5 Castilian families who already lived there) and granted the property of the previous Morisco inhabitants (*Becerra – Siles 2013, 171-176*).

The information concerning the size and location of the various agricultural areas described in the documents

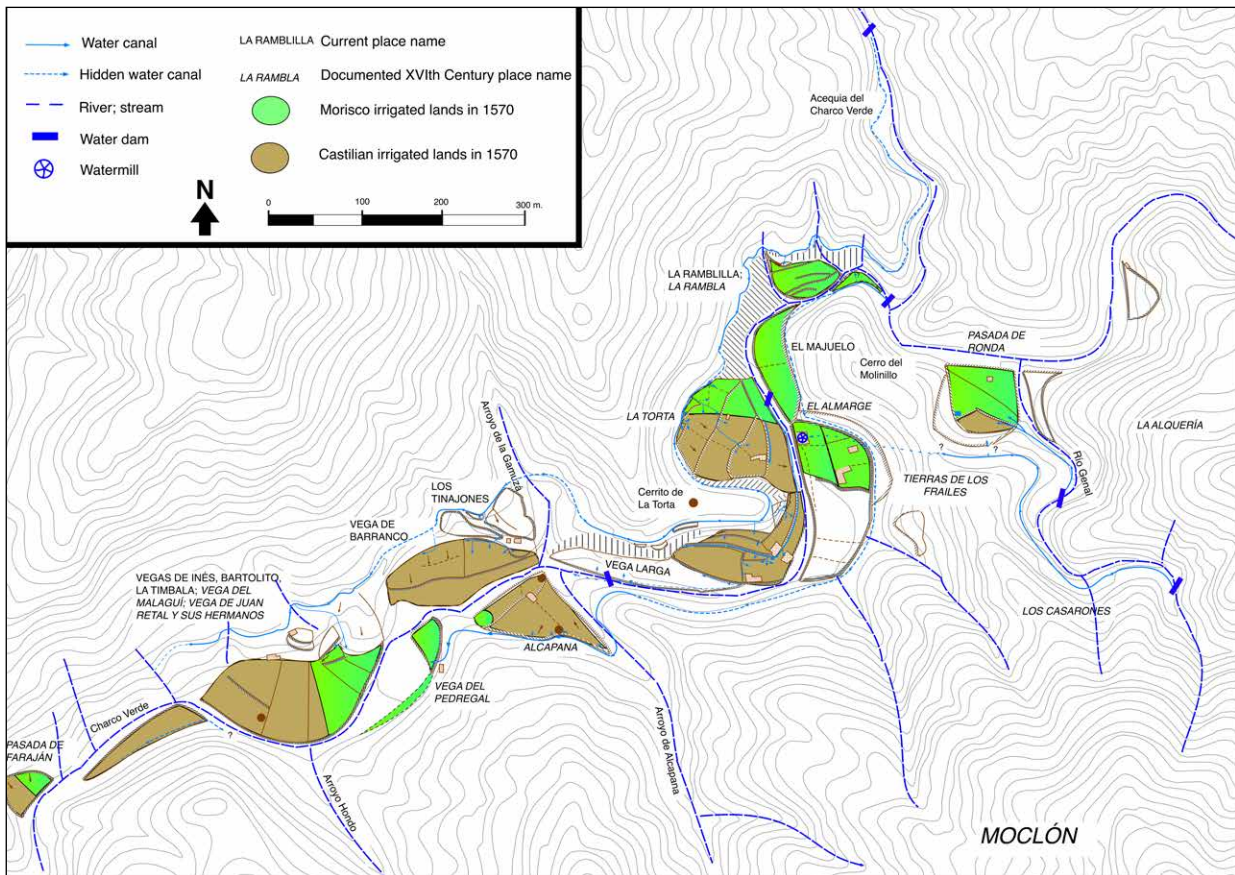


Fig. 3: Map of Moclón – irrigated land (© Esteban López, Félix Retamero and Ignacio Díaz).

generated during the inventory and allocation of properties in 1571 and 1572 (Becerra – Siles 2013; López-García 2015) has allowed us to identify these agricultural properties on the ground (López – Retamero 2017). Irrigated lands comprised approximately 11 ha, and were irrigated by means of *acequias* which, in most cases, led directly to the Genal River. Until 1570, Moriscos owned 3.7 ha of irrigated land, and the Castilians 7.3 ha – that is, two-thirds of the total (Fig. 3).

In general, the irrigated land owned by the Moriscos was divided into small terraced properties, which generally formed compact blocks at the start of the irrigation systems. Each farmer owned several terraces, but they were rarely located together, and were instead mixed with those owned by other Moriscos. Although the properties owned by each farmer were dispersed, the land of Moriscos tended to be grouped, and neatly separated from that of the Castilians. The property of the Castilian newcomers tended to be concentrated on the lower course of the irrigation systems, where the widest and flattest expanses of land (*vegas*) are located.

The land dedicated to *secano* (dry arable land), comprising approximately 30 ha in total, was distributed

in a similar way. The Morisco families possessed only one-third (10 ha), which was divided into small properties located around the settlement. The 20 ha owned by Castilians tended to form larger properties, and to be located further away from the houses.

It seems that the only exception to this pattern was the vineyard: it comprised 15 ha in several plots. In 1570, these properties were not only distributed equally among both communities, but were also mixed with one another, as opposed to forming separate blocks. Further research must be undertaken to explain this exception to the pattern detected elsewhere.

The distribution of agricultural land in Moclón (with the exception of the vineyards) indicates that both communities had different priorities and management criteria. Concerning irrigation and dry land agriculture, the position of the properties owned by the Moriscos suggests intensive cultivation strategies and risk avoidance through diversification. It remains to be determined whether the property-distribution pattern prior to 1570 was determined by the appropriation of the largest fields by the Castilian colonists, or whether this was, in fact, the preferred distribution pattern for



Fig. 4: View of present-day Igualeja (© Esteban López, Félix Retamero and Ignacio Díaz).

the Moriscos – two possibilities that are not mutually exclusive (López – Retamero 2017).

Igualeja: Transforming the land

The other hamlet that has been studied in Havaral is Igualeja, which is located near the source of the Genal River, in the vicinity of the old road that linked Ronda and the Mediterranean coast (Fig. 1). Like Moclón, Igualeja features in the earliest documents issued after the conquest of the region in 1485. The population comprised 80 male adult Muslims in 1489 and 1492 (Rodríguez 2005, 21; Acién 1979, 61); most of them fled after the rebellion in 1500 and by 1501 only 11 were left. This drop in native population was compensated for by the arrival of Castilian colonists in the early years of the 16th century. In 1560, Igualeja was inhabited by 54 heads of households, of whom only 17 were Moriscos (López-García 2015, 208).

By the date of the expulsion, most of the 11 ha of irrigated land in Igualeja was in the hands of Moriscos (7.3 ha). In general, this land was divided into small terraced properties (a few hundred square metres apiece), and tended to form clusters on the steepest slopes in the valley. In this case as well, each Morisco farmer possessed several

scattered pieces of land, which were intermingled with those owned by other Morisco farmers. The agricultural areas possessed by the Castilian colonists, who accounted for two-thirds of the population but only owned one-third of the irrigated land, tended to be located in the vicinity of the hamlet. These fields are alluded to in the record as *huertas* and *bazas*, and were the largest agricultural plots in the territory of Igualeja.

Arable lands amounted to a little under 15 ha in 1570 and were equitably divided among both communities. Vineyards were the most extensive crop, and by 1570 they took up a total of approximately 55 ha. The distribution of the land responded to demography: Castilians owned two-thirds of the vineyards, and Moriscos the remaining third. In contrast with Moclón, no notable differences existed in the distribution of *secano* land sown with cereal; as a rule, this land was divided into small plots, often no bigger than 0.3 ha, which were usually located near irrigation terraces or interspersed with vineyards. Only in rare instances were the plots owned by a single farmer grouped together. This situation changed with the expulsion. The small fields formerly owned by Moriscos were confiscated and allocated to 8 new colonists who arrived in the hamlet in 1572. The colonists who were

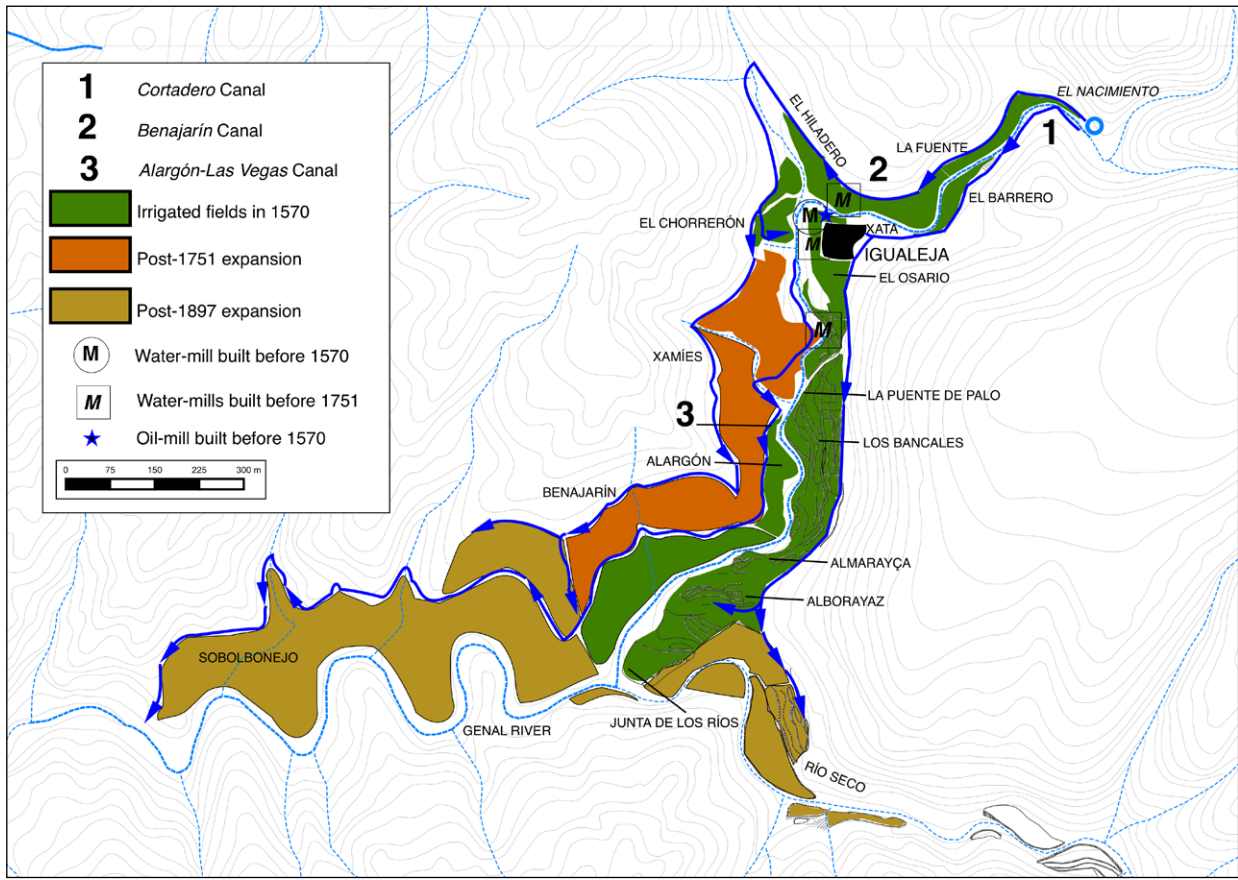


Fig. 5: Map of Igualeja: expansion of irrigation areas (© Esteban López, Félix Retamero and Ignacio Díaz).

there prior to the expulsion began exchanging land in order to unify their possessions (Rodríguez 2005; Díaz et al. forthcoming).

The arrival of new colonists in 1572 did not bring about immediate changes to the irrigated areas in Igualeja, as seen in some cases from the Balearic Islands (Barceló – Retamero 2005; Kirchner 2009). The overall size of irrigated areas remained unaltered until the late 18th century, when it was expanded by 6.2 ha; another 14.7 ha were added in the early 20th century (Fig. 5). Although the size of irrigated lands did not change after the expulsion, the new settlers soon introduced changes to the system, forcing new water-allocation rules to be implemented. Prior to the 18th century, the residents of Igualeja had built 3 new watermills, but only 1 had been built before 1571 (López-García 2015, 198; Díaz et al. 2018, 265). The new water-allocation rules prioritised the operation of the watermills over the irrigation needs of the farmers, who used the same *acequias*. In the early 18th century, water was allocated to the watermills 4 days a week, which caused some friction between the owners of these facilities and the farmers. It is likely that a very different water-allocation

regime was in place prior to the 1570s, when only 1 watermill existed and irrigators were probably given priority access to the water flow.

Conclusion

The analysis of written documents dated between the 15th and 20th centuries, as well as archaeological work and ethnographic surveys, has allowed us to outline the size and location of agricultural properties in the hamlets of Moclón and Igualeja prior to the expulsion of Moriscos in 1570. The results have highlighted various factors that should be taken into account in an analysis of the coexistence of Castilians and Moriscos throughout the 16th century. Specifically, we must emphasise the systematic separation of the land owned by both groups. In Moclón, Castilian and Morisco fields formed separate clusters. Within these clusters, Morisco properties generally were small and fragmented. In Igualeja, by contrast, no such compact concentrations of land existed, and the properties of Castilian and Moriscos appear to have been interspersed. Moriscos owned most of the irrigated land, despite being a smaller community in terms of population, but the fields

owned by Castilians tended to be bigger and located in flatter areas. This means that substantial differences exist, concerning the characteristics and locations of the plots owned by Moriscos and Castilians. Whilst Moriscos tended to own small and dispersed plots, the latter favoured larger, more-compact fields. In those cases, such as Igualeja, where it was impossible to satisfy this preference in the time when Moriscos were present, the Castilian settlers eagerly tended to concentrate their possessions after the expulsion of 1570. There is little doubt that such preferences were directly affected by the productive strategies followed by both groups. However, as previously noted, it still remains to be determined whether the distribution of Morisco land ownership that was recorded by Castilian officials in 1570 was a reflection of the survival of preconquest forms of organisation that endured until the expulsion of the indigenous population. New studies are needed to confirm the pattern that has been detected in our two examples and to explain the reasons behind the unequal distribution of land among the two communities.

Acknowledgements

This work was supported by the research project 'Órdenes agrarios y conquistas ibéricas (siglos XII-XVI). Estudios desde la arqueología histórica' (HAR2017-82157-P) and by the 'La Caixa' Foundation under Grant LCF/BQ/ES15/10360007.

References

- Acién, M. 1979:*
Ronda y su Serranía en tiempo de los Reyes Católicos. Málaga.
- Barceló, M. – Kirchner, H. – Navarro, C. 1996:*
El agua que no duerme: fundamentos de la arqueología hidráulica andalusí. Granada.
- Barceló, M. – Retamero, F. 2005:*
Els barrancs tancats: l'ordre pagès al sud de Menorca en època andalusina. Maó.
- Becerra, M. – Siles, F. 2013:*
El libro de repartimiento de Moclón: historia, paisaje rural y poblamiento de una pequeña alquería de El Havaral (siglos XV y XVI). Ronda.
- Díaz, I. – López-García, E. – Retamero, F. 2018:*
Los campos de los moriscos y de los castellanos de Igualeja (Serranía de Ronda, Málaga). Siglo XVI, in: Guinot, E. – Torró, J. (eds.), Trigo y ovejas: El impacto de las conquistas en los paisajes andalusíes (siglos XI-XVI). Valencia.
- Guinot, E. – Esquilache, F. 2012:*
La reorganización del paisaje agrario en la huerta de Valencia después de la conquista cristiana. El sistema hidráulico y el parcelario de Montcada y Benifaraig en el siglo XIII, *Debates de Arqueología Medieval* 2, 229-276.
- Kirchner, H. 2009:*
Original design, tribal management and modifications in medieval hydraulic systems in the Balearic Islands (Spain), *World Archaeology* 41/1, 148-165.
- Kirchner, H. – Navarro, C. 1994:*
Objetivos, métodos y práctica de la arqueología hidráulica, *Arqueología y territorio medieval* 1, 159-182.
- López de Coca, J. E. 2007:*
La revuelta mudéjar de Sierra Bermeja (1500-1501), in: Martínez Enamorado, V. – Castillo Rodríguez, J. A. (eds), *El Fin de Al-Ándalus en La Serranía de Ronda: La Rota del Calaluz*. Ronda, 13-28.
- López-García, E. 2015:*
El Havaral de Ronda en los últimos años de la etapa morisca: 1560-1570, *Takurunna: Anuario de Estudios sobre Ronda y La Serranía* 4-5, 187-238.
- López, E. – Retamero, F. 2017:*
Segregated fields. Castilian and Morisco peasants in Moclón (Málaga, Spain, Sixteenth Century), *International Journal of Historical Archaeology* 21, 623-640.
- Rodríguez, E. 2005:*
Igualeja después de la expulsión de los moriscos (1572-1742). Ronda.

The impact of the Christian conquest on the agrarian areas in the lower Ebro Valley: The case of Xerta (Spain)

*Antoni Virgili and Helena Kirchner**

Abstract

The distribution of rural Islamic settlements in the Baix Ebre (the lower course of the Ebro River), near Madîna Ṭurtûša (Tortosa), and the development of this city are closely connected with the creation of agricultural areas on both sides of the river. The inhabited nuclei are located on the fluvial terrace or on small hills, always near cultivation areas. Irrigation was done by means of wells and waterwheels. The region is also characterised by the presence of wetlands, often drained by means of channels. In the aftermath of the Catalan conquest (1148), the Andalusí population was evicted and replaced by immigrants coming from the regions to the north. The conquest was the starting point for the imposition of the feudal order. The conquerors modified the agrarian practices of the previous Andalusí population. Agrarian cycles, management criteria, and the very shape of the rural landscape changed. The creation of new agricultural areas was one of the most significant alterations introduced by the conquerors; this activity preferentially took place in marshlands located near the mouth of the river and the riverbanks. The new Christian rulers also built watermills and promoted the introduction of new crops like vines and cereals. In Xerta we find both forms of the transformation of the Andalusí agrarian landscape, and it provides a good example of the impact of the feudal conquest.

Keywords: *Conquest, Tortosa, agricultural areas, irrigation, drainage, insula, watermill.*

Résumé

L'impact de la Reconquista sur les régions agricoles de la basse vallée de l'Èbre. Le cas de Xerta (Espagne).

La répartition des habitats ruraux islamiques dans le Bajo Ebro (région de la basse vallée de l'Èbre), près de Madîna Ṭurtûša (Tortosa), et le développement de cette ville sont étroitement liés à la création de zones cultivées de part et d'autre du fleuve. Les villages sont répartis sur la terrasse fluviale et sur de petites collines, à proximité des zones cultivées. L'irrigation était assurée par un système de puits et de roues à eau. La région est également caractérisée par la présence de zones humides, souvent drainées à l'aide de chenaux. À la suite de la conquête féodale (siège de Tortosa, 1148), la population musulmane andalouse est chassée et remplacée par des migrants venant des régions féodales du Nord. La

* Departament de Ciències de l'Antiguitat i de l'Edat Mitjana
Facultat de Filosofia i Lletres
Universitat Autònoma de Barcelona
08290 Bellaterra
Spain
antoni.virgili@uab.cat
helena.kirchner@uab.cat

conquête fut le point de départ de l'imposition de l'ordre féodal. Les conquérants modifièrent les pratiques agricoles des populations andalouses précédentes. Les cycles agricoles, les critères de gestion ainsi que l'aspect même du paysage rural changèrent. La création de nouveaux espaces de culture est l'une des modifications les plus significatives introduites par les conquérants, une activité qui prirent place de préférence dans les zones inondables proches de l'embouchure du fleuve ou sur ses berges. Les nouveaux dirigeants chrétiens construisirent également des moulins à eau et encouragèrent l'introduction de nouvelles cultures comme la vigne et les céréales. À Xerta, nous trouvons ces deux types de transformations du paysage rural d'al-Andalus, nous fournissant un bon exemple de l'impact de la conquête féodale.

Mots-clés: *conquête, Tortosa, zones agricoles, irrigation, drainage, insula, moulin.*

Zusammenfassung

Die Auswirkungen der christlichen Eroberung auf die Agrargebiete im unteren Ebrotal. Der Fall Xerta (Spanien)

Die Verbreitung ländlicher islamischer Siedlungen am Unterlauf des Ebro rund um Madīna Ṭurtūša (Tortosa), sowie die Entwicklung dieser Stadt, hängen direkt mit der Entwicklung der landwirtschaftlich nutzbaren Zonen beiderseits des Flusses zusammen. Die Siedlungszentren liegen auf der Flussterrasse oder auf kleinen Anhöhen, stets in der Nähe der Nutzflächen. Die Bewässerung erfolgte durch Brunnen und Wasserräder. Charakteristisch für die Region sind Feuchtbodengebiete, die oft durch Kanäle entwässert und nutzbar gemacht wurden. Als Folge der Eroberungen um 1148 wurde die ansässige Bevölkerung der Andalusi vertrieben; neue Bevölkerungsgruppen aus nördlicheren Gebieten siedelten sich an. Die Eroberungszüge brachten die Anfänge neuer Landnutzungssysteme mit sich. Im Rahmen dieser wurden die landwirtschaftlichen Nutzungsmuster der früheren Andalusi grundlegend geändert: nicht nur die landwirtschaftlichen Abläufe, auch Bewirtschaftungskriterien und die Landschaft selbst wurden verändert. Eine der grundlegendsten Veränderungen bestand in der Erschließung neuer Nutzungsflächen in den Marschgebieten um

Introduction

The Andalusi city of Tortosa, near the mouth of the Ebro, surrendered to the troops of the Count of Barcelona, the Comune of Genoa, and their allies in 1148, after a 6-month siege (*Virgili 2001*). This campaign, along with the one which resulted in the conquest of Lleida, slightly

Flussmündungen und entlang derer Ufer. Die neuen christlichen Herrscher bauten Wassermühlen und förderten die Einführung neuer Getreidesorten und den Weinanbau. Am Beispiel von Xerta können diese Transformationen und die direkten Auswirkungen der christlichen Eroberungen exemplarisch aufgezeigt werden.

Schlagwörter: *Eroberung, Tortosa, Landwirtschaft, Bewässerung, Drainage, Mühle.*

Resumen

El impacto de la conquista cristiana en los espacios agrarios del Bajo Ebro. El caso de Xerta (España)

La distribución de los asentamientos rurales islámicos en el Bajo Ebro, cerca de Madīna Ṭurtūša (Tortosa), y el desarrollo de la propia ciudad están estrechamente vinculados con la creación de espacios agrarios a ambos lados del río. Los núcleos residenciales se encontraban encima de la terraza fluvial o en pequeñas colinas, siempre cerca de las zonas de cultivo. El riego se realizaba mediante pozos con norias. El sector más bajo del curso del Ebro se caracterizaba por la presencia de marjales, en parte drenados mediante canales. Después de la conquista catalana (1148), la población andalusí fue desalojada y substituida por inmigrantes procedentes de las regiones del norte. La conquista cristiana fue el punto de partida de la imposición del orden feudal. Los conquistadores modificaron las prácticas agrarias de la población anterior. Los ciclos agrarios, los criterios de gestión y las formas del paisaje rural cambiaron. La creación de nuevas áreas agrícolas fue una de las alteraciones más significativas introducidas por los conquistadores; esta actividad se produjo preferentemente en las áreas de prado, situadas cerca de la desembocadura del río y en las riberas fluviales. Los señores cristianos también construyeron molinos de agua y promovieron la introducción de nuevos cultivos como la viña y el cereal. En Xerta encontramos los dos modelos de transformación del paisaje agrario andalusí y constituye un buen ejemplo del impacto de la conquista feudal.

Palabras clave: *Conquista, Tortosa, parcelario, irrigación, drenaje, insula, molino.*

to the north, was part of the Second Crusade decreed by Pope Eugene III after the Muslim conquest of Edessa and the publication of the bull *Quantum praedecessores* in 1145 (*Phillips 2007*). Many of the units that made up the English-Flemish fleet on its way to the Holy Land played a decisive role in the conquest of Lisbon (1147)

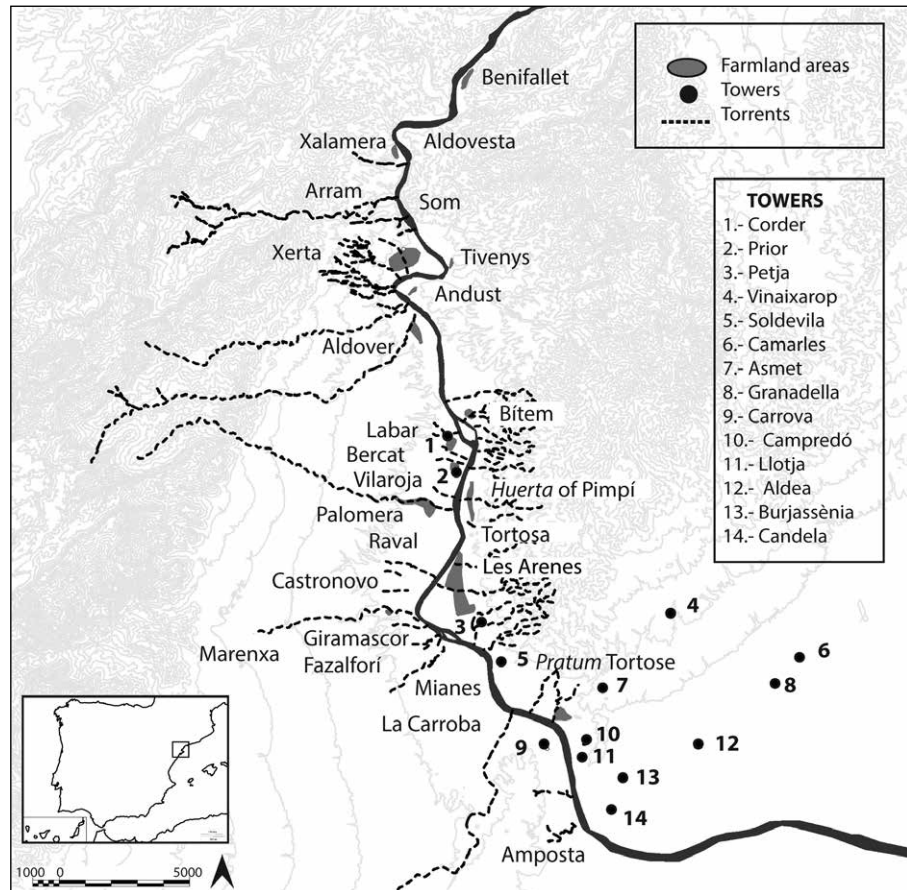


Fig. 1: Andalusian settlements in the lower Ebro Valley (© Antoni Virgili and Helena Kirchner).

and, a few months later, Tortosa. Several members of the expedition remained in Tortosa and participated actively in the colonisation process (Virgili 2009). The conquest of Tortosa, therefore, is an expression of the crusader phenomenon, and has to be framed within the movement of the expansion of European Christianity, as described by R. Bartlett (Bartlett 1993).

The conquest triggered a colonisation process that generated hundreds of written documents. Most of these documents referred to the alienation of land, and contain relevant information about the city, rural settlements, and the agricultural areas and infrastructure found by the conquerors (location of agricultural properties, crops, settlements, roads, *acequias*, watermills, wells, etc.), and also about the changes introduced by them in the following decades. The abundant information provided by the texts, along with the results of archaeological survey, toponymy, and hydraulic archaeology (Kirchner 2008), have allowed us to map with precision the settlements and their agricultural areas located on both sides of the Ebro River. The mention of houses, mosques, and cemeteries suggests that these were concentrated settlements, even if of small size. Settlements were connected by 2 highways running parallel to the riverbanks, and there were barges to cross the river in Tortosa, Benifallet, Xerta, and Amposta.

The riverbed was wider and less defined than it is today. The reclamation of agricultural land and the regulation of the flow has stabilised the riverbanks. Aerial photographs show some rounded property boundaries, which are the imprint of fossilised riverbanks. Andalusian cultivation areas were composed of compact clusters of fields, located in the vicinity of settlements and near the north-south roads that run parallel to the river. These fields were, like the settlements, located in elevated areas, away from flood risk. In the record, references to the river and the main thoroughfares (*via publica*) indicate that the riverbed was much wider and less neatly defined than today. Clusters of fields tended to occupy elevated areas and form compact agricultural areas. Despite this, the agricultural clusters did not touch each other, leaving broad uncultivated tracts and marshlands between them (Fig.1).

Another common feature of these field systems is their location near the mouth of torrents, where sedimentation is greater and forms small elevated knolls. Wells equipped with waterwheels, which are occasionally mentioned in the record, were the most common water-catchment system.

The *algeziras* or *insulae* ('islands') refer to spaces that were surrounded by ponds or by the river. The record suggests that they were used as grazing areas and for the gathering of wild resources, but also as agricultural areas,

as some records mention trees and agricultural fields from a very early date. The descriptions of their boundaries indicate that they were not contiguous to the field systems located near settlements and the mouths of torrents (Kirchner et al. 2016).

The feudal changes of the agricultural landscape

The changes introduced after the conquest mostly involved the breaking up of areas like *insulae* and wet meadows in the riverbanks. The crops introduced in these new agricultural fields were cereal, grapes, olives, and tree fruit, the demand for which was growing, especially in cities. *Donationes ad censum* (the predecessors of emphyteutic agreements) were the legal instruments used to promote specific crops, either by demanding part of the crop in a given form of produce, or by introducing clauses that forced the tenants to sow cereal (*ad seminandum*) or to plant (*ad plantandum*) or graft (*ad inferendum*) vines, or olive or other tree species.

The expansion of cultivation areas, promoted by Christian colonists, took place largely in the meadow areas to the south of Tortosa, from the area of Las Arenas to the coast. This marshy landscape is mentioned in the written record, as are the drainage channels that made farming possible (Virgili 2010; Puy et al. 2014). In Xerta and Tivenys, the new settlers also broke up hitherto uncultivated land on the riverbanks. In both cases, the purpose was to 'claim' land (Torró 2010), from the marshlands and meadowlands, as well as from the river islands (*algeziras*). The process had a great impact on the environment and hunting, gathering and grazing practices gave way to grapes, cereal, and fruit grown for the market.

This process of expansion of agricultural land is contemporary with the construction of watermills and the infrastructure necessary for their supply: water-catchment dams in torrents and long channelling systems for the conduction of the water between the dams and the watermills. Several new watermills were built: the Molins del Comte, in Palomera (Jesús); those of Xerta, which belonged to the Cistercian monastery of Santes Creus; the watermill of d'en Sedó, in the torrent of Sant Antoni; and the watermill of Pedrera, later known as Soldevila, which is the only one situated in the left bank.

The *insula* and the watermills of Xerta

In Xerta, most of the rural properties that were subject to some form of transaction in the aftermath of the 1148 conquest form a compact field system that barely touches the riverbank, and likely correspond to a former Andalusi field system. The record attests to the existence of vegetable

gardens, vines, and olive and other trees. There are four late references to *acequias*, in 1182 and 1200, always to the north or the south of the system, which suggests that the channels ran in a E-W direction, at right angles to the river, and that their function was to drain the terrain (DCT: 348; CTT: 119; CP: 215). The record also mentions several wells: in 1160, in an estate *cum arboribus, cum puteis, cum vineis* (DCT: 112), and in 1174, in an estate, probably located in Xerta and including houses, cultivated and uncultivated lands, vegetable gardens, vines, and olive and other trees *cum puteis, ceniis et molendinis* (DSC: 178). This field system, with the exception of the watermills, must date to the Andalusi period, when it would have been irrigated by means of wells and waterwheels. However, the paucity of the written record and the growth of Xerta's urban centre make it difficult to define the limits of the Andalusi fields with precision.

The Andalusi system probably corresponds to zones D and C, or to part of them (Fig. 2), as they were equipped with waterwheels to elevate irrigation water and were situated immediately below the two settlements detected during archaeological survey. Zone D is the most secure against floods. The construction of drainage channels near the riverbanks may post-date the conquest, since they are not mentioned in the record until quite a late date.

The first attempts to colonise the *algezira* of Xerta by the Bishop of Tortosa date to the 13th century. On 2 April 1205, Gombau de Santa Oliva, bishop, and Ponç, prior of the chapter, gave Iucef Avinali, *sarracenus*, a vineyard located in the *algezira* of Xerta, *cum terra inculta que adheret predictae vinee*, and the trees therein, for 2 *mazmudinas*' annual rent and for a period of 5 years, under the obligation to work the land and break up the uncultivated areas (*expletes et labores ... et quod plantae terra inculta*) (DCT: 649). The property was bordered to the east with the Ebro, to the south and west with Joan de Puig's property and to the north with the *alalix* of Xerta. The word *alalix* and other derivatives such as *alalegium*, *alfalig*, and *alhalegio*, come from the Arabic *al-halij*, which means 'gulf', a backwater where there is little current (Bramon 2012, 17).

Most of the references to the *algezira* and the *alfalig* are considerably later than the conquest. They refer to land concessions, which imply the condition to break up the land. They are, therefore, part of a process of colonisation that affected the portions of the terrains that were closest to the river and that had not been cultivated during the Andalusi period.

Four land concessions have been identified in this area, granted by the bishop and the prior of Tortosa, again on condition of breaking up the land (*ad laborandum*). One piece of land was granted in May 1205; it was located *in capite algezire* from Xerta, and was bordered to the north and the east with the Ebro and to the west with the *alalegio* (DCT: 652). Another piece was granted



Fig. 2: Farmland and the insula of Xerta (© Antoni Virgili and Helena Kirchner).

in June 1205; it was *in capite inferiori algezire*, and was bordered with the Ebro to the east, south, and west (DCT: 653). The *alhalegium de Xerta* and an adjacent field that was bordered to the west with the Ebro were granted in 1207 (DCT: 698). Finally, around 1214, a property was granted *in capite algezire* from Xerta; it was bordered to the north and east with the Ebro and to the west with the *alalegio* (DCT: 777). The expressions *in capite algezire* and *in capite inferiori* or *superiori* refer to the river and the bank ends of the island.

This was, therefore, a late colonisation that took place over 50 years after the conquest. The documents are clear concerning the main condition imposed on the tenants: it was that of breaking up uncultivated land.

The reconstruction of the space occupied by the *alalegio* and the *algezira* of Xerta is not easy with the information available, especially because we have no certainty concerning the course of the river. The aerial photography and the topographic maps, however, reveal some interesting property clusters and microtopographical features. We know that the *alalegio* and the *algezira* were contiguous, as the former is recorded to have been bordered with the latter to the north and west. The *alfalig* of Xerta was always bordered with the *algezira*, as well as with other properties (DCT: 649, 652). The different parts

of the *algezira* were bordered with the Ebro: the northern sector, to the north and east; the central sector, to the east; and the southern sector, to the south and east. This seems to locate the *alalegio* and the *algezira* in the great meander that the Ebro traces before Xerta, which is currently occupied by a major expanse of *huerta*. The fact that the river is mentioned, on two occasions, as being located to the west of the *alalegio* and of the southern sector of the *algezira* suggests that the arms of the meander may have nearly encircled the *algezira* completely.

The term *alalegio* could refer to a branch of the river that separated the *algezira* from the shore. These branches, which were sometimes even turned into channels, for instance in Miravet, are currently known as ‘galatxos’. The term *alalegio*, it follows, may have referred to the branch that separated the island from the shore, which explains its location to the north and west of the properties situated in the northern end of the island (*in capite algezira*).

In the northern end of the meander of Xerta, there is a place known as Mas del Galatxo. In the same area, a road coming from Xerta, known as Camí de les Illes, forks into three: the road that leads to Mas del Galatxo is known as the ‘road of the boat’, which probably alludes to a boat crossing. This road and its branches, which are in no instance below 12 masl in elevation, outline the current

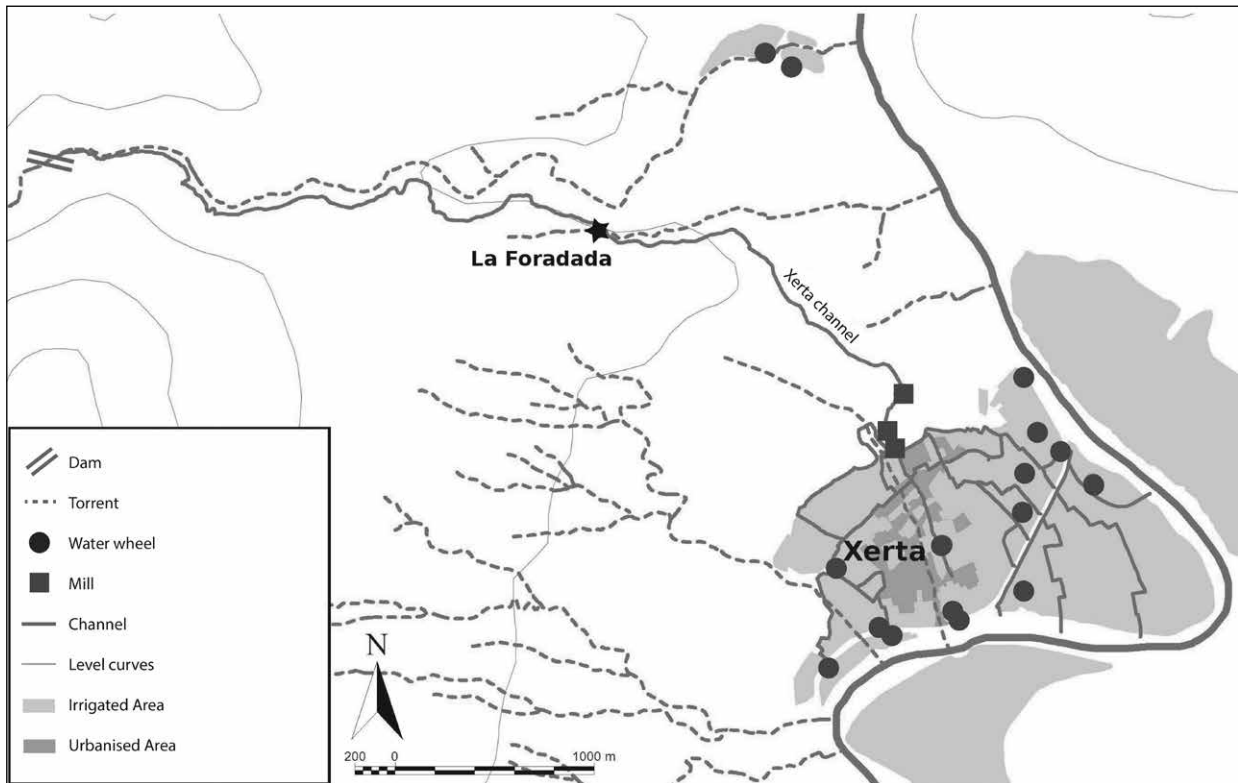


Fig. 3: The acequia of Xerta and the watermills (© Antoni Virgili and Helena Kirchner).



Fig. 4: The acequia of Xerta today (© Antoni Virgili and Helena Kirchner).

sector of Las Illes, (Fig. 2, area B), which is the area where the process of agricultural colonisation led by the episcopal see took place. The rest of the meander is situated between 12 and 8 masl and was colonised at a later date (Fig. 2, area E). The image also illustrates the channel to the right of the Ebro, which currently traverses the meander (Fig. 2).

The channel (*acequia*) and watermills of Xerta
References to the *acequia* and to the watermills of Xerta date to the late 12th or early 13th century. They were not part of the Andalusi system, although the secondary irrigation branches of the *acequias* currently extend over the whole meander, overlapping the Andalusi agricultural areas. In

an inventory of the property owned by the monastery of Poblet, in Xerta, which bears no date but which could be dated to approximately 1200 (*CP: 215*), mention is made of a public *acequia*, and this could be the first mention of the *acequia* constructed for the supply of the watermills. As previously noted, most of the agricultural properties for which there are records were not adjacent to the river, and no indications exist that they were irrigated by means of a network of *acequias*. However, there are references to wells and waterwheels, which was the standard irrigation method in the Andalusi period.

The current course of the *acequia* starts from the dam built in the ravine of Las Fonts, in the territory of the castle of Pàüls, where there are a number of natural springs in association with the torrent (Figs. 3, 4). The course of the *acequia* shifts further down, when it is channelled down a tunnel that runs through a large rock (La Foradada) in order to reach three watermills. After powering these watermills, the water was channelled to irrigate the *huerta* that surrounds the village of Xerta. The course and slope of the *acequia* were designed primarily to drive the watermills, and secondarily to irrigate a pre-existing agricultural area. This agricultural area, which is mentioned in the earliest 12th-century documents, dates back to the Andalusi period, and it still preserves animal-powered waterwheels for irrigation.

The hydraulic system is accurately described in the document known as *Privilegi de les aigües de Xerta*, granted by Peter IV, king of Aragon and count of Barcelona, on 5 February 1383 (*Moner 1910*). This privilege brought a controversy to an end: driven by the persistent drought, the village leaders and the Council of Xerta had been denounced for taking over the running water in the territory of the castle of Pàüls so they could irrigate their own private land. They argued that the inhabitants of Xerta had used this water long before Tortosa and its territory were 'liberated by our predecessors (referring to Count Ramon Berenguer IV) from the hands of the Saracens and Moors'. The king acquitted the village Council of Xerta, and granted them the use of water, free from any interference from the king and his agents. It is clear from the document that in the late 14th century it was believed that the hydraulic system had an Andalusi origin. However, the outline of the system, the late mention of watermills and *acequia*, and the similarities with the Molins del Comte, which were, beyond doubt, built after the conquest, suggest that the *acequia* of Xerta is, indeed, a post-conquest construction. The construction of hydraulic networks to feed watermills is characteristic of Catalan feudal systems and, in some cases, watermills were 'added' to pre-existing Andalusi *acequia* systems (*Kirchner 2012*).

Acknowledgments

This research was sponsored within the framework of the projects: 'Productions and agrarian spaces in late medieval Iberian societies. Historical archaeological approaches (12th-16th centuries)' (HAR2013-42195-P) (PIs: F. Retamero and H. Kirchner); 'Agricultural organisations and Iberian conquests (12th-16th centuries). Studies of historical archaeology' (HAR2017-82157-P) (PIs: F. Retamero and H. Kirchner), both funded by Ministerio de Economía, Industria y Competitividad (Spain); and 'Andalusi cities and their agrarian landscape and the feudal conquest. The cases of Tortosa and Balaguer (12th century)' (2014/100874) (PI: H. Kirchner), funded by the Departament de Cultura i Mitjans de Comunicació of the Generalitat de Catalunya. The authors are members of the research group 2014 SGR 741 Agrarian Archaeology of the Middle Ages (ARAEM: <http://grupsderecerca.uab.cat/araem/>).

References

Primary

- CP. *Pons, J. 1938*:
Cartulari de Poblet. Edició del manuscrit de Tarragona. Barcelona.
- CTT. *Pagarolas, L. 1984*:
La Comanda del Temple de Tortosa, primer període (1148-1213). Tortosa.
- DCT. *Virgili, A. 1997 and 2001*:
Diplomatari de la catedral de Tortosa (1062-1193), and Diplomatari de la Catedral de Tortosa (1193-1212). Episcopat de Gombau de Santaoliva. Barcelona.
- DCT. *Virgili, A. – Escolà, J. M. – Pica, M. – Rovira, M. in press*:
Diplomatari de la Catedral de Tortosa. Episcopats de Ponç de Torrella (1212-1254) i Bernat d'Olivella (1254-1272). Barcelona.
- DSC. *Papell, J. 2005*:
Diplomatari del monestir de Santa Maria de Santes Creus (975-1225). Fundació Noguera. Barcelona.

Secondary

- Bartlett, R. 1993*:
The making of Europe. Conquest, colonization and cultural change, 930-1350. London.
- Bramon, D. 2012*:
Reivindicació catalana del geògraf al-Idrisi. Discurs de recepció de Dolors Bramon i Planas com a membre numerària de la Secció Històrico-Arqueològica, llegit el dia 20 de novembre de 2012. Barcelona.

Moner, E. 1910:

Privilegi de les aigües de Xerta. Encabessament y certificat-data en castellá. Text català traduït del llatí. Tortosa.

Kirchner, H. 2008:

Archeologia degli spazi irrigati medievali e le loro forme di gestione sociale. In *L'acqua nei secoli altomedievali. Atti delle LV Settimane*, vol.1. Spoleto, 471-503.

Kirchner, H. 2012:

Conquista y colonización feudal: arqueología de los cambios producidos en los espacios irrigados de origen andalusí. El caso de las islas Baleares, in: Eiroa, J. A. (ed.), *La conquista de al-Andalus en el siglo XIII. Murcia*, 41-63.

Kirchner, H. – Virgili, A. – Marfull, J. – Pacheco, N. – Pica, M. – Rovira, M. 2016:

Espais agraris, assentaments andalusins i la ciutat de Tortosa (Baix Ebre). I *Jornades d'Arqueologia de les Terres de l'Ebre*. Tortosa, 507-526.

Phillips, J. 2007:

The Second Crusade. Extending the frontiers of Christendom. New Haven/London.

Puy, A. – Balbo, A. – Virgili, A. – Kirchner, H. 2014:

Wetland reclamation in al-Andalus. The drainage

of Les Arenes floodplain (Tortosa, Spain, 7th-10th centuries AD), *Geoderma* 232-234, 219-235.

Torró, J. 2010:

Tierras ganadas. Aterrazamiento de pendientes y desecación de marjales en la colonización cristiana del territorio valenciano, in: Kirchner, H. (ed.), *Por una arqueología agraria: perspectivas de investigación sobre espacios de cultivo en las sociedades medievales hispánicas*. BAR International Series. Oxford, 157-173.

Virgili, A. 2001:

Ad detrimentum Yspanie. La conquesta de Turtûša i la formació de la societat feudal (1148-1200). València.

Virgili, A. 2009:

Angli ... cum multis aliis alienigenis. Crusade settlers in Tortosa (Second half of the twelfth century), *Journal of Medieval History* 35, 297-312.

Virgili, A. 2010:

Espacios drenados andalusíes y la imposición de las pautas agrarias feudales en el prado de Tortosa (segunda mitad del siglo XII), in: Kirchner, H. (ed.), *Por una arqueología agraria: perspectivas de investigación sobre espacios de cultivo en las sociedades medievales hispánicas*. BAR International Series. Oxford, 147-155.

Part Five

Causes and effects with respect to climate change

The mid-6th century crises and their impacts on human activity and settlements in south-eastern Norway

*Steinar Solheim & Frode Iversen**

Abstract

AD 536 is a poignant date in European history and marks the advent of a series of documented environmental changes that affected societies across Europe in various ways. Sudden and severe climate deterioration led to vast crop failures and was followed by plague epidemics in the following decades. In this article, we examine the timing of the changes in human activity with a detailed investigation of 855 radiocarbon determinations from Vestfold, Norway. The modelled radiocarbon data show a decrease in activity concurrent with the climatic events and plague epidemics that took place in the mid-6th century, and provide another proxy for the significant changes that occurred during this time. The results may support the idea that *fimbulvetr* was the start of a long-lasting cooling period combined with severe population declines and a dramatic decrease in cultural activity. In the past and present, the investigated area represents a heartland of rural production and settlements in Scandinavia. The time span of the crises is fundamental to our academic understanding of the character and societal impacts of the crises, and this study examines it more precisely than previous work.

Keywords: *The Early Middle Ages, Scandinavia, Vestfold, the 536 event, settlement decline, summed radiocarbon dates.*

Résumé

Les crises du milieu du 6e siècle et leurs impacts sur l'activité humaine et les implantations dans le sud-est de la Norvège

536 est une date marquante dans l'histoire européenne et signale l'avènement d'une série de changements environnementaux documentés qui ont affecté les sociétés de diverses manières à travers toute l'Europe. La détérioration soudaine et sévère du climat a conduit à de mauvaises récoltes et a été suivie par des épidémies de peste dans les décennies suivantes. Dans cet article, nous examinons le rythme des changements dans l'activité humaine à partir d'une étude détaillée de 855 datations radiocarbones issues du site de Vestfold, en Norvège. Les données modélisées sur le radiocarbonate montrent une diminution de l'activité concomitante aux événements climatiques et aux épidémies de

* Museum of Cultural History,
University of Oslo
Postbox 6762, St. Olavs plass
0130 Oslo
Norway
Steinar.Solheim@khm.uio.no
Frode.Iversen@khm.uio.no

peste survenus au milieu du 6^e siècle et fournissent une autre alternative au sujet des changements importants survenus pendant cette période. Les résultats permettent d'avancer l'idée que *fimbulvetr* a été le début d'une période de refroidissement de longue durée combinée à de graves déclin de population et une diminution spectaculaire de l'activité culturelle agricole ?. Autrefois et actuellement, la zone étudiée correspond à un centre de la production rurale et à des établissements. La durée des crises est fondamentale pour notre compréhension académique du caractère et des impacts sociétaux des crises, et cette étude l'examine plus précisément que les travaux précédents.

Mots clés: *haut Moyen Âge, Scandinavie, Vestfold, l'événement de 536, le déclin de l'habitat, la somme de datations au radiocarbone.*

Zusammenfassung

Die Krisen des mittleren 6. Jahrhunderts und ihre Auswirkungen auf menschliche Aktivitäten und Siedlungen in Südost-Norwegen

Das Jahr 536 ist ein bedeutendes Datum in der europäischen Geschichte und markiert den Beginn einer Reihe von dokumentierten Umweltveränderungen, die die Gesellschaften in ganz Europa auf unterschiedliche Weise betrafen. Plötzliche

Introduction

The 6th century was a turbulent period in Scandinavia and Europe. The archaeological and palaeoenvironmental record and written sources bear witness to the social turmoil, cultural collapse, and environmental oscillations of this period. In Scandinavia, a large-scale abandonment of farms and farmlands was recorded, and this has been linked to a severe demographic decline. Gräslund and Price (2012, 433) have suggested that the Scandinavian population was reduced by as much as 50% during the 6th century. In recent years, archaeologists have shown a strong interest in the dramatic event(s) that occurred in the years AD 536-537 and the following century, and several scholars have argued that the social turbulence and demographic shift were linked to contemporary climate change and plague epidemics (e.g. Drake 2017; Gräslund – Price 2012; 2015; Iversen 2016; Oppenheimer 2011; Tvaauri 2014). The effects of an event in AD 536-537, 'The Dust Veil', can be found in a series of fossilised tree rings that demonstrate that the temperatures during the summer months were remarkably cold in Scandinavia from AD 536 to AD 545 and in some places in the northern hemisphere from AD 536 to AD 550. While this event is recorded as an anomaly in the climate record

und starke Klimaverschlechterungen führten zu großen Ernteausschlägen, in den folgenden Jahrzehnten schlossen sich Pestepidemien an. In diesem Artikel untersuchen wir den Zeitpunkt der Veränderungen der menschlichen Aktivitäten mit einer detaillierten Analyse von 855 Radiokarbonaten aus Vestfold, Norwegen. Die modellierten Radiocarbon-Daten zeigen einen Aktivitätsrückgang in Verbindung mit den klimatischen Ereignissen und Pestepidemien, die in der Mitte des 6. Jahrhunderts stattfanden und geben einen weiteren Hinweis auf die signifikanten Veränderungen, die während dieser Zeit stattfanden. Die Ergebnisse könnten die Idee unterstützen, dass *fimbulvetr* der Beginn einer langanhaltenden Abkühlperiode in Verbindung mit einem starken Bevölkerungsrückgang und einem dramatischen Rückgang der kulturellen Aktivitäten war. In der Vergangenheit und Gegenwart ist das Untersuchungsgebiet Kern der ländlichen Produktion und Siedlungen in Skandinavien. Die Dauer der Krisen ist grundlegend für unser wissenschaftliches Verständnis des Charakters und der gesellschaftlichen Auswirkungen der Krisen. Diese Studie untersucht die Phänomene detaillierter als frühere Arbeiten.

Schlagwörter: *Frühmittelalter, Skandinavien, Vestfold, das Ereignis von 536, Siedlungsrückgang, Radiokarbonaten.*

(e.g. Luterbacher et al. 2016), climatologists have recently argued for the existence of 'The Late Antique Little Ice Age' (LALIA), an extended and spatially synchronised cooling that lasted from AD 536 to AD 660, following a cluster of large volcanic eruptions in AD 536, 540, and 547 (Büntgen et al. 2016; McCormick et al. 2012; Sigl et al. 2015; Solomina et al. 2016).

Although significant results about the crises in North Europe have been obtained on the basis of aDNA (Hardbeck et al. 2013), archaeological evidence (Gräslund – Price 2012; Herschend 1988; Iversen 2016; Löwenborg 2012; Zachrisson 2011), written sources (Gräslund 2007), archaeobotanical records (Fredh et al. 2013), climatic analyses of tree rings (Büntgen et al. 2016), and speleothem records (Lauritzen – Lundberg 1999), many questions still remain unanswered. Was the mid-6th-century crisis caused only by sudden and severe climate events, or did the Justinian Plague also reach Northern Europe, as indicated by the study of Harbeck et al. of *Yersinia pestis* bacteria in skeletons from the 540s near Munich? Alternatively, and most likely, was the crisis caused by a combination of different factors? The issues under investigation include the identification of the effects of a decrease in human activity or populations, as

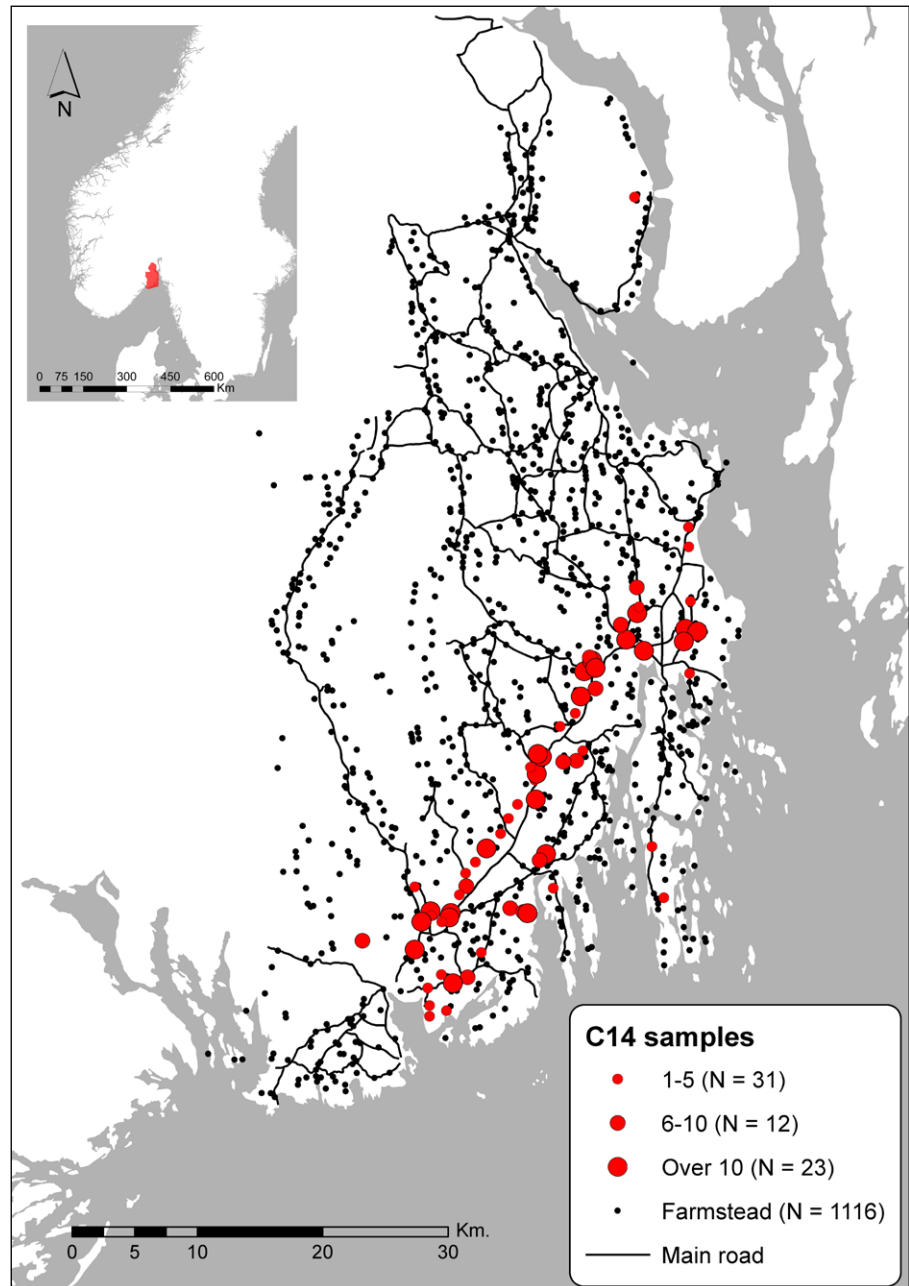


Fig. 1: Area of investigation. Vestfold, Norway. Medieval farmsteads and roads (recorded based on written sources ca. AD 1200-1500 and historical maps from 1832). The study includes 855 radiocarbon dates from 103 sites at 66 farms (marked in red) (© Frode Iversen and Steinar Solheim).

observed in the archaeological data from south-eastern Norway, and whether it relates to short- or long-term climatic changes or plague outbreaks.

This article does not describe the character of the climatic changes or the Justinian Plague, topics that have already been comprehensively studied. Here, we will use radiocarbon data as a proxy to investigate the demographic changes that occurred during the 6th century and provide a more detailed picture of the temporal development of south-eastern Norway than has previously been presented. Norwegian radiocarbon data have thus far not been included in studies of the crisis, and it is the explanatory potential of this dataset that will

be explored in this paper. By investigating 855 radiocarbon determinations from 66 farms in Vestfold, Norway, in central Scandinavia, from the period of BC 2000 to AD 1500, with a focus on the period from AD 1 to AD 800, this paper seeks to clarify the initiation and duration of the recession and address topics related to human responses to changes and disasters (Fig. 1).

Background

Since the start of the 1990s, evidence of several hundred settlements and several thousand buildings has been

identified in Scandinavia (Edblom 2004; Göthberg 2007; Iversen 2013; Streiffert 2005; Söderberg 2005). In south-eastern Norway, the growth in data from Iron Age agricultural settlements is largely due to several large-scale archaeological excavations in Vestfold and Østfold (Bårdseth 2008; Gjerpe 2008; 2013). These data are steadily increasing, and due to major development activity and the building of infrastructure in areas of urban expansion, the Museum of Cultural History organises 50-70 excavation projects each year. A total of 50%-75% of all excavations involve topsoil stripping and the documentation of settlement structures such as houses, postholes, hearths, and cooking pits, as well as the documentation of graves in agricultural areas around the Oslo Fjord (Fig. 2). From these excavations, a large body of radiocarbon dating data has been accumulated since the early 1990s.

A large proportion of the investigated settlements had a more central location in the agricultural landscape than previously studied visible abandoned farms, which were situated outside the best agricultural areas (Myhre 1972; Rønneseth 1966). In terms of the abandonments, it is difficult to date the sites precisely, but it seems evident that settlement abandonment was more frequent during the Migration Period (AD 400-550) than any other prehistoric period (Gräslund – Price 2015; Iversen 2013; Vétrhus 2017). In south-eastern Norway, there was a dramatic decrease in the number of documented buildings during the Migration Period, especially the Merovingian periods, compared to those in the preceding Roman Iron Age (Gjerpe 2016; Iversen 2013). The abandonment of farms is tightly connected to shifts in cultural activity and possibly reductions in population sizes, and we also observe that the number of known burial finds in southern Norway was 90%-95% lower after AD 536-545 than before this period (Solberg 2000, 180-182, 197-198; Vétrhus 2017). To investigate the abandonment of farms and the general downturn in activity in the agricultural landscape, this study used radiocarbon date determinations as a proxy for relative temporal variations in human activity (Shennan *et al.* 2013).

The modelling of radiocarbon data is useful for a top-down approach investigating relative temporal variations in the intensity of human activity and its relation to different events or processes (Shennan – Edinborough 2007). The approach rests on the premise that temporal variations in human activity are reflected in the deposition of radiocarbon dates of anthropogenic origin (Shennan *et al.* 2013). In other words, it is assumed that there is a positive correlation between the number of people in a population and the number of dateable contexts they produce (such as sites, hearths, refuse pits, graves, and postholes). This approach uses the law of large numbers, which implies that large amounts of archaeological data can be used as a proxy for major historical trends, and

the robustness of the model and the correlation between dates and historical events increases with the number of representative dates (Edinborough 2015, 196). We believe that this method can provide information about population dynamics, if there are sufficient observed samples of dated human activity. While this approach does not provide an exact replication of the demographic development, it reveals the underlying signal in human activity when the proper methodology is used (Edinborough *et al.* 2017, 12).

Some of the features of a summed radiocarbon probability distribution can appear to represent demographic events or correlate with major environmental or climatic events, when they are actually the consequence of sampling variations or related to calibration effects (Michczyński – Michczyńska 2006; Shennan *et al.* 2013; Williams 2012). Nevertheless, the approach has been widely used to study the impact of climatic events on population sizes and highlights interesting patterns for further discussion (*e.g.* Armit *et al.* 2014; Tallavaara – Seppä 2011).

As previously mentioned, we will not address the character of the events that occurred in the mid-6th century, but we firmly believe that the timing and span of the decline in human settlements and activity are crucial to the evaluation of the character and societal impact of the crisis. Our working hypothesis is that in the mid-6th century, a crisis comprising several different natural factors, such as volcanic eruptions, cooling events, and a plague, occurred, and this had a long-lasting impact on Iron Age societies. We argue that the timing of the social and cultural changes that occurred in this period can be better understood and studied in more detail through the use of radiocarbon data.

Methods

In this paper, we use 855 radiocarbon dates ranging from BC 2500 to AD 1600 from 103 archaeologically investigated sites in Vestfold, Norway, as a case study. This region has been thoroughly investigated during the last two decades by several large excavation projects, and we argue that the Iron Age activity in this region represents major trends in Scandinavia. The collected ¹⁴C data comes from different contexts, such as farm buildings, including postholes (13% of all ¹⁴C dates), burials (8%), cooking pits/hearthths (36%), and cultivated layers, fields, and clearance cairns (9%), as well as a variety of other structures (*e.g.* pits, cultural layers, ditches, production places, roads) that occur regularly at archaeological sites in this region (33%). Only ¹⁴C dates interpreted as related to anthropogenic activity are included in the analysis.

There are some shortcomings in the data set. Most excavated sites in the region have been dated to the Early Iron Age, 500 BC to AD 570 and, in general, there is a



Fig. 2: A considerable number of Scandinavian Iron Age settlements have been excavated since c. 1990. Several hundred settlements and several thousand buildings have been identified with machine-based deturfing (mechanical topsoil stripping). Here is an example from Hesby, Vestfold, Norway, illustrating a typical context from where the ^{14}C samples in this study are collected. Top: The Vestfold landscape. In the background the old Ra-road following the top of an Ice Age moraine named Raet. The Auli River in front is one of two rivers in Vestfold cutting through the moraine. The medieval and Iron-Age farmsteads are typically located on the rich agricultural plains on each side of the moraine. The main settlement areas in Vestfold are separated by outfields and forest. The area A was not deturfed when the aerial photo (top) was taken in 2009, but revealed a typical 'posthole building' from the Iron Age (bottom left). The area B (bottom right) shows the remains of ploughed-over grave mounds near the farmstead and the old farm road (photos: Tom Heibreen (aerial photos) and Martin Gollwitzer; © Frode Iversen and Steinar Solheim, Museum of Cultural History; CC BY-SA 4.0).

higher proportion of documented Early Iron Age sites than Late Iron Age sites in south-eastern Norway (Eriksen 2015; Gjerpe 2017). The extensive excavations at the large Viking Age site of Kaupang applied dendrochronology rather than the radiocarbon dating method as the dating

strategy (Skre 2007). Finally, there are few ^{14}C dates from the medieval period (AD 1000-1500), and dates from medieval towns were not collected systematically for the purpose of this paper. This makes it difficult to compare the long-term development patterns over the entire Iron

Age and into the medieval period. However, we consider the data set to be sufficient for the aims of this paper, especially for the investigation of the beginning of the decrease in human activity and population size.

To model the radiocarbon data, we used the UCL method, as developed by Shennan et al. (2013) and Timpson et al. (2014), with the R software codes provided by Edinborough et al. (2017). All collected dates were grouped into given time intervals – binned – at the site level to ensure that the sites and site phases were equally weighted in the summed radiocarbon probability

distribution (Timpson et al. 2014, 555). This means that dates from the same site, when ordered chronologically, were placed in a new bin or group only if there was at least a 100-year gap between the date under consideration and the previous date. This account for oversampling, and sites with many dates and sites with few dates were equally weighted in the analysis.

First, the radiocarbon dates were calibrated using the IntCal13 calibration curve (Reimer et al. 2013). Next, all dates in each defined interval were combined to one uncalibrated date per bin. Then,



Fig. 3: Recently, it has been shown that the crisis is observable in the dendrochronology of timber found in the largest burial mound of northern Europe, the Raknehaugen of Romerike, Norway. Top: photo of Raknehaugen c. 1930. Bottom left: photo from the excavation in 1939. Bottom right: tree section from the Raknehaugen, which was built in AD 552. The timbers used as the building material were felled in AD 551. The abnormal tree ring (no. 15) representing AD 536 is marked in white (photo: H. Roll-Hansen, after Ording 1941; © Frode Iversen and Steinar Solheim, Museum of Cultural History. CC BY-SA 4.0.).

once one calibrated date was created per bin, all the calibrated data was summed to produce a calibrated summed radiocarbon probability distribution for the archaeological radiocarbon data (Fig. 4).

The summed radiocarbon probability distribution was compared with a null model comprising a large number of simulated radiocarbon data sets that were generated by a random sampling of the calendar dates from the chosen time interval, which was 2500 BC to AD 1500 in this study. The number of dates for the simulated dataset was similar to the number of bins in the archaeological dataset. The sampled calendar dates were ‘back calibrated’ by simulating a radiocarbon date that might have produced the calendar date. The back-calibrated dates were then recalibrated and summed. To create a distribution of simulated values, the procedure was repeated 5,000 times (see *Timpson et al. 2014; Edinborough et al. 2017* for a detailed explanation of the method). The simulated data set, which accounted for taphonomical effects in the data set, was compared with the archaeological data (*Edinborough et al. 2017, 3*). To evaluate the significance of the summed radiocarbon probability distribution, the empirical curve was compared with the 95% percentile

interval calculated from the simulated data. When the summed radiocarbon probability distribution was above or below the 95% percentile, it reflected a positive or negative population signal (*Edinborough et al. 2017, 2*).

Results

In this case study, we investigated whether the summed radiocarbon probability distribution was consistent with the events that occurred in the mid-6th century on a regional scale. The red line in Fig. 4 shows a 200-year rolling mean for the empirical ^{14}C data. In general, the summed radiocarbon probability distribution demonstrates a steady increase in the dates and, consequently, the human population and activity from 2000 BC. During the Bronze Age, the rolling mean shows variations, with a peak at 1500 BC and a subsequent decrease from 1500 BC to 1000 BC. A significant increase is seen in the pre-Roman Period (500 BC-0) and in the Roman Period (AD 0-400), which both cross the percentile interval. With these exceptions, the curve largely remains within the confidence interval, and shows a steadily increasing, albeit fluctuating, population before a significant

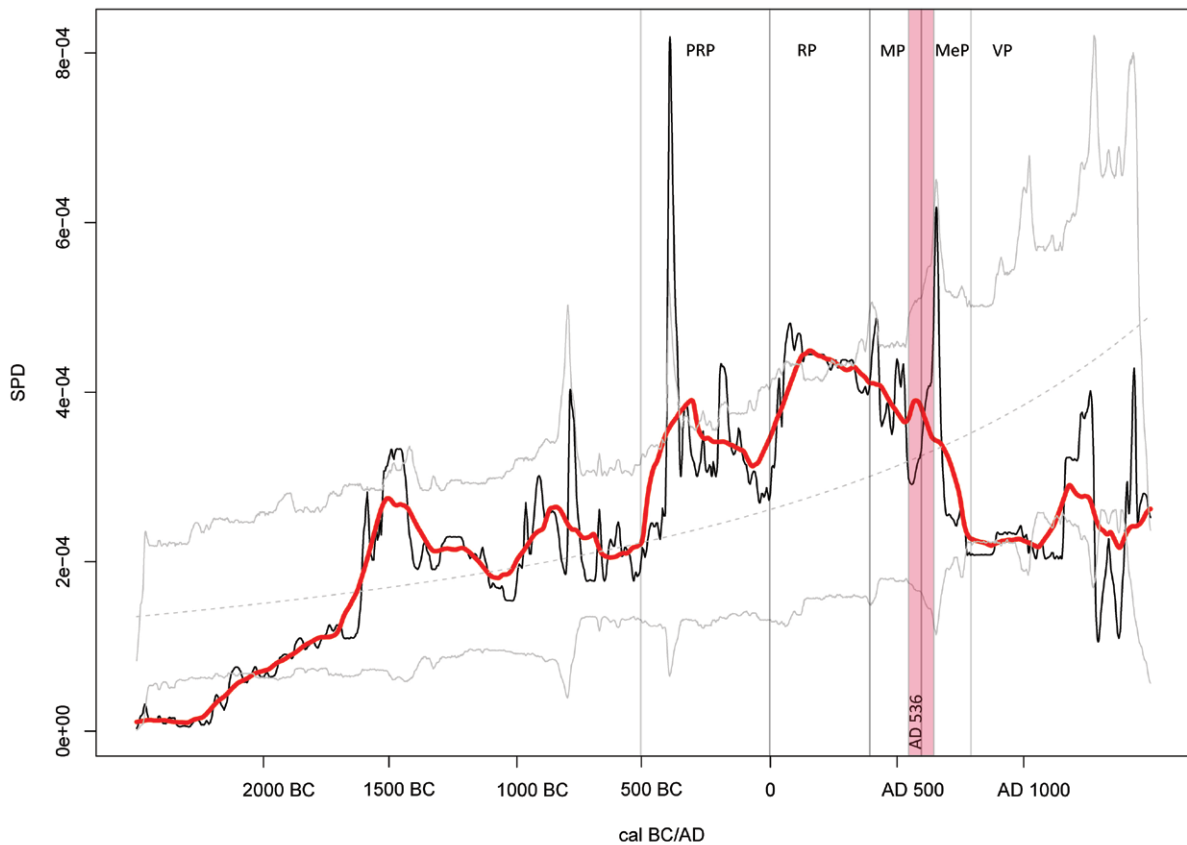


Fig. 4: The summed radiocarbon probability distribution from Vestfold, Norway. The empirical data are indicated by the black line, while the red curve shows a 200-year rolling mean. The grey curve represents the null model of exponential growth. A decrease is seen in the summed radiocarbon probability distribution in the first part of the 6th century (© Frode Iversen and Steinar Solheim).

demographic decrease that occurs between AD 550 and 800. This decrease crosses the percentile interval of the simulated data at AD 800.

Discussion

Let us return to the questions that were set out above: Was the mid-6th-century crisis caused only by sudden and severe climatic events, or did the Justinian Plague also affect the northern regions? The crisis' length represents a key factor in resolving this question to better understand the effects of the crisis on cultural activity.

The Old Norse term, *fimbulvetr*, appears both in *Vafþrúðnismál* (44-45) from the Poetic Edda and in *Gylfaginning* from Snorri's *Edda*, which is a 13th-century textbook of skaldic poetry. *Fimbul* means 'strong, hard, long', and *vetr* means 'winter'. Snorri describes *fimbulvetr* as a three-winter-long period without any summers. It followed a large world war that lasted for three winters. He associates *fimbulvetr* with the Ragnarrök, the darkness where divine powers face their demise. In the original Edda-poem *Vafþrúðnismál* (10th century?), we hear Odin asking the wise *jötunn-god*, Vafþrúðnir, to tell him who will survive the great winter. Vafþrúðnir answers that *Líf* (life) and *Lífþrasir* (life-clinger) will stay alive in the wood of Hoddmímir by living off morning dew. Ultimately, they will give birth to mankind again.

<i>Líf ok Lífþrasir</i>	<i>Líf and Lífþrasir (= Life and Life-striver/life-clinger)</i>
<i>en þau leynaz munu</i>	<i>they will shelter</i>
<i>í holti Hoddmímis</i>	<i>in the wood of Hoddmímir</i>
<i>morgindögguar</i>	<i>morning dews</i>
<i>þau sér at mat hafa</i>	<i>they will have as food</i>
<i>en þaðan af aldir alask</i>	<i>the generations will reproduce from them</i>

(English translation adjusted after Zavaroni – Emilia 2006, 75)

The geographer and bryologist Johan Rutger Sernander (1912, 405) was the first scholar who connected *fimbulvetr* to real climatic events. Based on moss studies, Sernander was able to identify a major climate change in Scandinavia at the end of the Bronze Age. Sernander suggested that *fimbulvetr* occurred in the pre-Roman Period, then regarded as a period of cultural recession. The dating evidence was scarce and inaccurate, but Sernander was aware that heat-sensitive hazel trees had a wider northern distribution in the Subboreal Period (3710-450 BC) than the later Subatlantic Period, indicating a decrease in temperature. On the other hand, Sernander gained less support for his more specific dating of *fimbulvetr* to the pre-Roman Period. In 1956, the case of *fimbulvetr* was re-evaluated

by an interdisciplinary group of scientists (Bergeron et al. 1956). A cyclical model was introduced that argued for a gradual cooling combined with humidity variations within half-millennium cycles; it challenged Sernander's linear model, which contained a sudden temperature decrease in ca. 450 BC (Fig. 5). Further, the mythological accounts of *fimbulvetr* were compared to Iranian and Altaic myths about similar disasters and extreme winters. It was even compared to Procopius's (VI, 15, 1) description of the northern people of Thule celebrating the sun and allegedly fearing that it would not return after the darkness of winter, while overlooking Procopius's now well-known description of sunshine as weak as moonlight in the year 536 (Procopius 1916, 329).

It was not until 1983, when Richard Stothers and Michael Rampino published an overview of known volcanic eruptions before AD 630, that scholars became increasingly aware of 'The Dust Veil' of AD 536-537 (Stothers – Rampino 1983; Stothers 1984; Tvaari 2014, 30). When combined, the global evidence is convincing. In 1994, Mike Baillie found abnormally small growth of Irish oak in AD 536 and 542, which complements Irish annals reporting a failure of bread in the year AD 536 and AD 536-539 (the *Annals of Ulster* / the *Annals of Inisfallen*) (Baillie 1994).

Beginning in 2001, the Scandinavian debate sharpened, set off by articles by Morten Axbøe (2001) and Bo Gräslund (2007), which explicitly connected *fimbulvetr* to the year AD 536. Researchers in the first decade of the 21st century were concerned with whether such an event really occurred. Later, researchers acknowledged the crisis but pointed to a longer cold period that lasted until AD 660. Regarding these events in Sweden and Norway, there are generally fewer indications of settlements, graves, material culture, iron production, and fortifications during the crisis period than the periods directly before and after it (Gräslund – Price 2012, 432).

Recent aDNA studies have indicated that recurring plague epidemics occurred until AD 750, influencing settlement development (Harbeck et al. 2013; Little 2007). It is therefore likely that there were more factors at play than only the 'The Dust Veil', which lasted for a shorter period than the epidemics. In the uplands of southern Sweden, Daniel Fredh et al. (2013) showed that palynological richness increased during the inferred land-use expansion after AD 350 and decreased during the subsequent regression in AD 550-750. After AD 550, grass (*Poaceae*) decreased significantly in the pollen records, while *Cerealia* and herbs either rarely occurred or decreased in abundance. There was also an increase in tree cover in former agricultural areas. In summary, this indicates an agricultural land-use regression and the abandonment of agricultural land (Fredh et al. 2013, 3169-3170).

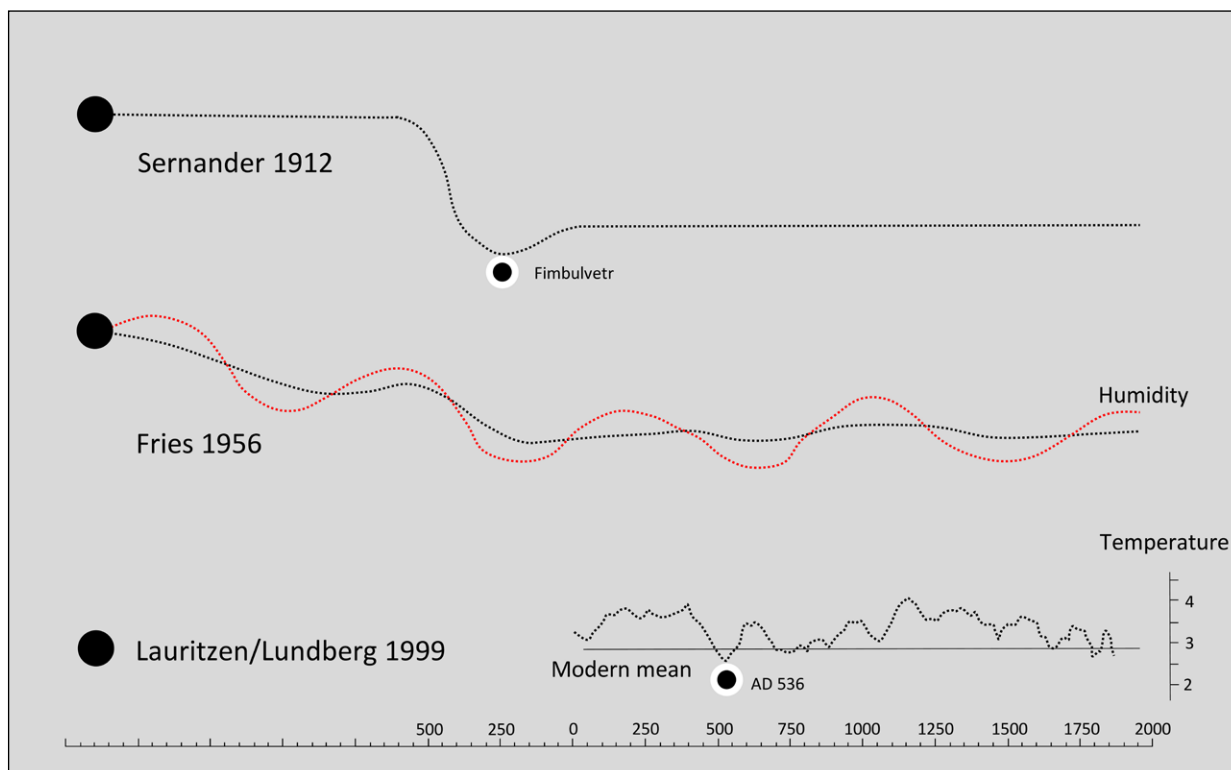


Fig. 5: The understanding of temperature variation and climate change has developed considerably during the last century. The figure shows Johan Rutger Sernander's (1912) linear model of late Holocene temperature with a severe temperature drop in the pre-Roman Period, interpreted as the *fimbulvetr*. In the 1950s, Magnus Fries developed a cyclical model with repeating changes in temperature and humidity every 500 years (Bergeron et al. 1956). Today's methods allow for a much more detailed modelling of the past climate, exemplified here by Lauritzen and Lundberg's (1999) temperature curve based on analysis of cave dripstones (speleothems) from Northern Norway (© Frode Iversen and Steinar Solheim).

The results of our study are relatively unambiguous: They show that there was a marked drop in cultural activity in central Scandinavia during the mid-6th century. The data indicate that a downward trend was already occurring from AD 200 to 400, but interpretative caution is advised for this result, as the curve is well within the 95% confidence interval. It could be related to social changes reflected in the archaeological material seen from c. AD 400 on (Gjerpe 2017, 196), but this needs to be investigated more thoroughly. The most severe decline starts in AD 500-550 and ends ca. AD 800. This indicates a dramatic drop in human activity and, most likely, a crisis lasting for several centuries.

The significant drop in the modelled radiocarbon data is concurrent with the events occurring in the mid-6th century. The modelled radiocarbon data thus provide another proxy for the significant changes that occurred at this time. These results may support the idea that *fimbulvetr* was the start of a long-lasting cooling period that, combined with severe population declines possibly explained by the recurring plague outbreaks in AD 540-750, resulted in the dramatic decrease in

cultural activity that we see in our data. This case study covers an archaeologically well-recorded region in the Scandinavian heartland, but future comparisons with other regions are necessary to investigate this pattern further. An important aspect that needs to be given more consideration is how the crises affected various landscapes. Did they affect the northern areas more severely than the southern areas (Toobey et al. 2016), indicating that climate change was the main factor, or did the crises affect all regions in Scandinavia equally, indicating a highly contagious plague? We cannot assume that individual climate-change events identified on a global scale necessarily had significant impacts on human activity on the local or regional scale (Griffiths – Robinson 2017, 6). In this specific case, the consequences of the crises that occurred in the mid-6th century have left a clear footprint in the archaeological record, and the event was of such magnitude that it also left a mark in written sources across Europe. Climate simulations also imply that marginal agricultural societies in Northern Europe probably faced multiple years of crop failures within a single decade as a result of two volcanic eruptions (Toobey et al. 2016). The

modelled data provide an interesting first step towards a more thorough analysis of the changes that occurred in the 5th and 6th centuries. A logical next step is to analyse several other regions in Scandinavia and consider the impact of the event on different landscapes and regions.

Acknowledgment

The research presented in this article is part of the ongoing project Volcanic Eruptions and their Impacts on Climate, Environment, and Viking Society in 500–1250 CE (VIKINGS) (2018-2023) funded by the Norwegian Research Council and the University of Oslo (NFR TOPPFORSK, grant 275191).

References

- Armit, I. – Swindles, G. – Becker, K. – Plunkett, G. – Blaauw, M. 2014:
Rapid climate change did not cause population collapse at the end of the European Bronze Age, *Proceedings of the National Academy of Sciences* 111:48, 17045-17049.
- Axboe, M. 2001:
Året 536, *Skalk* 4, 28-32.
- Baillie, M.G.L. 1994:
Dendrochronology raises questions about the nature of the AD 536 dust-veil event, *The Holocene* 4, 212-217.
- Bergeron, T. – Fries, M. – Moberg, C.-A. – Ström, F. 1956:
Fimbulvinter, *Fornvännen* 51, 1-18.
- Büntgen, U. – Myglan, V.S. – Charpentier, F.L. – McCormick, M. – Di Cosmo, N. – Sigl, M. – Jungclauss, J. – Wagner, S. – Krusic, P.J. – Esper, J. – Kaplan, J.O. – de Vaan, M.A.C. – Luterbacher, J. – Wacker, L. – Tegel, W. – Kirilyanov, A.V. 2016:
Cooling and societal change during the Late Antique Little Ice Age from 536 to around 660 AD, *Nature Geoscience* 9, 231-236. doi: 10.1038/NGEO2652
- Bårdseth, G.A. 2008:
E6-prosjektet Østfold. Evaluering – resultat, Band 5. *Varia* 69. Oslo.
- Drake, B. 2017:
Changes in North Atlantic oscillation drove population migrations and the collapse of the Western Roman Empire, *Scientific Reports*, 7:1227. doi:10.1038/s41598-017-01289-z
- Edblom, L. 2004:
Långhus i Gene: teori och praktik i rekonstruktion. *Studia archaeologica Universitatis Umensis* 18. Umeå.
- Edinborough, K. 2015:
Can we date the Frog Princess? Volcanoes and peoples of the Pacific Northwest, in: Riede, F. (ed.), *Past vulnerability. Volcanic eruptions and human vulnerability in traditional societies past and present*. Aarhus, 109-132.
- Edinborough, K. – Porčić, M. – Martindale, A. – Brown, T. – Supernant, K. – Ames, K. 2017:
Radiocarbon test for demographic events in written and oral history, *Proceedings of the National Academy of Sciences*, 114:47, 12436-12441. www.pnas.org/cgi/doi/10.1073/pnas.1713012114
- Eriksen, M.H. 2015:
Portals to the past. An archaeology of doorways, dwellings, and ritual practice in Late Iron Age Scandinavia. Oslo.
- Fredh, D. – Broström, A. – Rundgren, M. – Lagerås, P. – Mazier, F. – Zillén, L. 2013:
The impact of land-use change on floristic diversity at regional scale in southern Sweden 600 BC-AD 2008, *Biogeosciences* 10, 3159-3173.
- Gjerpe, L.E. 2008:
Kokeproper og ildsteder, in: Gjerpe, L.E. (ed.), *Kulturhistoriske, metodiske og administrative erfaringer. E18-prosjektet Vestfold, Bind 4. Varia* 74. Oslo, 45-58.
- Gjerpe, L.E. (ed.) 2013:
E18-prosjektet Gulli-Langåker. Oppsummering og arkeometriske analyser, Bind 3. Oslo.
- Gjerpe, L.E. 2016:
Iron Age building traditions in Eastern Norway: Regions and landscapes, in: Iversen, F. – Petersson, H. (eds), *The agrarian life of the north 2000 BC-AD 1000*. Kristiansand, 203-220.
- Gjerpe, L.E. 2017:
Effektive hus. Bosetning, jord og rettigheter på Østlandet i jernalder. Oslo.
- Göthberg, H. 2007:
Mer än bara hus och gårdar, in: Göthberg, H. (ed.), *Hus och bebyggelse i Uppland, Arkeologi E4 i Uppland* 3. Uppsala, 403-447.
- Gräslund, B. 2007:
Fimbulvintern, Ragnarrök och klimatkrisen år 537-537 e.Kr., *Saga och Sed. Kungl. Gustav Adolfs Akademiens årsbok* 2007. Uppsala, 93-123.
- Gräslund, B. – Price, N. 2012:
Twilight of the Gods? The 'dust veil event' of AD 536 in critical perspective, *Antiquity* 86, 428-443.
- Gräslund, B. – Price, N. 2015:
Excavating the Fimbulvinter? Archaeology, geomorphology and the climate event(s) of AD 536, in: Riede, F. (ed.), *Past vulnerability. Volcanic eruptions and human vulnerability in traditional societies past and present*. Aarhus, 109-132.
- Griffiths, S. – Robinson, E. 2017:
The 8.2 ka BP Holocene climate change event and human population resilience in northwest Atlantic Europe, *Quaternary International*. https://doi.org/10.1016/j.quaint.2017.10.017

- Harbeck, M. – Seifert, L. – Hänsch, S. – Wagner, D.W. – Birdsall, D. – Parise, K.L. – Wiechmann, I. – Grupe, G. – Thomas, A. – Keim, P. – Zöllner, L. – Bramanti, B. – Riehm, J.M. – Scholz, H.C. 2013: Yersinia pestis DNA from skeletal remains from the 6th century AD reveals insights into Justinianic plague, *PLoS Pathogens* 9:5. <https://doi.org/10.1371/journal.ppat.1003349>
- Herschend, F. 1988: Bebyggelse och folkevandringstid på Oland. Folkevandringstiden i Norden: en krisetid mellem ældre og yngre jernalder, in: Näsman, U. – Lund, J. (eds), Rapport fra det bebyggelsarkæologisk forskersymposium i Degerhamn, Öland, 2-4. oktober 1985. Århus, 43-66.
- Iversen, F. 2013: Big bang, lordship or inheritance? Changes in the settlement structure on the threshold of the Merovingian Period, South-Eastern Norway, in: Klapste, J. (ed.), Hierarchies in rural settlements. *Ruralia IX*, Turnhout, 341-358.
- Iversen, F. 2016: Estate division: Social cohesion in the aftermath of AD 536-7, in: Iversen, F. – Petersson, H. (eds), *The agrarian life of the north 2000 BC-AD 1000*. Kristiansand, 41-76.
- Lauritzen, S.-E. – Lundberg, J. 1999: Calibration of the speleothem delta function: an absolute temperature record for the Holocene in northern Norway, *The Holocene* 9:6, 659-669.
- Little, L.K. 2007: Life and afterlife of the first plague pandemic, in: Little, L.K. (ed.), *Plague and the end of Antiquity. The pandemic of 541-750*. Cambridge, 3-32.
- Löwenborg, D. 2012: An Iron Age shock doctrine – did the AD 536-7 event trigger large-scale social changes in the Malaren valley area?, *Journal of Archaeology and Ancient History* 4, 3-29.
- Luterbacher, J. – Werner J.P. – Smerdon, J.E. – Fernández-Donado, L. – González-Rouco, F.J. – Barriopedro, D. – Ljungqvist, F.C. – Büntgen, U. – Zorita, E. – Wagner, S. – Esper, J. – McCarroll, D. – Toreti, A. – Frank, D. – Jungclaus, J.H. – Barriendos, M. – Bertolin, C. – Bothe, O. – Brázdil, R. – Camuffo, D. – Dobrovolný, P. – Gagen, M. – García-Bustamante, E. – Ge, Q. – Gómez-Navarro, J.J. – Guiot, J. – Hao, Z. – Hegerl, G.C. – Holmgren, K. – Klimenko, V.V. – Martín-Chivelet, J. – Pfister, C. – Roberts, N. – Schindler, A. – Schurer, A. – Solomina, O. – von Gunten, L. – Wahl, L. – Wanner, H. – Wetter, O. – Xoplaki, E. – Yuan, N. – Zanchettin, D. – Zhang, H. – Zerefos, C. 2016: European summer temperatures since Roman times. *Environmental Research Letters* 11. doi:10.1088/1748-9326/11/2/024001
- McCormick, M. – Büntgen, U. – Cane, M.A. – Cook, E.R. – Harper, K. – Huybers, P. – Litt, T. – Manning, S.W. – Mayewski, P.A. – More, A.F.M. – Nicolussi, K. – Tegele, W. 2012: Climate change during and after the Roman empire: Reconstructing the past from scientific and historical evidence, *The Journal of Interdisciplinary History* 43, 169-220. https://doi.org/10.1162/JINH_a_00379
- Michczyński, A. – Michczyńska, D.J. 2006: The effect of pdf peaks' height increase during calibration of radiocarbon date sets, *Geochronometria* 25, 1-4.
- Myhre, B. 1972: Funn, fornminner og ødegårder. Jernalderen bosetning i Høyland Fjellbygd. Stavanger museum skrifter 7. Stavanger.
- Oppenheimer, C. 2011: Eruptions that shook the world. Cambridge.
- Ording, A. 1941: Skoghistoriske analyser fra Raknehaugen. Meddelelser fra Det Norske Skogforsøksvesen 27/VII/1. Oslo.
- Procopius 1916: Procopius vol. 2: History of the [Vandalic] Wars, Books III and IV. Translated by Henry Bronson Dewing. London.
- Reimer, P.J. – Bard, E. – Bayliss, A. – Beck, J.W. – Blackwell, P.G. – Ramsey, C.B. – Buck, C.E. – Cheng, H. – Edwards, R.L. – Friedrich, M. – Grootes, P.M. – Guilderson, T.P. – Hafliðason, H. – Hajdas, I. – Hatté, C. – Heaton, T.J. – Hoffmann, D.L. – Hogg, A.G. – Hughen, K.A. – Kaiser, K.F. – Kromer, B. – Manning, S.W. – Niu, M. – Reimer, R.W. – Richards, D.A. – Scott, E.M. – Southon, J.R. – Staff, R.A. – Turney, C.S.M. – van der Plicht, J. 2013: IntCal13 and Marine13 Radiocarbon Age Calibration Curves 0-50,000 Years cal BP, *Radiocarbon* 55:4, 1869-87. doi: 10.2458/azu_js_rc.55.16947.
- Rønneseth, O. 1966: Frühgeschichtliche Siedlungs- und Wirtschaftsformen im südwestlichen Norwegen. Göttinger Schriften zur Vor- und Frühgeschichte 6. Neumünster.
- Sernander, R. 1912: Die geologische Entwicklung des Nordens nach der Eiszeit in ihrem Verhältnis zu den archäologischen Perioden, in: Kossina, G. (ed.) *Mannus* 4. Der erste Baltische Archäologen-Kongress zu Stockholm 13. bis 17. August 1912. Würzburg.
- Shennan, S. – Edinborough, K. 2007: Prehistoric population history: from the Late Glacial to the Late Neolithic in Central and Northern Europe, *Journal of Archaeological Science* 34:8, 1339-1345.

- Shennan, S. – Downey, S. – Timpson, A. – Edinborough, K. – Colledge, S. – Kerig, T. – Manning, K. – Thomas, M. 2013:*
Regional population collapse followed initial agriculture booms in mid-Holocene Europe, *Nature Communications* 4. DOI: 10.1038/ncomms3486
- Sigl, M. – Winstrup, M. – McConnell, J. – Welten, K. – Plunkett, G. – Ludlow, F. – Büntgen, U. – Caffee, M. – Chellman, N. – Dahl-Jensen, D. – Fischer, H. – Kipfstuhl, S. – Kostick, C. – Maselli, O. – Mekhaldi, F. – Mulvaney, R. – Muscheler, R. – Pasteris, D. – Pilcher, J. – Salzer, M. – Schüpbach, S. – Steffensen, J. – Vinther, B. – Woodruff, T. 2015:*
Timing and climate forcing of volcanic eruptions for the past 2,500 years, *Nature*, 523:7562, 543-549.
- Skre, D. (ed.) 2007:*
Kaupang in Skiringssal. Aarhus.
- Solberg, B. 2000:*
Jernalderen i Norge ca 500 f. Kr. – 1030 e. Kr. Oslo.
- Solomina, O. – Bradley, R. – Jomelli, V. – Geirsdottir, A. – Kaufman, D. – Koch, J. – McKay, N. – Masiokas, M. – Miller, G. – Nesje, A. – Nicolussi, K. – Owen, L. – Putnam, A. – Wanner, H. – Wiles, G. – Yang, B. 2016:*
Glacier fluctuations during the past 2000 years. <http://dx.doi.org/10.1016/j.quascirev.2016.04.008>
- Söderberg, B. 2005:*
Aristokratiskt rum och gränsöverskridande. Järrestad och Sydöstra mSkåne mellan region och rike 600-1100. Skrifter 62. Stockholm.
- Stothers, R. 1984:*
Mystery cloud of AD 536, *Nature* 307, 344-345.
- Stothers, R. – Rampino, M. 1983:*
Volcanic eruptions in the Mediterranean before A.D. 630 from written and archaeological sources, *Journal of Geophysical Research* 88, 6357-6371.
- Streiffert, J. 2005:*
Gårdsstrukturer i Halland under bronsålder och äldre järnålder. GOTARC Series B Gothenburg archaeological theses 66. Göteborg.
- Tallavaara, M. – Seppä, H. 2011:*
Did the mid-Holocene environmental changes cause the boom and bust of hunter-gatherer population size in eastern Fennoscandia?, *The Holocene*, 22:2, 215-225. doi: 10.1177/0959683611414937
- Timpson, A. – Colledge, S. – Crema, E. – Edinborough, K. – Kerig, T. – Manning, K. – Thomas, M. – Shennan, S. 2014:*
Reconstructing regional population fluctuations in the European Neolithic using radiocarbon dates: a new case-study using an improved method, *Journal of Archaeological Science* 52, 549-557.
- Tooley, M. – Krüger, K. – Sigl, M. – Stordal, F. – Svensen, H. 2016:*
Climatic and societal impacts of a volcanic double event at the dawn of the Middle Ages, *Climatic Change* 136:3-4, 401-412. doi: 10.1007/s10584-016-1648-7
- Tvaari, A. 2014:*
The impact of the climate catastrophe of 536-537 AD in Estonia and neighbouring areas, *Estonian Journal of Archaeology* 18:1, 30-56.
- Vetrbus, M. 2017:*
Nedgangstid eller samfunnsendring? En undersøkelse av endringene i det arkeologiske materialet i overgangen fra eldre til yngre jernalder i Rogaland. Unpublished MA thesis, University of Bergen.
- Williams, A. 2012:*
The use of summed radiocarbon probability distributions in archaeology: A review of methods, *Journal of Archaeological Science* 39:3, 578-589.
- Zachrisson, T. 2011:*
Property and honour: Social change in central Sweden, 200-700 AD mirrored in the area around Old Uppsala, in: Boye, L. et al. (eds), *Arkæologi i Slesvig*. Sönerband. Det 61. Internationale Sachensymposium, Haderslev, Danmark. Neumünster, 141-156.
- Zavaroni, A – Emilia, R. 2006:*
Mead and aqua vitae: functions of Mímir, Óðin, Viðofnir and Svipdagr, *Amsterdamer Beiträge zur älteren Germanistik* 61, 65-81.

Climate change and economic development in the Alps during the Middle Ages and the early modern Period

*Claudia Theune**

Abstract

Since prehistoric times, communities settled in the Alps engaged in agriculture and husbandry and equally in the exploitation of the mineral resources, such as gold deposits. Life and economics were adapted to the marginal Alpine landscape, but also to different climatic conditions. Climate research has shown that extended periods of high temperatures occurred in the High and Late Middle Ages (950-1350). In the Late Middle Ages and the Early Modern Period, extended periods of continuously low temperatures occurred between 1450 and 1860. The paper discusses the extent to which these climate changes had an impact on alpine farming and gold-mining.

Keywords: *Marginal landscape, alpine agriculture, gold-mining, climate change.*

Résumé

Changement climatique et développement économique dans les Alpes au Moyen Âge et au début des temps modernes

Depuis la préhistoire, l'homme vit dans les Alpes sur les bases économiques de l'agriculture alpine et de l'exploitation des ressources minérales, comme l'exploitation des gisements aurifères. Les modes de vie et les bases économiques ont été adaptés au paysage alpin ainsi qu'aux différentes conditions climatiques. Les recherches climatiques ont montré qu'au Haut et Bas Moyen Âge (950-1350), des périodes plus longues avec des températures élevées et des conditions favorables ont prévalu. À la fin du Moyen Âge et à l'époque moderne, des périodes plus longues avec des températures continuellement basses se sont produites entre 1450 et 1860. L'article examine dans quelle mesure ces changements climatiques ont eu un impact sur l'agriculture alpine et l'exploitation de l'or.

Mots clés: *Paysages marginaux, agriculture alpine, extraction de l'or/exploitation des mines aurifères, changement climatique.*

* Department of Prehistory and
Historical Archaeology,
University of Vienna
Franz-Klein Gasse 1
1190 Vienna
Austria
claudia.theune@univie.ac.at

Zusammenfassung

Klimawandel und wirtschaftliche Entwicklung in den Alpen im Mittelalter und der Frühen Neuzeit

Seit der Urgeschichte haben in den Alpen Menschen gelebt, deren wirtschaftliche Grundlage die alpine Almwirtschaft sowie die Ausnutzung der Bodenschätze, wie z.B. der Goldlagerstätten war. Die Lebensformen und ökonomische Basis wurden an die marginale alpine Landschaft, aber auch an unterschiedliche klimatische Bedingungen angepasst. Die Klimaforschung hat gezeigt, dass im Hoch- und Spätmittelalter (950-1350)

längere Zeiträume mit hohen Temperaturen und günstigen Bedingungen geherrscht haben. Im Spätmittelalter und in der Neuzeit traten zwischen 1450 und 1860 längere Zeiträume mit kontinuierlich niedrigen Temperaturen auf. In dem Beitrag wird diskutiert, in wie weit diese Klimaveränderungen Auswirkungen auf die Almwirtschaft, bzw. den Goldbergbau hatten.

Schlagwörter: *Marginale Landschaften, Almwirtschaft, Goldbergbau, Klimawandel.*

Introduction

The Alps is a mountain range that extends approximately 800 km in length and 150 km in width, and separates Central Europe from the Italian Peninsula. The topography of the Alps is shaped by long-term processes of glacial movements that have created a diverse landscape consisting of well-usable valleys, high mountain valleys, mountain massifs, and passes. Pre-, proto-, and historic communities settling in this landscape were engaged in agriculture and husbandry and also in the exploitation of the rich mineral resources found in the Alps.

Climate research has shown that extended periods of high temperatures occurred in the Alps in the Bronze Age, the Roman period, and the High and Late Middle Ages (950-1350) (Brázdil et al. 2005; Breitenlechner et al. 2010). These warm periods positively affected agricultural and economic activities in the Alps. For the Late Middle Ages and modern period, it is also important to mention extended periods of continuously low temperatures between 1450 and 1860, during which the Alpine glaciers expanded considerably. It is worth investigating whether these fluctuations in temperature affected the Alpine economy, and it can be expected that the long-term decrease in temperature in particular led to a reduction in agricultural profits – at least at higher altitudes (Lamb 1995; Mathieu 1994; Jäger 2005; 2007a; 2007b). In this paper, I will focus on the developments in gold mining and husbandry in the Alpine region in the Middle Ages and early modern period. In particular, the research on two gold-mining sites located in the High Tauern region (Gastein Valley) and investigations on alpine husbandry in the so-called Lower Tauern area (Theune – Winkelbauer 2016) and the Dachstein massif (Hebert – Mandl 2009; Mandl 2004) will be discussed.

Gold-mining in the Tauern region

An area of approximately 50 km of gold deposits stretches over the Tauern region, located between the 2.000 m and 2.500 m contour (Fig. 1). Comprehensive research on

gold-mining has revealed a total of 15 mining districts on the northern and southern sides of the Alpine divide in the area of Gastein (Cech 2007; Lippert – Theune 2009; Theune 2013). The gold deposits are located on the 2.600 m high Silberpfennig – a mountain north of the Alpine divide (Fig. 2). On its eastern flank, the mountain merges into the Gasteiner Valley, and in the west into the Rauris Valley. Gold-mining on the mountain's southern side is located at the so-called Bockhart and on its northern side at the Erzwiese. The two sites are connected by the so-called Baukalscharte – a natural pass that cuts through the Silberpfennig. On both sides of the Silberpfennig Mountain, in a region above the timber line, several mining tunnels are known. In the vicinity of most of these tunnels archaeological traces of settlement activities have been recorded that provide insight to mining activities and work procedures. Additional excavations at melting places show the production process in the high valleys.

Probably by the High Middle Ages and at the latest by the 14th century, mining had assumed a high level of importance (Ludwig – Gruber 1987, 8-49; Gruber 2006, 211-230). This is clear from numerous mining regulations from this time, in which the rights and duties and the organisation of mining are described. Peasants, craftsmen, tradesmen, and various authorities, including the archbishop in Salzburg, were involved in the complex economic processes at various levels. The mining process itself was conducted in the high Alpine region at the tunnels of the Silberpfennig Mountain between the 2.000 m and 2.500 m contours. The different melting workshops were situated in high valleys between the 1.200 m and 1.300 m contour in the Anger Valley, and on the 860 m contour in the Gastein Valley. From here roads lead to the Salzach Valley and further on to Salzburg, the seat of the archbishop. This means that gold-mining and processing were conducted at different altitudes. The mining conditions in this area were difficult, but the occurrence of lead deposits was a big advantage for the gold-mining industry, since lead is an important component in the smelting process.

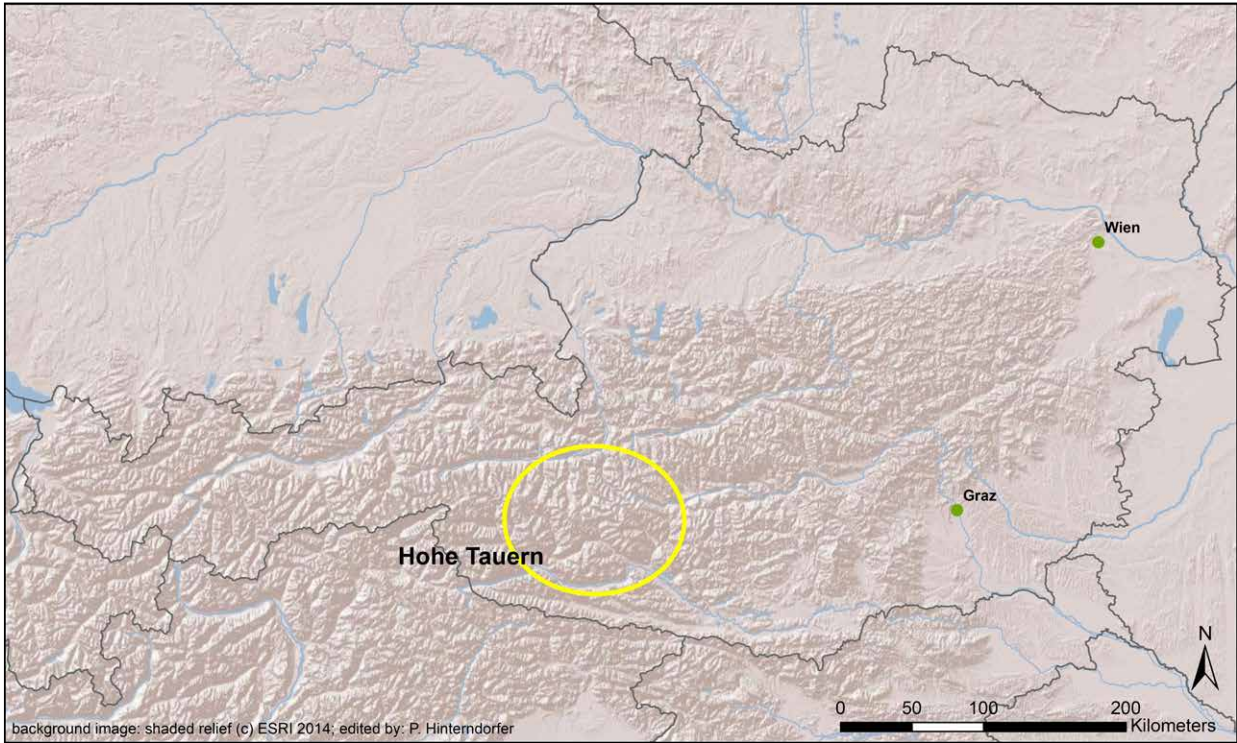


Fig. 1: Map of the Alps in Austria; the Tauern Region is highlighted (© ESRI 2014 and Peter Hinterndorfer).

Through written sources, we know that the gold mines were operated all year round (*Gruber 2006 passim*). Temperatures inside the mountain are largely constant and resemble the average temperature typical for the different seasons in a given region, which in the Alps is around 8°C. This means that an essential part of the mining process was broadly independent of weather conditions. In order to sustain mining throughout the year, it was necessary to assure the continuous supplying of the people working in the mines with food, clothes, tools, and other work materials, building materials for the tunnels, and houses or wood for fire and light. The transport of the ore and sustenance had to overcome a 1.600 m difference in altitude. It seems natural and it is also recorded through written sources that the transport of the ore down to the valley was easier to manage in wintertime, when snow allowed the use of sledges and similar devices, whereas in the summertime such work was done with horses. The documents refer to winter transportation as the so-called ‘*Sackzug*’ (Fig. 3). The ore extracted from the mines was put into sacks that were then bundled with a rope. Functioning like a sledge, the sacks were then brought down to the valley via a slide that was built into the snow. Usually, around 15 sacks, each of them containing 50 to 60 kg of ore, were transported in this way, but sometimes even more. The person navigating this ‘sack-sledge’, the so-called ‘*Sackzieher*’, was sitting on the front sack and

using a stick to control speed and direction of the sledge. A dog sat on the back, helping to bring the sacks again up to the mining district. This way of transporting the ore was more efficient than carrying the material downhill with horses, which could carry only small amounts of ore. Therefore, the slide routes were installed in winter as soon as enough snow had fallen and maintained into spring as long as possible. This transportation system emphasises the high importance of gold-mining in winter. In summertime all the supplies had to be carried by men, horses, or livestock using bridleways.

Gold deposits traverse Silberpfennig Mountain on several levels (Fig. 2). The main mine on Erzwiese is located on the upper part of the hill, just below the mountain’s peak. In an area measuring approximately 500 m in length, several pit heaps, stone foundations of houses, and entrances to mining tunnels are still visible on the surface today (Fig. 4). On the massif’s northern flank, a total of 34 sites follow the mountain’s main gold vein. The highest and probably oldest sites are located at around 2.500 m in altitude, the lowest ones at 2.000 m. Due to the harsh weather conditions, the accommodations of the miners were connected with the tunnel through a hollow way that provided some shelter from rain, wind, and snow – in German, this kind of hollow way is called ‘*Schneekragen*’. In several cases where the miners’ accommodations were connected with the tunnel through a *Schneekragen*, the

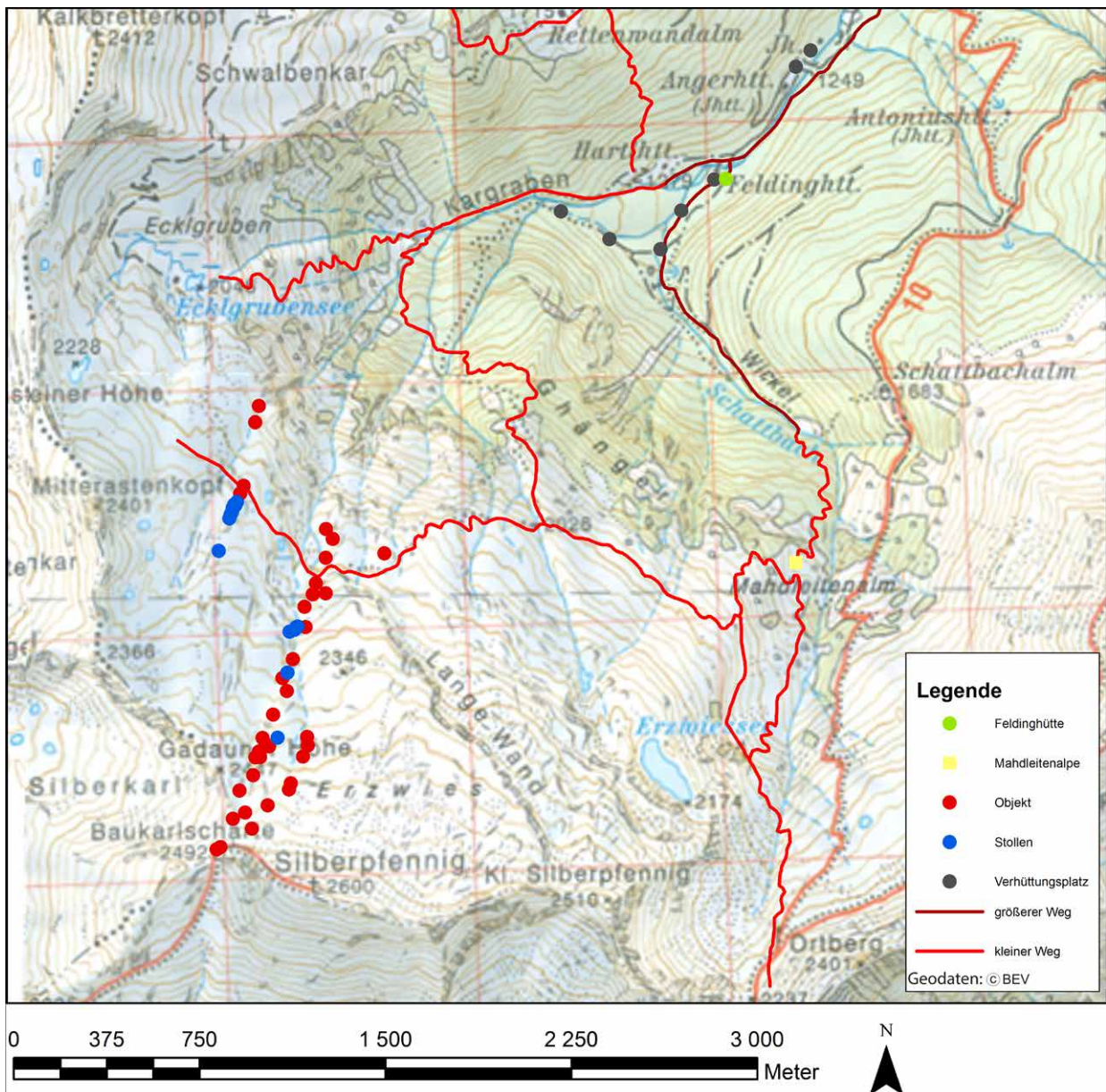


Fig. 2: Map of the gold-mining district on the north side of the Silberpfennig Mountain: the Erzwise, the Angertal, and the Gasteiner Valley (© BEV and Judith Benedix).

hollow way was connected to the house with a kind of anteroom from where the other rooms of the house could be accessed. The same assembles of buildings and tunnel entrances were excavated in the Bockhart district.

Inside the houses, remains of open fireplaces as well as tiled stoves show that the accommodations were furnished in accordance with the local climatic conditions. Pottery sherds have also been found in these houses, but are considerable fewer in number than in settlements in the valleys. Objects made from glass or non-ferrous metal are almost absent. A large part of the mobile finds consist of objects made from

iron, predominantly tools – a category typical for the work environment under discussion.

As results from excavations suggest, the size of the miners' houses at these gold-mining sites largely depended on the productivity of the mine. In cases where several building phases can be observed in the accommodation quarters, it is reasonable to assume that the attached gold deposit was quite profitable (Fig. 5).

Stamp mills in the vicinity of the tunnels indicate that first steps in the processing of the exploited ore actually took place on-site. The aim was to separate the precious ore from the gangue, or rock or mineral matter of no value,

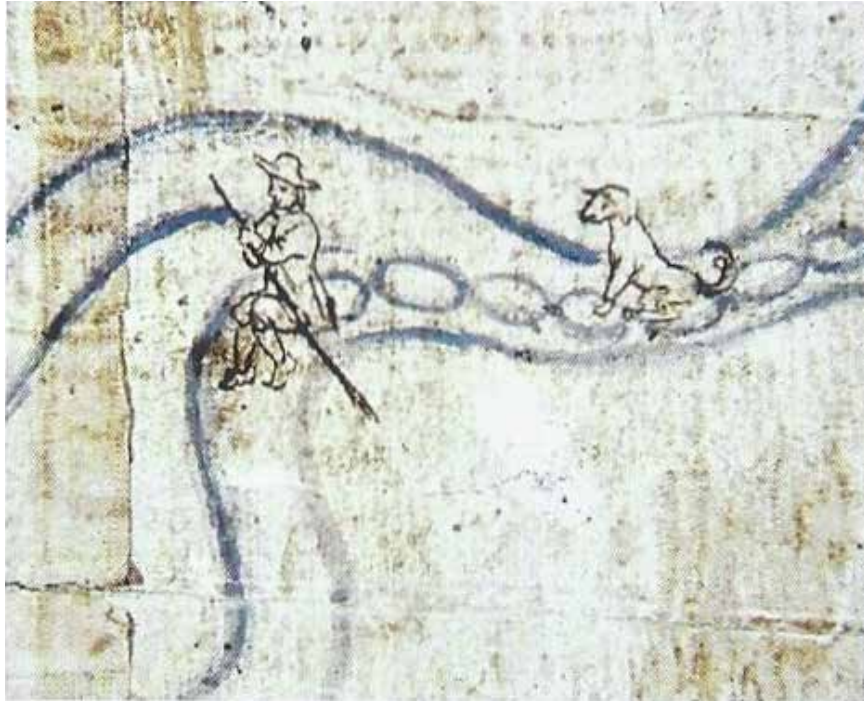


Fig. 3: So-called Sackzug (© after Gruber 2006, Abb 16, detail),

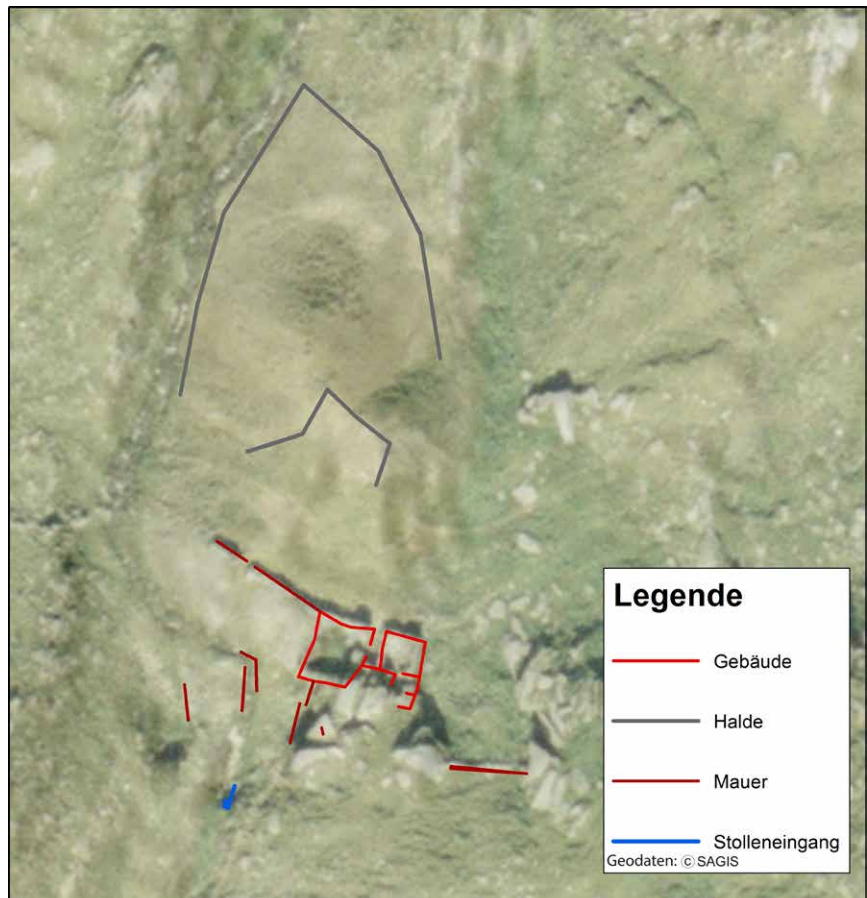


Fig. 4: Orthophoto of object 7 with marking of the building (Gebäude), walls (Mauer), the tunnel entrance (Stolleneingang), and the pit heap (Halde) (© BEV and Judith Benedix).



Fig. 5: Building of object 7; masonry seams illustrate several construction phases (© Claudia Theune).

in order to reduce the amount and weight of material that had to be transported to the valley.

Another common encounter is the remains of forges. Well-maintained tools were crucial to the mining process. Therefore, the possibility of quickly repairing worn-down or broken tools was of urgent necessity in order to not delay production. The establishment of such forges at mining sites made the miners less dependent on tool supplies from the valley. Furthermore, it has to be expected that other craftsmen, such as carpenters, were permanently present to ensure the safe construction and maintenance of the tunnels and the erection of new buildings. The workshops ensured an independence from long-distance support and minimised the carriage of goods. The actual mining was therefore accompanied by a range of other crafts, which points to a well-planned and thoroughly organized work environment.

Other workshop activities, like the melting ovens, were located in the high valley (see below). Essential tools for the ore exploitation were produced in the forges in the valley and then transported to the mines, as recorded in the written sources.

Written records show intensive mining activities in the 15th and 16th centuries. This means that the worsening climate conditions did not directly influence mining (*e.g.* Gruber 2006 *passim*). High and profitable yields may have had more importance than any difficulties caused by bad climatic conditions and the associated challenges with ensuring sufficient (food) supply or hospitable living conditions in the alpine mountain range.

At the Erzwise, written records confirm mining activities since the 14th century (Gruber 2006, 211).

Starting with a first reference to gold exploitation in 1342, mining is continuously attested throughout the 15th and 16th centuries, with a large body of records dating to the early 16th century and pointing to the peak of mining activities between 1520 and 1550. After this period, reports indicate a decline of the mining industry, which probably resulted from over-exploitation. It was only the development of new methods in mining in the 17th century that permitted a new economic recovery (Gruber 2006, 227-230).

Smelting processing sites in the high valley

To establish a well-functioning production system, the smelting of extracted ore was conducted in decentralised workshops in the high valley. One reason for this decision was probably the need for wood or charcoal for the smelting ovens, which was easily accessible in the high valley. Water was also required to run the bellows and was readily at hand.

Seven large slag heaps in the Anger Valley mark different sites of smelting activities. At one of these sites, the remains of a smelting installation was excavated (Lippert – Theune 2006; Cech – Walach 1999). The installation consisted of three ovens (Fig. 6) and a large slag heap, as well as a heap that contained a large amount of charcoal and possibly was a charcoal pile. Several postholes were recorded to the south of the ovens, which presumably belonged to a large bellows for ventilating the ovens. The actual smelting installation was comprised of three ovens, which were located directly next to each other and seem to have been used for different stages of the smelting process. According to radiocarbon analyses,



Fig. 6: The melting process took place in three different ovens (© Claudia Theune).

the ovens date between AD 1475 and 1521. Close to the ovens, further buildings were located that served as storage places for the ore, workshops, or accommodations and washing facilities.

In an Alpine cabin (a so-called *Feldinghütte*) built in the 19th century, excavations were conducted in order to find out whether the building had been erected on medieval foundations and can be connected with the smelting site (Theune 2013).

The cabin rests on a stone foundation that measures 10 x 12 m. Several samples from the wooden wall were taken for dendrochronological analyses. Many of the samples date – as expected – to the 19th century and it is likely that the wood used for its building was logged in the vicinity of the cabin. However, several larger beams of 10 m in length date to the 15th century, and more precisely to between 1411 and 1438.

The excavations inside the cabin revealed various stratigraphies. There was a sequence that dates to between the 19th and 20th centuries and is associated with the cabin. However, further settlement layers with organic samples lay beneath the 19th-century layers, and radiocarbon analyses

of wood and charcoal samples indicate a range between 1400 and the early 15th century for these earlier levels. The evidence suggests the presence of a precursor building. Together with the dating of the ovens, the area's usage during the 15th century can be solidly confirmed, which corresponds well with the written sources.

The written sources report that the smelting procedures were relocated from the high valley to Lend in the Salzach Valley in the middle of the 16th century (Gruber 2006, 216-222). This fits well with the chronology established for the smelting ovens in the high valley. Presumably, an increasing shortage of wood in the vicinity of the gold deposits caused this relocation. The amalgamation of smaller smelting workshops at a larger production site was supposed to raise the efficiency of the gold production. However, it required the transportation of all necessary materials – ore, wood, charcoal, and lead – to Lend in the Salzach Valley. The relocation of some processes of production was probably due to economic factors rather than climate change. To summarise: climate change in the early modern times did not affect the gold-mining of the late medieval and early modern times.

Alpine husbandry and food supply

Another important economic sector in the Alps was alpine husbandry and agriculture. While in winter the entire food supply depended on deliveries from the valleys' granaries, it can be assumed that in summertime alpine pasturage played an important role in the food supply, in particular in the environment of the mining districts. The distances were short and not difficult to manage. Although the miners' diet was not very diverse, different kinds of cereals were delivered to allow them to bake bread or cook porridge. Dairy products such as milk or cheese could also be acquired from herdsmen who exploited high valley pastures close by. Possibly meat could be purchased from these shepherds as well.

When hiking through the Alps, it is possible to see many foundation walls of deserted alpine cabins. The alpine pasture and its remains have been a research focus in recent years. In particular, many investigations have been conducted in the Dachstein region (*Hebert – Mandl 2009; Mandl 2004; 2009*). A large number of sites have been surveyed and investigated, and the remains of the huts and sherds and some other finds have been recovered. At sites where excavation has taken place, the objects recovered are not very numerous, but they provide a chronological

classification of the sites. The pottery samples are especially useful to date alpine pastures structures. Only a few other small finds were recovered, such as tiles and knives, and glass only very rarely. It can be assumed that wood was often used, especially for crockery, but also for cutlery such as spoons. Such finds of organic material have not been preserved. References to the specific climatic conditions in the Alps are provided by finds of tiles, which show that the cabins were equipped with tiled stoves.

Some surveys at cabins in the Dachstein region date to the early medieval epoch (8th-10th centuries) (for the following classification: *Hebert – Mandl 2009; Kraschitzer – Mandl 2009; Mandl 2004; 2009*). The earliest evidence of the advanced Middle Ages, which are the focus of this paper, comes from the 12th and 13th centuries. Radiocarbon dating from the Längtalalm and the Stornalm gives evidence for the 13th century. Among other dates, pollen analyses show that alpine pastures on the Plankenalm run from the 10th to the 14th century; sherds (among them some mica-tempered sherds) and other finds from the Lackenfengrube/Lackenmoosalm date from the 13th (perhaps even the 12th century) up to the 15th/16th centuries. Limestone-tempered sherds, so-called '*kalksteingemagerte Schwarzhafnerware*', graphite-



Fig. 7: Santnerhütte at the Oberhüttensattel; some foundations are still visible, and another part of the alpine cabin is marked by the red points (© Claudia Theune).

tempered ceramics, and the so-called ‘*Hausruckware*’ are very common at many cabins; they date in the 14th/15th and 16th and even 17th centuries and thus indicate a solid dating range for many sites in the Dachstein region. This corresponds with other excavations in the Tauern region. In the so-called Santnerhütte (Fig. 7), we found some mica-tempered sherds, dating from the Late Middle Ages to the early modern period (Theune – Winkelbauer 2016).

Not all the cabins persisted throughout the period from the Middle Ages to (early) modern times. Even though numerous cabins were deserted in the 16th/17th centuries, many were still in operation. We can assume most of the cabins were used in the Late Middle Ages and early modern period until the 17th century, with some even into the 18th and 19th centuries. Further alpine pastures were founded in early modern times, when the climate change had already begun.

Climatic impact cannot be denied, and the deteriorations charted certainly had an effect on the alpine pastures, giving rise to shorter summers. However, the archaeological data allows for a nuanced insight. The data shows that alpine pasturage continued intensively during the Little Ice Age. Sometimes the data of cattle drives in spring and late summer are documented. They show that the times when cattle were kept on the alpine pastures became shorter during the Little Ice Age (Jäger 2005). Other written sources show that the number of cattle brought up to the alpine meadows declined during cold periods (Mandl 2009, 25). This can be interpreted as a reaction to the Little Ice Age. The message is not so much that the alpine pastures continued to exist in many cases, but rather that they were used for shorter periods during the summer months. This would also mean that the harvests of hay and quantities of milk, butter, cheese, and other products would have been lower, and this is perhaps where the human impacts were felt.

The alpine pastures contributed to the food supply of the miners. However, this was only possible in the summer months. In spring, autumn, and winter – the seasons during which the alpine pastures were not in use – food had to be transported over long distances, including non-perishable items such as cheese, corned meat, and flour, which would have been carried up to the gold mines. Since the yields of the alpine pastures were lower during the Little Ice Age, the supply sent to the miners from the valley had to be increased in this phase.

Road network

It is perhaps no surprise, then, to observe that all the different sites involved in the gold exploitation and alpine pasturage were integrated in a logistical and well-organised system that also involved an extended network of roads, bridleways, and paths that connected the alpine

pastures, the mines, smelting workshops, and villages in the valley (see also Gruber 1993). Such a network had to function all year-round in order to facilitate the perennial gold exploitation, which underpinned the profitability of living and working in these harsh environments. It is most likely that the higher altitudes were mainly accessible via bridleways, whereas properly paved and maintained roads that could also be travelled by cart were only constructed in lower regions, where they connected the smelting workshops with the villages in the Gasteiner and Salzach Valleys. For traveling from the mines on Erzwiese to the Anger or Salzach Valley there are two possible routes (see Fig. 2). In the west there is the so-called Kargraben, and in the east a plateau that leads from a former alpine cabin – the Mahdleitenalm – via the so-called Schattbachgraben down to the Anger Valley. The Kargraben is mentioned in written sources of the 16th century. The *Sackzüg* mentioned above could use this route.

Conclusion

The examples presented of gold-mining and alpine pasturage in marginal Alpine landscapes demonstrate the amount of effort put into the logistics and organization of the ore industry in the Middle Ages and early modern times in order to facilitate an efficient and profitable production that was relatively unaffected by the climate change. The ore was exploited through tunnel systems in tandem with various workshops. Without doubt, local agriculture figured in this system, in the specific form of alpine pasturage.

However, the exhaustive deforestation in the region, attested to by written sources as well as archaeological traces of charcoal piles, reduced the Alpine tree population to such an extent that the forests could not recover fast enough. This ecological impact required a restructuring of the system and led to the centralization of smelting in Lend in the Salzach Valley. When the gold deposits were exploited to their limits and profitable mining was no longer sustainable, the marginal landscapes in the Alps lost their economic appeal and ceased to be of interest for any further mining activities.

Miners in many ways depended on others: the suppliers of their food, tools, and work materials in the valleys and high valley pastures, and other craftsman who performed special tasks, such as carpentry. It needs to be re-emphasised that the supply system had to function all year and also needed to adapt to the needs of the miners, which changed according to the season. The ore extracted from the mountain and preprocessed on-site also had to be transported to the high valleys for further processing.

Sufficient food supply was essential for the miners and craftsmen working in the Alpine mines, but also for the workers at the smelting sites in the high valley.

Excavations, especially in the Dachstein region, but also in the Tauern region, have confirmed both prehistoric and medieval transhumance in the Alps.

Despite exogenous forces (climate change), the local society adapted to harsher conditions in order to ensure the continuity of work and livelihoods. The people developed an integrated system to ensure this, and this is evident in archaeology. Indeed, in early modern times, the limitations of gold-mining lie in the still-inadequate technology. Only in the modern age, *i.e.* in the Industrial Age, did technology advance sufficiently that gold-mining was again economically viable.

References

- Brázdil, R. – Pfister, Chr. – Wanner, H. – von Storch, H. – Lutherbacher, J. 2005:*
Historical climatology in Europe – The state of the art, *Climate change* 70/3, 1-68.
- Breitenlechner, E. – Hilber, M. – Lutz, J. – Kathrein, Y. – Unterkircher, A. – Oegg, Kl. 2010:*
The impact of mining activities on the environment reflected by pollen, charcoal, and geochemical analyses, *Journal of Archaeological Science* 337, 1458-1467.
- Cech, Br. 2007:*
Spätmittelalterliche bis frühneuzeitliche Edelmetallgewinnung in den Hohen Tauern. Montanarchäologische Forschungen im Bockhartrevier, Gasteiner Tal (Bundesland Salzburg). Monographien RGZM 70. Mainz.
- Cech, Br. – Walach, G. 1999:*
Die spätmittelalterliche/frühneuzeitliche Edelmetallverhüttung im Angertal, Bad Hofgastein – eine Studie zur systematischen Erforschung alpiner Montanlandschaften, *Archaeologia Austriaca* 82/83, 479-492.
- Gruber, F. 1993:*
Die hochalpinen Straßenreste aus mittelalterlicher und frühneuzeitlicher Sicht, in: Lippert, A. (ed.), *Hochalpine Altstraßen im Raum Badgastein-Mallnitz*. Wien, 277-312.
- Gruber, F. 2006:*
Der Edelmetallbergbau in Salzburg und Oberkärnten bis zu Beginn des 19. Jahrhunderts, in: Paar, W. – Günther, W. – Gruber, F., *Das Buch vom Tauerngold*. Salzburg, 193-359.
- Hebert, B. – Mandl, Fr. 2009:*
Almen im Visier. Dachsteingebirge, Totes Gebirge, Silvretta. Forschungsberichte der Anisa 2. Haus im Ennstal.
- Jäger, G. 2005:*
Die Kleine Eiszeit von 1550-1850. Auswirkungen auf Alm- und Bergbauern in den Alpen (Teil 2), *Der Alm- und Bergbauer* 2005/6-7, 32-36.
- Jäger, G. 2007a:*
Klimaschwankungen im Hoch- und Spätmittelalter in Europa/Alpenraum – Auswirkungen auf Bevölkerung und Landwirtschaft (Teil 1), *Der Alm- und Bergbauer* 2007/1-2, 30-35.
- Jäger, G. 2007b:*
Klimaschwankungen im Hoch- und Spätmittelalter in Europa/Alpenraum. Auswirkungen auf Bevölkerung und Landwirtschaft (Teil 2), *Der Alm- und Bergbauer* 2007/3, 28-31.
- Kraschitzer, J. – Mandl, Fr. 2009:*
Keramik von Almen des Dachsteingebirges und des Totes Gebirges., in: Hebert, B. – Mandl, Fr., *Almen im Visier. Dachsteingebirge, Totes Gebirge, Silvretta*. Forschungsberichte der Anisa 2. Haus im Ennstal, 66-166.
- Lamb, H. 1995:*
Climate, history and the modern world. Second edition. Abington-on-Thames.
- Lippert, A. – Theune, Cl. 2009:*
Archäologische Untersuchungen zur spätmittelalterlichen Gold- und Silbergewinnung in der Gastein. Beitr. Internat. Weitmoser-Symposium 2006. Salzburg, 137-158.
- Ludwig, K.-H. – Gruber, F. 1987:*
Gold- und Silberbergbau im Übergang vom Mittelalter zur Neuzeit. Wien/Köln.
- Mathieu, J. 1994:*
Zur wirtschaftlichen Bedeutung des Alpwesens in der frühen Neuzeit, in: Carlen, L. – Imboden, G. (eds), *Alpe – Alm*. Zur Kulturgeschichte des Alpwesens in der Neuzeit. Vorträge des dritten internationalen Symposiums zur Geschichte des Alpenraums. Brig, 89-104.
- Mandl, Fr. 2004:*
4000 Jahre Almen im Herzen Österreichs, in: Hell, B. – Kreissl, E. – Mandl, Fr., *Auf der Alm... Trautenfels*, 31-54.
- Mandl, Fr. 2009:*
Langkaralm und Lackenofengrube, Dachsteingebirge. Beiträge zur Geschichte der Almwirtschaft, in: Hebert, B. – Mandl, Fr., *Almen im Visier. Dachsteingebirge, Totes Gebirge, Silvretta*. Forschungsberichte der Anisa 2. Haus im Ennstal, 23-38.
- Theune, Cl. 2013:*
Goldbergbau im Gasteiner Tal, in: Theune, Cl. et al. (eds), *Stadt – Land – Burg*. Festschrift für Sabine Felgenhauer-Schmiedt. Rahden, 395-404.
- Theune, Cl. – Winkelbauer, I. 2016:*
Weißpriach, Fundberichte Österreich 55, 436-437; D6615-26 (Santnerhütte).

SETTLEMENT CHANGE ACROSS MEDIEVAL EUROPE

The idea that the past was an era with long periods of little or no change is almost certainly false. Change has always affected human society. Some of the catalysts for change were exogenous and lay in natural transformations, such as climate change or plant and animal diseases. Others came from endogenous processes, such as demographic change and the resulting alterations in demographic pressure. They might be produced by economic changes in the agrarian economy such as crop- or stock-breeding or better agricultural husbandry systems with the resultant greater harvests. Equally, they might be from technological developments in industry and manufacturing affecting traditional forms of production. We should also note changes in ideology within society and even between principal groups, such as secular and ecclesiastical bodies. We need to consider the impact of politics and warfare.

These innovations, transmissions and transformations had profound spatial, economic and social impacts on the environments, landscapes and habitats evident at micro-, meso- and macro-levels. Changes, alterations and modifications may affect how land was worked, how it was organized, and the nature of buildings and rural complexes (homesteads, work buildings, villages, monasteries, towns and landscapes).

The authors of the 36 papers focus in particular on transmissions and transformations in a longue durée perspective, such as from early medieval times (c. 500AD) to the High Middle Ages (c. 1000/1200 AD), and from medieval to post-medieval and early modern times (1700). The case studies include the shrinking and disappearance of settlements; changes in rule and authority; developments in the agrarian economy; the shift from handwork to manufacturing; demographic change.

Sidestone Press

ISBN: 978-90-8890-806-4



9 789088 908064 >

RURALIA XII