

...whe in geblyt wordt is goet tegē
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 machrich; d' hertē m; d; beekē os de
 di cerui en m; water vā borago of be
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 mēgt m; eēlectuariū genaēt anacard
 nū of ier alogodiō tegē de vallē de luyt



Silvere

...men sweringhen en
 ¶ Hē siluere heeft die natuere in hē dā
 die wonden te samē treckt also dat mē
 niet napen en derf ¶ Dpe waerdighe
 meester Ruicenna in sinen boec de vici
 bus cordis seyt dat siluere dat hert ver
 starct en dat goet bloet maecht



Quicksiluere ¶ At. xl. ca
 Argentum viuum latine. pdragicus
 grece. Albachest Arabice
 ¶ Paracelsus in sinē boec inden ca
 pittel Argentum viuum seet dat
 quicksiluere van natueren heet en nuch
 rich is inden v

Woodcuts as Reading Guides

How Images Shaped Knowledge Transmission in Medical-Astrological Books in Dutch (1500–1550)

Amsterdam
 University
 Press

Andrea van Leerdam

Woodcuts as Reading Guides

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Medical-Astrological Books in Dutch (1500–1550)**

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Medical-Astrological Books in Dutch (1500–1550)**



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University
Press



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The publication was made possible with support from the Dutch Research Council NWO, Professor Van Winter Fonds, and De Gijsselaar-Hintzenfonds.

Cover design and lay-out

Marijke Maarleveld, ViaMare grafisch ontwerp

Cover image

Den groten herbarius (Antwerp: Claes de Grave, 1514), fols. d5v–d6r.
Leiden, Rijksmuseum Boerhaave, BOERH g 3301. See Fig. 3.26.

ISBN 978 90 4856 025 7
E-ISBN 978 90 4856 026 4 (pdf)
NUR 694/685



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Acknowledgements



This study is a revised version of my dissertation, defended at Utrecht University on 21 October 2022. Throughout my PhD project, many colleagues, experts, friends, and family members have inspired, advised, and supported me. Firstly, I warmly thank my supervisors Arnoud Visser and Bart Besamusca and my co-supervisor Daantje Meuwissen. Our monthly meetings always provided me with fresh perspectives, renewed motivation, and confidence whenever I needed it. I am also indebted to the Dutch Research Council NWO for awarding my project a ‘PhDs in the Humanities’ grant and for funding open access publication. Thanks to short-term fellowships from the Renaissance Society of America and the Bibliographical Society of America, I was able to study dozens of original copies in US collections. I thank the curators and library staff of the collections I have visited in the Netherlands and abroad for granting me access to their precious materials, and, whenever necessary, for helping me obtain scans. I owe special thanks to Bart Jaski of Utrecht University Library Special Collections and to Marieke van Delft of the KB, National Library of the Netherlands for their advice and practical help on several occasions.

The series editors of the *Reeks Bijdragen tot de Geschiedenis van de Nederlandse Boekhandel* enabled me to publish this book just a year after my PhD defence. I am especially thankful to Jeroen Vandommele and John Tholen for the care with which they edited my manuscript. The publication was made possible with support from the Professor Van Winter Fonds and the De Gijsselaar-Hintzenfonds. Anja van Leusden and Floor Appelman at Amsterdam University Press ensured a smooth publication workflow.

At Utrecht University I have felt part of an inspiring, collegial community of researchers and support staff, at the Department of Languages, Literature and Communication (TLC) as well as within the Institute for Cultural Inquiry (ICON). I was lucky that, owing to my interdisciplinary research subject, I could participate in the Utrecht Centre for Medieval Studies (UCMS), the Utrecht Centre for Early Modern Studies (UCEMS), as well as the Descartes Centre for the History and Philosophy of the Sciences and the Humanities. I have greatly benefitted from their many seminars, discussions, and other meetings.

In the preface to *Tfundament der medicinen ende chyrgien* (first published 1530), the author Petrus Sylvius considers it a moral duty to share knowledge: ‘for your skill and knowledge are nothing unless they are accessible to others’ (*want uwe consten ende weten en is niet, ten si dattet eenen anderen openbaer is*). I am thankful to the many colleagues who have generously shared their knowledge and insights with me – as much about PhD life as about early modern print culture. My thanks go to the colleagues of the departments of Middle Dutch Literature and Early Modern Dutch Literature and of the UCEMS PhD club, in particular to my office roommates Irmgard Fuchs, Annet den Haan, Jelmar Hugen, Cécile de Morrée, and Rozanne Versendaal, and to Feike Dietz, Nina Geerdink, Jaap de Haan, Renske Hoff, Maja van Leeuwen, Dieuwke van der Poel, Cora van de Poppe, Anna-Luna Post, Sophie Reinders, Henrike Scholten, Els Stronks, John Tholen, Martine Veldhuizen, Chloé Vondenhoff, Stan van Zon. I thank Orlanda Lie and Paul Wackers for encouraging me at a very early stage to develop my research idea into a full-blown proposal. I am also grateful for the feedback, advice, and support I received from Yvonne Bleyerveld, Hanneke de Bruin, Jessie Wei-Hsuan Chen, Sabrina Corbellini, Anna Dlabáčová, Sven Dupré, Christien Franken, Carla de Glopper-Zuijderland, Aagje Gosliga, Peter van den Hooff, Sachiko Kusukawa, Katell Lavéant, Irene van Renswoude, Jeroen Salman, Patricia Stoop, Mariken Teeuwen, Didi van Trijp, Mark Vermeer, and Herre de Vries. My paranymphs Cécile de Morrée and Johan Spin were invaluable in making my PhD defence a most festive and memorable occasion.

Finally, I could never have completed this undertaking without the unwavering support of my family. First and foremost, I thank Mattijs, my mainstay in everything I do. He provided practical help in developing a database to document traces of use. More importantly, he has encouraged me at all times with his love, open mind, creative energy, and willingness to join me on research and conference trips to anywhere. My gratitude also goes to my parents Joke and Ko, my parents-in-law Joukje and Rudi, and Neeltje and Mark for all of their moral and practical support throughout the years, and since Robin’s birth also their many days of babysitting that allowed me to finish this book without too excessive delays. And finally, dear Robin, the most marvellous chapter in my book of life: thank you for the delight you have brought us – in the midst of a pandemic, no less. Every day you demonstrate the expanse of ‘book use’ to me (which began with chewing, folding, throwing, and now also includes stacking, sorting, and reciting), and you help me get my priorities straight.

Note to the Reader



Transcriptions

Spelling and capitalisation are transcribed as in the source text. The long s (ſ) is transcribed as s.

Abbreviations have been silently expanded and interpunction has been adjusted to present-day conventions.

Symbols used in quire signatures are transcribed as follows:

for a four-leafed flower-like shape



) for a mirrored c



& for a tironian 'et' with a horizontal stroke crossing in the middle



Translations

Translations are mine, unless otherwise noted.

Terminology

I use the term 'Dutch' to refer to the language and 'Netherlandish' to refer to an origin in the (medieval or sixteenth-century) southern or northern Low Countries.

Editions

I use codes to refer to specific editions and copies (see 'Codes used for examined editions and copies'). When an observation pertains to all examined editions of a work, I refer to the work's (abbreviated) title rather than to specific edition codes.

Abbreviations



Abbreviated titles of primary sources

For several works in my research corpus, I use abbreviated titles throughout this study:

- ◆ *Chyromantia* = *Chyromantia Ioannis Indagine Ende dit boec leert van drie naturlike consten*
- ◆ *Distellacien* = *Die distellacien ende virtuyten der wateren*
- ◆ *Den groten herbarius* = *Den groten herbarius met al sijn figueren*
- ◆ *Der vrouwen natuere* = *Der vrouwen natuere ende complexie*
- ◆ *Hantwerck* = *Dits dat hantwerck der chirurgien*
- ◆ *Roseghaert* = *Den roseghaert vanden bevruchten vrouwen*
- ◆ *Tfundament der medicinen* = *Tfundament der medicinen ende chyrurgien*
- ◆ *Thuys der fortunen* = *Thuys der fortunen ende dat huys der doot*

I refer to the following works from my corpus with unabbreviated titles:

- ◆ *Dat regiment der ghesontheyt*
- ◆ *Den sack der consten*
- ◆ *Der dieren palley*
- ◆ *Der scaepherders kalengier*
- ◆ *Fasciculus medicine*
- ◆ *Tregement der ghesontheyt*
- ◆ *Tscep vol wonders*

For details about each title, see Appendix 1.

Abbreviated titles of secondary sources

ESTC	<i>English Short Title Catalogue</i> , https://estc.bl.uk
FB	Andrew Pettegree, Malcolm Walsby, and Alexander Wilkinson, <i>French Vernacular Books. Books Published in the French Language before 1601</i> . Leiden: Brill, 2007.
GW	<i>Gesamtkatalog der Wiegendrucke</i> , https://www.gesamtkatalogder-wiegendrucke.de
ISTC	<i>Incunabula Short Title Catalogue</i> , https://data.cerl.org/istc
LexMA-O	<i>Lexikon des Mittelalters Online</i> . Turnhout: Brepols.
MEI	Cristina Dondi et al., <i>Material Evidence in Incunabula</i> , https://data.cerl.org/mei/_search
MNW	Eelco Verwijs, Jacob Verdam et al., <i>Middelnederlandsch Woordenboek</i> , 1885–1929, https://gtb.ivdnt.org/search/
NAT	Wouter Nijhoff, <i>L'art typographique dans les Pays-Bas pendant les années 1500 à 1540</i> , 3 vols. The Hague: Martinus Nijhoff, 1926–1935.
NB	Malcolm Walsby and Andrew Pettegree, <i>Netherlandish Books. Books Published in the Low Countries and Dutch Books Published Abroad before 1601</i> . Leiden: Brill, 2010.
NK	Wouter Nijhoff and M.E. Kronenberg, <i>Nederlandsche bibliographie van 1500 tot 1540</i> , 3 vols. The Hague: M. Hijhoff, 1923–1971.
NNBW	P.C. Molhuijsen and P.J. Blok (eds.), <i>Nieuw Nederlandsch Biografisch Woordenboek</i> , 10 vols. Leiden: A.W. Sijthoff, 1911–1937.
OED	<i>Oxford English Dictionary</i> . Oxford: Oxford University Press.
USTC	<i>Universal Short Title Catalogue</i> , https://www.ustc.ac.uk
VD16	<i>Verzeichnis der im deutschen Sprachbereich erschienenen Drucke des 16. Jahrhunderts</i> , http://www.vd16.de
WNT	<i>Woordenboek der Nederlandsche Taal</i> , 1864–1998, https://gtb.ivdnt.org/search/

Codes Used for Examined Editions and Copies



I refer to each examined copy with a unique code that is composed of three parts:

- ◆ title key letters
- ◆ year of publication
- ◆ code for the holding institution as used in *Netherlandish Books* (NB)

The first two elements (title key + year) constitute the code I use to refer to the edition.

E.g. **Herb-1532** is the edition of *Den groten herbarius* printed in 1532 and **Herb-1532-A170** is the copy of this edition held at the Hendrik Conscience Heritage Library in Antwerp. Appendix 1 lists the edition codes as well as the copies of each title, both those I examined for this study and other known copies. Holding institutions and shelfmarks are specified for each examined copy in Appendix 2.

If a collection holds multiple copies of the same edition, I add ‘a,’ ‘b,’ etc. to the collection code: e.g. Dier-1520-B02b is the second copy of *Der dieren palley* (1520) held at the Royal Library in Brussels (for shelfmarks, see Appendix 2). In the rare cases where multiple editions of a title are dated in the same year, I add ‘a,’ ‘b’ etc. to the year of publication: e.g. Rose-c1540a-... is a copy of the *Roseghaert* edition of c. 1540 printed by Symon Cock in Antwerp, while Rose-c1540b-... is a copy of the *Roseghaert* edition of c. 1540 printed by Jan I van Ghelen in Antwerp (see Appendix 1 for the editions).

Title keys

Chyro	=	<i>Chyromantia Ioannis Indagine</i>
Dier	=	<i>Der dieren palley</i>
Dist	=	<i>Die distellacien ende virtuyten der wateren</i>
Fasc	=	<i>Fasciculus medicine</i>
Hantw	=	<i>Dits dat hantwerck der chirurgien</i>
Herb	=	<i>Den groten herbarius met al sijn figueren</i>
Regi	=	<i>Dat regiment der ghesontheyt</i>
Rose	=	<i>Den roseghaert vanden bevruchten vrouwen</i>
Sack	=	<i>Den sack der consten</i>
Scaep	=	<i>Der scaepherders kalengier</i>
Tfund	=	<i>Tfundament der medicinen ende chirurgien</i>
Thuys	=	<i>Thuys der fortune ende dat huys der doot</i>
Trege	=	<i>Tregement der ghesontheyt</i>
Tscep	=	<i>Tscep vol wonders</i>
Vrouw	=	<i>Der vrouwen natuere ende complexie</i>

Collection codes (from NB)

grey = collection not consulted but known to hold a copy of
an examined edition (cf. Appendix 1, 'other copies' listed for each title)

Ao4 Amsterdam (NL), Allard Pierson, University of Amsterdam
A12 Antwerp (BE), Museum Plantin-Moretus
A91 Antwerp (BE), UAntwerpen Library, Stadscampus
A170 Antwerp (BE), Hendrik Conscience Heritage Library
Bo2 Brussels (BE), KBR Royal Library of Belgium
Bo5 Berlin (DE), Staatsbibliothek Preußischer Kulturbesitz
B16 Bethesda, MD (USA), National Library of Medicine
B39 Boston, MA (USA), Countway Library of Medicine
Co1 Cambridge (UK), University Library
C75 Cambridge (UK), Corpus Christi College Library
Do9 Dresden (DE), Sächsische Landesbibliothek
Go3 Ghent (BE), University Library
Go4 Göttingen (DE), Niedersächsische Staats- und Universitätsbibliothek
G12 Groningen (NL), University Library
Ho4 The Hague (NL), KB, National Library of the Netherlands
H89 Heeswijk (NL), Berne Abbey Library

K07 Copenhagen (DK), The Royal Danish Library
K19 Cologne (DE), University and City Library
Ko8 Cracow (PL), Jagiellonian Library
LRB [not in NB] Leiden (NL), Rijksmuseum Boerhaave
Lo1 London (UK), British Library
Lo4 Leiden (NL), University Library
Lo5 Leuven (BE), Katholieke Universiteit, Centrale Bibliotheek
L39 London (UK), Wellcome Collection
L79 London (UK), Victoria and Albert Museum
ML [not in NB] Mettingen (DE), Liberna Collection
Mo3 Munich (DE), Bavarian State Library
M88 Maastricht (NL), Jesuit Library (on deposit at University Library Maastricht)
No1 Chicago, IL (USA), Newberry Library
N18 New York, NY (USA), The Morgan Library & Museum
N53 New York, NY (USA), Metropolitan Museum of Art
Oo1 Oxford (UK), Bodleian Library
Po1 Paris (FR), Bibliothèque nationale de France
P27 Philadelphia, PA (USA), College of Physicians
P31 Paris (FR), Museum d'Histoire Naturelle
So7 Stockholm (SE), National Library of Sweden
Uo1 Utrecht (NL), University Library
Uo3 Uppsala (SE), University Library
Wo2 Washington, DC (USA), Library of Congress
Wo3 University of Wisconsin-Madison Libraries, Madison, WI (USA)
Xo1 Xanten (DE), Stiftsbibliothek
Yo6 Yale Medical Historical Library, New Haven, CT (USA)



Detail of Fig. 0.1

Introduction



Knowledge transmission through the lens of visual communication

The importance of printed books for the dissemination of knowledge was already acknowledged in the early period of print. A chronicle printed by Jan van Doesborch in Antwerp in 1530 praises ‘the noble art of book printing, through which art the world has now come to be so ingenious and has come to know more than she knew a hundred years ago, when there was no printing.’¹ The printing press made books available in larger numbers, to more differentiated audiences, than ever before. Yet, it is only in recent years that the specific roles of woodcuts and other printed images in knowledge transmission have become the subject of detailed study. At the same time, it is now a fundamental premise in book historical scholarship that the material appearance of books shapes the ways in which these books are used and interpreted.² As images are one of the most salient aspects of book design, their meanings and functions in processes of knowledge transmission can only be understood if we look not just at *what* they represent, but also at *how* they do so through their visual language and material appearance.

These issues are crucial to the early period of print, as this new medium spurred many visual innovations and shifts in image use that scholarship is only beginning to address. Key concerns and questions in the fields of book history and history of knowledge are: What roles did images play in the emergence of the ‘new sciences’ in the sixteenth century, such as botany, zoology, and anatomy, and in the education of practitioners (e.g. naturalists, medical practitioners, craftsmen, engineers)? How did texts and images interact? How did the functions and meanings of woodcuts change through practices of copying and reuse? These questions have made scholars look in new ways at epistemic

1 *Van Brabant die excellente cronike [...]* (Antwerp: Jan van Doesborch, 1530), fol. p4v: *die eedele const van boeck drucken, door welcke conste gecomen is dat die werelt nv so subtyl is ende meer weet dan si wist ouer C. iaren, doemen niet en dructe.*

2 In the words of Bonnie Mak: ‘The page is more than a simple vehicle or container for the transmission of ideas; it is a part of those ideas, entangled in the story itself.’ Mak 2011, 9.

images – images with a subject matter that is clearly intended to convey, clarify, or substantiate knowledge. However, in early printed works on medicine and astrology in the vernacular, such epistemic images appear alongside a variety of other images. As yet, we know little about the ways in which different kinds of images informed the reading process and how actual readers responded to images.

This study investigates how images in vernacular books shaped processes of knowledge transmission. It does so by approaching images as means of communication from the perspective of both book producers and readers. I focus on illustrated books with medical and astrological subject matter, printed in Dutch in the first half of the sixteenth century. In this early period of print, the Low Countries saw the rise of a lively market for practical and instructive works in the vernacular that targeted readers – and particularly non-scholarly readers – who differed in expertise and literacy skills. The woodcuts with which many of these works are illustrated have long been considered as subsidiary decorations that often match the main text inadequately, rather than as meaningful elements in their own right. While they undoubtedly added to a book's attractiveness, their value is not so much found in their aesthetic qualities: many of them are rather crudely cut stock images, copied over and over again, widely differing in style and quality of execution. To understand their effects on readers, we need to approach them as a form of visual communication: they conveyed knowledge and ideas by means of visual elements. This study, therefore, adopts a functional instead of an aesthetic perspective. It not only investigates book producers' deliberate or intuitive design choices and the intended functioning of images, but also explores traces of use in order to clarify how and by whom these illustrated books were used in practice.

I identify three, intertwined aspects of knowledge transmission where the communicative and, indeed, persuasive functions of images stand out: the organisation, visualisation, and reliability of knowledge. In my analysis of these themes, I draw on ideas on visual rhetoric from the field of information design studies, as outlined below. This field shares with book history the foundational assumption that materiality affects meaning. Choices in design always reflect assumptions held implicitly or explicitly by the designers on how a message can be conveyed effectively.³ This is a pertinent basis for the analysis of early printed books, as the new medium of print enabled and necessitated new design choices. In the early sixteenth century, the printed book was evolving from the model of the manuscript and developing its own conventions, for example with respect to title pages, navigational aids such as indexes and running titles, type

3 Mayer 2014a, 46; Kress and Van Leeuwen 2006, 6.

(blackletter, Roman), and the use of graphic elements such as images, *fleurons*, and white spaces. The concept of visual rhetoric helps to distinguish various – often interacting – rhetorical functions of images and other design elements.

The mutually related fields of medicine and astrology provide an insightful case for studying images in relation to knowledge transmission, because the medical-astrological books themselves present their content emphatically as knowledge. They frequently use terms such as knowing, learning, and understanding to convey their purposes to readers.⁴ The concept of knowledge here encompasses what we may call facts (shared explicit and implicit conceptions within a community of how things are; theoretical knowledge) and skills (how things are done; practical knowledge).⁵ In the medieval and early modern worldview, the subjects of medicine and astrology were interconnected through the notion that the macrocosm of the heavens influences the microcosm of the human body (see Chapter 1). The books under scrutiny provide facts about the qualities and influences of the planets, the workings of different organs in the human body, and the course of the seasons, while also offering practical knowledge on how to bathe, eat, and sleep healthily and how to cure all types of diseases and ailments.

The benefit of a functional, communicative approach to the images in these vernacular instructive works can be illustrated through the example of *Der scaepherders kalengier*. This almanac-like book saw many editions throughout the sixteenth century and was part of a complex transnational web of editions with counterparts in French, English, and German.⁶ Readers encountered a variety of medical and astrological knowledge, including many different kinds of images. In the calendar section of the c. 1514 edition, the month of December is introduced by a woodcut depicting a merry winter scene with ice skaters and an ice sledge on a frozen lake (Fig. 0.1). A roundel with the zodiac sign of Capricorn in the upper-left corner identifies the image as a calendar scene. The accompanying short verse text warns against letting blood during this month when the Sun goes into Capricorn, and to be careful when ice skating.⁷ By contrast,

4 See also Chapter 1.

5 What are considered as ‘facts’ is time- and culture-specific; Shapin 1994. Indeed, the meaning of the word ‘fact’ itself has changed significantly over time; Serjeantson 2006, 158–162; Shapiro 1994. I use it here in the modern sense of ‘that which is known (or firmly believed) to be real or true’ (OED, ‘fact,’ II.7), also motivated by the assertive phrasings that commonly characterise these texts. On the categories of universalised and disembodied *episteme* (Latin: *scientia*) and practical, individual *techne* (how-to): Burke 2016, 8–9; Smith 2010, 28; Smith 2004, 17–18; Long 2001, 2–3. See also below, ‘Images and the History of Knowledge.’

6 See Appendix 1 and Van Leerdam (in preparation).

7 Scaep-c1514, fol. fiv. On the codes I use to refer to editions and specific copies, see ‘Codes used for examined editions and copies.’



Fig. o.1. Ice-skating and sledding: activities of the month of December. *Der scaepherders Kalengier* (Antwerp: Willem Vorsterman, 1516), fol. c7v. Washington, D.C., Library of Congress, Rosenwald 1137. [Scaep-1516-Wo2]



Fig. o.2. Cosmos diagram. *Der scaepherders Kalengier* (Antwerp: Willem Vorsterman, 1516), fol. f2r. Washington, D.C., Library of Congress, Rosenwald 1137. [Scaep-1516-Wo2]

an image some twenty pages further in the same book shows an abstract, circular cosmos diagram visualising the nine concentric spheres of the heavens with Earth in the middle (Fig. 0.2). This diagram illustrates a Dutch translation of *De sphaera* by the astronomer Johannes de Sacrobosco (ca. 1200–ca. 1250), a much-used astronomy textbook in medieval universities, and thus draws on a scholarly tradition.⁸ The other woodcuts in *Der scaepherders kalengier* also alternate diagrams – epistemic images *par excellence* – with narrative and allegorical scenes – categories of images that are often considered as ‘decorative’ – some of which appear in other works from this period as well.⁹ While all of these images are thematically related to the macrocosm of the heavens and the microcosm of the human body, they cover a broad spectrum of visual language. They thus communicate in different ways, demanding readers to decode them in different ways and bringing about different kinds of rhetorical effects. These mechanisms shape the functioning of images in important ways.

Such combinations of different kinds of images, of varying origins and styles and with varying relations to the text, are typical of many practical and instructive works in Dutch of this period. A closer study of these illustration practices uncovers the kinds of visual literacies and needs for knowledge that book producers presupposed among their target audiences. Moreover, the images and their interaction with texts, paratexts, layout elements, as well as with other images reveal how they incite readers’ engagement with the organisation, visualisation, and reliability of the knowledge presented in these books.

Vernacular books and knowledge in the Low Countries

The early print culture in the Low Countries is particularly auspicious to an investigation of the ways in which visual rhetoric shaped reading experiences in processes of knowledge transmission. In the Low Countries, there was a potentially large and varied group of vernacular readers who were interested in knowledge of the natural world. As texts and images were continuously translated and adapted, circulating in transnational networks of exchange among printers (with especially strong links to the German and English book market, see Chapter 1), the case of the Low Countries enables us to capture more broadly relevant phenomena. This study looks into the earliest books in Dutch on the cosmos and the human body that were printed with illustrations. Studying

⁸ See Chapter 2.

⁹ For example, Willem Vorsterman reused the woodcut depicting activities of the month of May in *Der scaepherders kalengier* (c. 1514, 1516) in the prose romance *Peeter van Provencen* (Antwerp: Willem Vorsterman, c. 1517). A copy after the zodiac man in *Der scaepherders kalengier* (1511) appears in *Thuys der fortunen* (1518).

these books as a group brings to the fore how book producers attempted to target certain audiences and how this affected their decisions on images, and whether they succeeded in reaching these audiences.

The number of consecutive editions and the ongoing addition of new titles point to a flourishing market for these instructive and informative works in the first half of the sixteenth century.¹⁰ Precise numbers or percentages are difficult to establish, as categories are not distinguished unequivocally and, importantly, because many works will have been lost, especially books for practical use.¹¹ While religious works outnumbered any other text type by far in the Low Countries, as elsewhere in Europe, it is estimated that some nine per cent of the surviving editions published in Dutch between 1477 and 1540 deal with *artes* and science.¹²

Publishers must have been well aware of the commercial potential of medical and astrological books – after all, health concerned everyone. Such commercial potential was a key success factor in the still relatively new market for printed books. Already throughout the fifteenth century, the growing demand for books had spurred commercial, larger-scale production of manuscripts in a growing number of scriptoria, also in the Low Countries.¹³ The introduction of print made such ‘mass production’ possible on an unprecedented scale. Even though books remained costly items, especially in the earliest decades of print, printed books came within the financial reach of larger audiences from the late fifteenth century onwards.¹⁴ The new production model of print, based on producing for anonymous buyers, entailed considerable business risks. Following a wave of bankruptcies among printers in the Low Countries and elsewhere in Europe around 1490, the book market became more stable and increasingly expansive after 1500.¹⁵

Printers sought to attract prospective buyers not just through a book’s subject matter but increasingly also through its material appearance and paratexts

10 For overviews of editions, see Appendix 1.

11 On lost books: Bruni and Pettegree 2016.

12 Vermeulen 1986, 30, calculation based on the NK-categories mathematics/natural history/technology and plants/animals/medicine). Cuijpers 1998, 97 follows this calculation. Walsby and Pettegree 2010 look at the period until 1600, and estimate that 19 per cent of all books published in the Low Countries (including Latin) are ‘scholarly and technical’ works and 36 per cent comprises ‘cheap print’ (pp. xvii–xx). It is not clear how the works in my corpus are included among these categories.

13 Pleij 1997, 13–14. A famous example is the workshop of Diebold Lauber in Hagenau; project ‘Diebold Lauber Digital’ led by Sabine Griese at the University of Leipzig, <http://wrote.informatik.uni-leipzig.de/mediavistik/> (accessed 23 April 2023); Saurma-Jeltsch 2001.

14 Hoffmann 1996.

15 Pettegree 2011, 12; Pettegree, 2010, 54–55; Pleij and Reynaert 2004, 4; Pleij 1987, 57–58.

such as title page, preface, and chapter titles. The choice to add woodcuts was always deliberate, since an illustrated book was more expensive to produce than a similar book without images.¹⁶ The higher production costs and, by implication, sales prices, will undoubtedly have been the main reason why illustrated books constituted a minority within the book market of the Low Countries in its totality. It is difficult, however, to make quantitative estimates of illustrated/unillustrated ratios, not only because of lost editions, but also because the sizes of print runs are often unknown.¹⁷ Moreover, the audience that viewed book illustrations during the first half of the sixteenth century will have been substantially larger than the number of illustrated copies printed in this period, as a single copy of a book will commonly have been used or at least seen by multiple people.¹⁸

Works of practical knowledge were a substantial part especially of the output of the printers Thomas van der Noot, Jan van Doesborch, Willem Vorsterman, Jan Berntsz and, around the mid-sixteenth century, Jan Roelants. Such books came in many different appearances and sizes and dealt with a variety of topics, ranging from herbal recipes to horoscopes and from surgery manuals to distillation instructions, often combining multiple subjects within a single edition. The woodcuts include – among many other things – images of plants, distillation instruments, and anatomical diagrams, but also dining and conversation scenes, scholars, and women nursing babies. Both images and text passages could circulate independently between different titles. In the case of woodcuts, the actual blocks could be reused or the image could be copied onto a new block (see Chapter 1). Such interconnections and repetitions are another indication of successful sales and thus of a sustained audience interest, the precise nature of which calls for closer inquiry.

We often do not know exactly who was responsible for decisions of layout and illustration in the early printing shop. For pragmatic reasons, I will refer to ‘book producers’ throughout this study to include printers, publishers, authors, translators, illustrators, compositors, etc. In the cases studied here, the printer was generally also the publisher. Authors were rarely involved, as most works in my corpus are translations or anonymous compilations.¹⁹ I consider

16 On the costs of woodcuts: Kusakawa 2012, 50–55. It is estimated that illustrated books were on average 75 to 100 per cent more expensive than comparable unillustrated books (p. 50).

17 For the fifteenth century, Ina Kok has calculated that 15 per cent of editions printed in the Low Countries were illustrated with multiple woodcuts (340 of 2229 incunabula); Kok 2013, XXI. For the sixteenth century, no similar calculation has been made. On estimates of print runs: Cuijpers 1998, 50–53; Hirsch 1974, 65–68.

18 Books were shared, exchanged, and passed on in all kinds of ways. See also Pleij 1997, 17.

19 See also Chapter 1 on questions of labour division within the early printing workshop and on the sources of the studied works.

the printer as the person who had final responsibility for the production of the book and decisions about its appearance, but obviously an unknown number of anonymous craftsmen were involved as well.

The vibrant reading and knowledge cultures in the Low Countries provided fertile ground for the new medium of print to communicate knowledge in the vernacular. It is estimated that roughly one third of all known editions published there until the mid-sixteenth century appeared in Dutch.²⁰ By the time that printed books were introduced, Middle Dutch had already become an established language for written communication on specialist subjects such as surgery, astronomy, and natural history.²¹ Especially since the fourteenth century, vernacular manuscript production included both specialised works for professionals, who often read Latin as well as the vernacular, and more general or even encyclopaedic works for lay audiences. A relatively large proportion of the urban population possessed at least modest literacy skills and more people were able to read in the vernacular than in Latin. In elementary schools, which were present in nearly every parish and village, both boys and girls learned to read and write in the vernacular.²² This high degree of literacy had developed in close connection to the high degree of urbanisation in the Low Countries. Civic professions such as those of government officials, artisans, merchants, and lawyers all required at least pragmatic literacy.²³ Moreover, these literate professionals participated in the chambers of rhetoric that emerged in the fifteenth century and that fostered a lively literary and performance culture.²⁴ While the commercially and culturally flourishing city of Antwerp was the undisputed heart of book and print production in the first half of the sixteenth century, printing businesses were also found in other commercial centres such as Ghent and Bruges, the university city of Leuven, as well as in smaller towns such as

20 Walsby and Pettegree 2010, xx–xxi estimate roughly one third for the period until 1600. Cuijpers 1998, 62 estimates a fluctuation between 25–35 per cent in the period 1470–1540. Large differences existed among printers. Schlusemann 1997, 37 shows that Willem Vorsterman was among the printers who even printed some two thirds of their output in Dutch.

21 Vernacularisation of medicine took off in the second half of the fourteenth century; Crossgrove 1998, 82–83; 1994, 87. Bogaart 2004, 157 points out that Dutch translations and adaptations of Latin scholarship focused more on the practical application of knowledge. With respect to surgical handbooks, Huizenga 2008, 428 observes that in the first half of the fifteenth century, '[q]uite rapidly, Middle Dutch became the most important language in which Dutch surgeons wrote down their knowledge, replacing Latin.'

22 Boys could subsequently move on to a Latin school. On education and literacy in the fifteenth- and sixteenth-century Low Countries: Willemsen 2008; De Ridder-Symoens 2004, esp. 117; De Ridder-Symoens 1995; also Goudriaan, Van Moolenbroek and Tervoort 2004; Voet 1973, 395–400.

23 Parkes 1991b, 275 defines pragmatic literacy as 'the literacy of one who has to read or write in the course of transacting any kind of business.'

24 Van Dixhoorn, Mareel, and Ramakers 2018; Van Dixhoorn 2018, 2014, and 2009; Van Bruaene 2008; Pleij 1988, 183–184.

Gouda, Deventer, and Delft.²⁵ Books, then, were never hard to come by: they were not only sold new in many places, but also shared, loaned, and passed on.

The market for books in the vernacular was largely determined by language areas.²⁶ In this respect, they contrasted with books in Latin – the lion’s share of the early sixteenth-century book market, in the Low Countries as elsewhere – that circulated more widely across Europe. The majority of editions in Dutch, then, were intended for the local market in the Low Countries, and thus for distribution within a relatively small language area.²⁷ Many editions, including a number of those studied here, emphasise the use of the Dutch vernacular or the intervention of a translator.²⁸ This emphasis on the use of the ‘common language’ is an indication of the producers’ ambitions to reach a wide audience beyond those who read Latin.²⁹ Indeed, the pervasive practices of translation and international circulation of visual motifs testify to a specific concern with the transmission and accessibility of knowledge from different sources. While Dutch vernacular books may have found their main audience in a relatively small region, the book producers’ outlook was decidedly international. The present study of the functions of images in knowledge transmission in Dutch books contributes, then, to a more thorough understanding of the dynamics of European print culture.

The materiality of printed books

My approach is rooted in three interrelated strands of research: the materiality of printed books (my point of departure), the roles of images in the history of knowledge, and early modern reading practices. Technological developments

25 Adam 2014; Walsby and Pettegree 2010, xiii–xiv; Cuijpers 1998, 72–73; Voet 1973, esp. 394–395 (on book printing in Antwerp) and 146–163 (on Antwerp as ‘Metropolis of the West’ between 1500–1566).

26 Dlabáčová and Van Leerdam 2023; Hirsch 1974, 134.

27 According to Walsby and Pettegree 2010, xvii, ‘[l]ess than 4 per cent of the total population of Europe lived in the Low Countries in the sixteenth century, yet its publishers commanded 10 per cent of the total book market.’ Cuijpers 1998, 76 states that the Dutch-speaking regions had 2 million inhabitants around 1500 and 2.5 million around 1600. Books in other vernaculars than Dutch (especially French, German, English) circulated in the Low Countries, though on a more modest scale. Dutch books were read outside of the Low Countries, too (for example, Herb-1538-C01 and Tscep-1514-C75 have annotations in English). The linguistic boundaries between the Dutch- and German-speaking regions were not always clear-cut; yet, the language used in all of the works studied here is clearly Dutch.

28 For example, on the title page of Chyro-1536: ‘and now first translated and perfectly transposed from Latin into our common Dutch language’ (*ende ny eerste wten latijn in onse gemeen duytsche tale translateert ende perfectelick ouergheset*).

29 A range of other indications of a broad intended audience will come to the fore throughout this study.

in our own days have sparked an interest, roughly since the 1980s, in the material features of early printed books and how they affect, shape, or even condition how these books were used and understood. The increasing prominence of visual, electronic, and digital media has given rise to new questions about and new perspectives on ‘old’ media.³⁰ Literary theorists, book historians, and cultural historians have come to share the notion that a text is not a fixed entity, and that meaning is not so much enclosed in a text as endowed by readers based on specific mediations.³¹ Book historian Donald F. McKenzie has seminally advocated bibliography – the study of the book in a broad sense – as a study of what he has coined the ‘sociology of texts,’ aimed at understanding the ways in which ‘forms effect meaning.’³²

This idea is now at the heart of a thriving body of research, in which the concepts of ‘paratext’ and ‘material text’ are key frameworks.³³ The term ‘paratext’ was originally defined by the structuralist literary theorist Gérard Genette as the manifold elements that ‘surround’ and ‘extend’ a text, ‘precisely in order to *present it*,’ including, for example, title, author’s name, preface: ‘the paratext is what enables a text to become a book.’³⁴ The term has gained currency in medieval and early modern book studies, and book historians and literary historians have demonstrated a rich variety of ways in which such paratexts as prologues, printed marginalia, or indexes directed how books were used.³⁵ No less importantly, these scholars continue to debate and revise the scope of the concept of paratext to fit historical contexts. They have pointed out that the boundaries between text and paratext were particularly fluid in the premodern period, and they

30 The parallels between the introduction of print and of digital media are discussed in, among others, Blatt 2018, esp. 3–8; Enenkel and Neuber 2005a, 1–2; and Rhodes and Sawday 2000.

31 In book history and cultural history, the influential works of Robert Darnton (e.g. 1982, 1986, 2007), Roger Chartier (e.g. 1994, 1995, 2001) and Donald F. McKenzie (1999) have emphasised the importance of readers in relation to materiality; in literary theory, Wolfgang Iser and Stanley Fish contributed foundationally to the development of reader-response theory.

32 McKenzie 1999. This influential socially oriented approach countered the predominant understanding of print as a technology-driven innovation or even revolution that had been put forward by William M. Ivins Jr., Marshall McLuhan, and most influentially by Elisabeth Eisenstein (1979), and in her wake Michael Giesecke. Adrian Johns’ polemic against Eisenstein’s conception of print as a revolutionary ‘agent of change’ remains one of the most influential stances against the technology-driven approach; Johns 1998, esp. 10–20; Eisenstein 2002; Johns 2002. The idea of print as a revolution was also nuanced in, among others, McKitterick 2003, and specifically for the Low Countries in Pleij and Reynaert 2004.

33 The concept of material philology in manuscript studies is also closely related; Nichols 1997, 1990.

34 Genette 1997, 1.

35 On medieval paratexts: Brown-Grant 2020; Cooper 2015. On early modern paratexts, foundational: Smith and Wilson 2011, Enenkel and Neuber 2005; also, among many others: Silva 2019, Tholen 2019; Tweed and Scott 2018; Mak 2011; Slight 2001.

have increasingly incorporated in their studies the visual and material elements (images, layout elements) that Genette bypassed, even though he considered them to have ‘paratextual value.’³⁶ Indeed, the broad concept of ‘material text’ reflects that all aspects of a book’s materiality, ranging from typography to paper quality and size, have significance for how that particular volume was to be used.³⁷ Through these recent studies of premodern paratexts and material text, it has become clear that, in fact, those taken-for-granted typographical and other material features all have their own histories and their own capacities for guiding interpretation.³⁸ Indeed, Adrian Johns has argued that print itself is attributed an authority that is not an inherent quality of its technology but a historically developed social construct that guides our perception of printed books in general.³⁹

Whereas images are indisputably part of the material text, it is not so easy to delimit them conceptually from either text or paratext. One might argue that it depends on the context whether an image is ‘paratext’ or not. In case an image is explicitly referred to in the main text, the image may be considered part of the main text, too. Also, when images are not accompanied by text at all, or when the text is subsidiary, they may be understood as main content rather than paratext. For the sake of convenience, however, I will use the term ‘paratext’ (and plural ‘paratexts,’ referring to different paratextual elements) to include all elements that surround the main text, including images.⁴⁰ Images in books, then, evidently interact not only with other paratexts, but also with texts.⁴¹

Scholarship of early printed Netherlandish books (i.e. printed in the Low Countries) has long been characterised by a sharp distinction between studying woodcuts and studying texts. The woodcuts have been inventoried and studied since the late nineteenth century, mostly with a technical focus on questions

36 Genette 1997, 7.

37 Maguire and Smith 2016; Larkin and Pon 2001. Laufer 1982 already conceived of the early printed book as a ‘visual space’ (*l’espace visuel du livre ancien*).

38 As Rautenberg 2015, 320 observes: ‘Insgesamt wird die Bedeutung skripturaler und typographischer Anordnungen unterschätzt: Es ist als “implizites” Wissen vorhanden, wird aber nicht problematisiert.’ See also Duncan and Smyth 2019, esp. 4; Bunia, Haarmann, Wehde and Wolf 2013. On the historical and cultural contingency of visual forms of knowledge production, see Drucker 2014.

39 Johns 1998, esp. 1–6.

40 I believe this choice is justified for my corpus as text is the main modality in all of the works included; see also Chapter 1.

41 Furthermore, images in books evidently interact with images in other media. In this study, I do not incorporate such intermedial interactions in a systematic way, because I focus on the dynamics of design and reading within the book. Readers’ knowledge of other images, outside of books, will certainly have influenced their reading and viewing experiences, as will come to the fore in Chapter 4 especially, but uncovering more about this prior knowledge would require different research methods and different types of sources than those I am using here.

of dating, attribution, and reuse.⁴² These predilections reflect long-dominant accents in bibliography and art history. Seminal book historical studies of woodcuts such as Wouter Nijhoff's *L'art typographique dans les Pays-Bas pendant les années 1500 à 1540* (NAT; 1926–1935) and Ina Kok's *Woodcuts in Incunabula Printed in the Low Countries* (2013) have shed light on the intensive exchange, copying, and modification of woodcuts, teasing out which printer possessed which blocks at what point in time.⁴³ However, these studies present the woodcuts in isolation, rarely paying attention to their textual or material contexts.

Closer attention to woodcuts within the book as a whole seems to have been hampered, paradoxically, by an interest in early printed Dutch books as commodities that needed to be marketed. This interest, which emerged in Dutch scholarship from the 1980s onwards, entailed an increasing attention for books as material objects functioning in social contexts.⁴⁴ Woodcuts, however, were predominantly regarded in these studies as costly additions to a book that had to be used economically, mainly to increase sales – a notion that scholars seldom considered to necessitate further problematization. This is apparent, for example, in Yves G. Vermeulen's dissertation (1986) on motivations for the production of printed books in Dutch and Peter M.H. Cuijpers' dissertation (1998) on printed books as commodities. Both include a substantial number of *artes* books in their corpuses that are also part of the present study.⁴⁵ Although these dissertations are important early examples of studies relating presentational features to intended reading practices, they devote a mere handful of pages to woodcuts.⁴⁶ Cuijpers describes their main function as 'pure decoration.'⁴⁷ Along similar lines, the work of Herman Pleij, though seminal for the study of reading culture in the Low Countries as a social practice, hardly incorporates any critical analysis of images. His arguments on lay literacy, ways of reading, and the availability of books are enticing, but he uses images rather unquestioningly – as historical sources or, indeed, as decoration to his own publications.⁴⁸

42 Kok 2013; Delen 1934; NAT 1926–1935; Conway 1884.

43 Kok finished her dissertation in Dutch in 1994, but it was not published until 2013, in English. Vervliet 1978 presents a selection from NAT with a short description and one image for each selected edition.

44 Pleij and Reynaert 2004, Salman 1999; Cuijpers 1998; Schlusemann 1997, Franssen 1990; Vermeulen 1986.

45 Vermeulen 1986; Cuijpers 1998. Cuijpers' selection of sources includes a sample of fifteen editions of *artes* texts, of which five are illustrated (pp. 122–123, 220). Vermeulen's study looks at 213 editions of incunables and 572 post-incunables (p. 34), all of them first editions. They include the first editions of all fifteen texts in my corpus.

46 The dissertations of Franssen (1990) and Bogaart (2004) likewise pay scant attention to woodcuts.

47 Cuijpers 1998, 219.

48 Pleij 1982, 1988, 1997, 2008.

By contrast, studies of early printed books in English and German in particular have demonstrated compellingly that images functioned in much more complex ways than as mere decoration. As part of the scholarly attention for books as artefacts, the study of image-text relations has become a booming field internationally, especially since the turn of the millennium. As a result, a rich picture has emerged of the intricate and manifold types of interaction between the visual and the verbal in early printed books. A variety of cases have been identified where common motifs or recurrent images functioned, for example, to highlight interconnections between different texts or text passages, or indeed to challenge readers to create new meanings.⁴⁹ These studies have decisively refuted the long-dominant idea that early printers used and reused woodcut illustrations haphazardly, merely in order to save costs or sell more books. Instead, a more nuanced view has emerged, which holds that the generic visual language of many woodcuts and the reuse of woodblocks need to be interpreted as defining characteristics of early modern visual culture.⁵⁰

Such a more integral approach to the interactions of visual, textual, and material elements within books is also beginning to yield new insights into early print culture in the Low Countries. The travelling exhibition *Conn3ct* (2016–2018) highlighted parallels between the printing press and present-day social media, offering a media historical view on a variety of early sixteenth-century Netherlandish books by exploring, among other things, their appeal to new communities of readers, their functioning as status symbols, and as instruments of polemics.⁵¹ Moreover, research into vernacular religious books compellingly shows how devotional experiences were shaped by combinations of texts, images, and bodily experience.⁵²

I aim to further these communicative and functional perspectives on the materiality of early printed books by extending the focus to the dynamics of vernacular knowledge communication. Incorporating the concept of visual rhetoric more expressly in this approach will elucidate how both producers and readers engaged with the materiality of the book to suit their purposes.

49 Among many others: Sisneros 2018; Zanger 2018; Moran 2017; Leitch 2017; Pouspin 2017; Clement 2016; Panse 2012; Davis 2009; Ott 2005 (with an extensive historiography of image-text research for the German Middle Ages); Driver 2004; Orgel 2000a; Chatelain and Pinon 2000; Rothstein 1990; Luborsky 1987.

50 Bellingradt 2019; Franklin 2019, esp. 215–216; Fumerton and Palmer 2016.

51 *Conn3ct* was on display in 2016–2018 in Göttingen (Germany), Paulinerkirche; The Hague (Netherlands), Museum Meermanno | Huis van het boek; Antwerp (Belgium), Hendrik Conscience Heritage Library; and Hasselt (Belgium), Provinciale Bibliotheek Limburg. It was accompanied by a special issue of the journal *Boekenwereld* (2017, 33:1); De Wilde, Van Delft, and Wuyts 2017.

52 Van der Laan 2020; Dlabačová 2020a, 2020b, 2017; François and Corbellini 2019; Rudy 2019, 2016; Corbellini and Hoogvliet 2015.

Images and the history of knowledge

The study of early modern how-to books has taken on a new relevance in recent years in the context of the developing field of history of knowledge. While historians of science have traditionally focused predominantly on science and learning as transmitted textually by scholars and clerics, history of knowledge adopts a much broader conceptualisation of knowledge practices.⁵³ In *What is the History of Knowledge*, Peter Burke makes a persuasive case for a wide and flexible definition of knowledge: ‘As for historians, they are well advised to extend the concept of knowledge to include whatever the individuals and groups they are studying consider to be knowledge’ – advice I have striven to take to heart in my selection of sources for the present study.⁵⁴ Historians of knowledge consider skills and experience as key elements of knowledge practices, both within and beyond traditional institutions of knowledge production. Studies of knowledge production and circulation demonstrate how all kinds of tacit, practical, embodied, and even secret knowledge were at play within all activities and interactions in society – whether in cooking, praying, or engineering.⁵⁵ In this historiographical context, sources aimed primarily at a non-scholarly audience, like those studied, here are experiencing a reappraisal for the insights they offer into knowledge practices and their codification.

Scholarship in the Netherlands, Flanders, and Germany has expressed a sustained interest in texts of practical knowledge already since the 1980s. The medical and astrological texts under scrutiny in the present study have predominantly been studied in the context of what is known as *artesliteratuur* in Dutch and Flemish historiography: instructive and informative texts in manuscript and print on the subjects of the medieval categories of *artes liberales*, *artes mechanicae*, and *artes magicae*.⁵⁶ This category is called *Fachprosa*, *Sachliteratur*, or *Gebrauchsliteratur* in German but has no proper equivalent in English.⁵⁷ The commonly used definition of *artes* literature was coined by Ria Jansen-Sieben:

53 Östling, Heidenblad and Hammar 2020; Dupré, Somsen et al. 2020; Burke 2016; Sarasin 2011; Long 2011; Jorink and Ramakers 2011; Dupré and Lüthy 2011; Smith 2004.

54 Burke 2016, 7.

55 E.g. Östling et al. 2018; Valleriani 2017; Smith, Meyers and Cook 2014; Kusukawa and Maclean 2006; Long 2001; Eamon 1994.

56 Scholars who have influentially shaped the study of Dutch *artes* literature include Johanna Maria van Winter, Ria Jansen-Sieben, Orlanda S.H. Lie, Willy L. Braekman, Erwin Huizenga.

57 Foundational for the study of German instructive literature – mostly in manuscript – are the works of Gerhard Eis (e.g. 1962, 1971, 1982), Gundolf Keil (e.g. 1982 and various contributions to the *Verfasserlexikon*), William Crossgrove (e.g. 1994). A more recent survey is provided by Haage and Wegner 2007. The Netzwerk Historische Wissens- und Gebrauchsliteratur is currently preparing a handbook on German instructive literature, see <https://hwgl.hypotheses.org> (accessed 23 April 2023).

‘writings that aim for a utilitarian, instructive purpose and not (primarily) a recreative, aesthetical, religious or emotional purpose’ [my translation].⁵⁸ In practice, this definition is not straightforward to apply, because texts can – and indeed do – serve multiple purposes; especially a combination of instruction and recreation, or instruction and religion, is quite common for fifteenth- and sixteenth-century works in the vernacular. The Dutch books on medicine and astrology have also been considered as *volksboeken* (‘folk books,’ literally: books for the common people).⁵⁹ The term is by now generally considered misleading, at least for the fifteenth and sixteenth centuries, even in its meaning of ‘popular’ or ‘cheap’ books, as these books were read by a cultural elite just as well as by the ‘common people,’ and they were not always cheap.

In the Netherlands, the study of *artes* literature gained momentum with the establishment of the *Werkgroep Middelnederlandse Artesliteratuur* (WEMAL – Working Group Middle Dutch *Artes* Literature) in 1999 by Orlanda Lie, Erwin Huizenga, and Lenny Veltman.⁶⁰ This research has predominantly approached *artes* literature as a window on the medieval worldview and on medieval practices (e.g. cooking, surgery, midwifery), assessing how medieval knowledge corresponds with or differs from what we know today, while also investigating textual traditions from a philological perspective. Again, in these approaches, attention to images has been subordinate.⁶¹ Images have been primarily considered as sources for historical practices and much less as means of communication. The volume *Kennis in beeld* (2014), published by members of WEMAL including myself, provided a first attempt at a more integrated approach of texts and images in conjunction. It has been a major incentive for my present study as it evinced how much is still unknown about the functioning of printed images in practical books in Dutch.⁶²

Recent research into the knowledge culture of the Low Countries has established a much-needed bridge between the historiographies of Dutch *artesliteratuur* and the international history of knowledge.⁶³ Arjan van Dixhoorn has focused on the networks and practices within ‘vernacular knowledge communities,’ of which he considers the chambers of rhetoric (*rederijkerskamers*) to

58 Jansen-Sieben 1989, XII.

59 Debaene 1977; facsimile series ‘Vroege volksboeken uit de Nederlanden’ edited and introduced by Willy L. Braekman.

60 <https://wemal.nl> (accessed 23 April 2023); joint publications include Van Leerdam et al. 2014; Lie and Veltman 2008; Huizenga, Lie, and Veltman 2002. I have been a member of WEMAL since 2008.

61 Bouwmeester and Patijn 2008, 109–111 have observed that images in *artes* manuscripts from the Low Countries have hardly been studied. The same is true for printed images.

62 Van Leerdam et al. 2014.

63 Van Dixhoorn, Mareel and Ramakers 2018; Cook and Dupré 2012; Dupré and Lüthy 2011.

be the institutional core.⁶⁴ In these communities, literary expression, performance, and a keen curiosity about philosophical and experiential knowledge of nature went hand in hand. Several printers of the medical-astrological works in my corpus have already been situated in civic communities of rhetoricians and guilds in earlier research.⁶⁵ I aim to further develop this new understanding of vernacular knowledge communities by focusing on the functioning of images in the exploration and exchange of natural knowledge within these communities.

The burgeoning scholarship on early modern visual epistemology – conceptions of images as instruments of knowledge production – shows that images are a crucial aspect of the codification and transmission of knowledge.⁶⁶ This insight also resonates in an argument that historian James Secord had already put forward in his seminal 2004 essay ‘Knowledge in Transit.’ There he proposes that we need to ‘think about knowledge-making itself as a form of communicative action’ and about ‘every text, image, action, and object as the trace of an act of communication, with receivers, producers, and modes and conventions of transmission.’⁶⁷ While such a perspective on images is increasingly being adopted, especially as a joint endeavour by art historians and historians of knowledge, attention has focused largely on state-of-the-art images in landmark works of science (e.g. by anatomist Andreas Vesalius, botanists Leonhart Fuchs and Otto Brunfels, and zoologist Conrad Gessner).⁶⁸ Studies of these works show a shift in ideas on the epistemic functions of images especially from the mid-sixteenth century onwards, but this shift did not occur out of nowhere. My study foregrounds the early stages of these developments and the functioning of images that were constantly copied. Moreover, I want to move away from evaluating the accuracy of the medical and astrological knowledge these images contain and instead look at textual and visual rhetorical strategies at play in how this knowledge is communicated.⁶⁹

64 Van Dixhoorn 2014. Also Van Dixhoorn, Mareel and Ramakers 2018; Van Dixhoorn 2018.

65 See Chapter 1.

66 Marr 2016 surveys the state of this field.

67 Secord 2004, 661. Secord’s argument with respect to the field of history of knowledge is reminiscent of Robert Darnton’s ‘communication circuit’ (Darnton 1982) within book history: both scholars propose that ‘communication’ offers a shared framework within their respective fields to create unity in what they argue has become a tangle of methods and approaches. See also Secord 2004, 667–668.

68 See the Introduction to Chapter 3 below.

69 Exemplary of this approach: Balfe, Woodall, and Zittel 2019; Egmond 2017; Jardine and Fay 2014; Kemp 2010.

Early modern reading practices

The third historiographical strand on which my study builds is the history of reading. Who were the early modern readers, what did they do with their books, and why? These readers often left annotations and other material traces of use (ranging from drawings to smudged pages), which have been appreciated by modern scholars, especially since the 1990s, as direct testimonies of readers' individual reading habits and interests. Chapter 5 will discuss in more detail in what ways these traces have been studied and what challenges this type of research poses.

The interest in readers' engagement with books has overturned the idea that reading is a passive act or a straightforward cognitive process. Instead, reading is now understood as an inventive and creative act that requires skill, and as a fundamentally and 'self-consciously embodied practice.'⁷⁰ Similar observations have been made – notably in communication studies and visual studies – on the perception of images: this is 'never a passive activity.'⁷¹ This notion resonates in the metaphor of 'reading images' that pervades studies both of present-day and historical visual cultures.⁷² The idea that images are 'read' underscores that images are not as 'immediately' understandable as is sometimes assumed.⁷³ Instead, their interpretation is a complex process that is crucially influenced by conventions and viewers' prior knowledge. Karen A. Schriver, in her seminal work on document design, has described the cognitive processing of texts and images as 'mental gymnastics.'⁷⁴

Researchers have only just started to explore the ways in which late medieval and early modern readers 'read' images. An interest in material traces of use in images has emerged on a modest scale in art history in recent years.

70 Sherman 2008, 48. Also MacLean 2018, 158: 'Reading is a fundamentally embodied act, yet so often we think of it as a simple cognitive process.' Johns 1998 includes a section on 'Physiology of reading.' Chartier 1995, 90 describes reading as 'inventive and creative.' Readers' understanding of visual cues has been described as a skill (*Kompetenz*); Rautenberg 2015, 297; Stöckl 2011, esp. 45. Overviews of the discipline: Leong 2018b; Hoogvliet 2013; Price 2004.

71 Twyman 1985, 265.

72 E.g. *Speaking to the Eye* (De Hemptinne, Fraeters, and Gongora 2013); *Bildlinguistik* (Diekmannshenke, Klemm and Stöckl 2011); *Visual Language* (Horn 1998); *Reading Images* (Kress and Van Leeuwen 2006); [...] *Bilderfolgen als Lektüre* (Mertens and Schneider 1991); 'Reading the Printed Image' (Camille 1991); *Languages of Art* (Goodman 1976). On the emerging metaphor of 'visual language' in the nineteenth century, see Drucker 2014, 28–33. Bateman 2014, e.g. 46, 238 criticises the suggestion that elements of visual language are equivalent to distinct elements in verbal languages (such as grammatical elements, or sentences).

73 This assumption can be found, for example, in Stöckl 2011, 49; Pegg 2002, esp. 174, 176. Schnotz 2014, 77 assumes that pictures, unlike texts, are 'informationally complete.'

74 Schriver 1997, 370. See also cognitive neuroscience studies of reading like Dehaene 2010 and Wolf 2007.

Studies of religious as well as scientific images point to a wide range of active, embodied types of engagement, including cutting and pasting, inscribing, colouring, and, in the case of devotional images, even kissing.⁷⁵ David Areford's *The Viewer and the Printed Image in Late Medieval Europe* (2010) in particular has broken new ground in studying prints that do not possess traditionally valued characteristics (e.g. 'clean' copies, stylistic refinement, famous artists) but instead were produced – often anonymously – and used as utilitarian objects, often for devotional purposes.⁷⁶ Already in 1953, William M. Ivins Jr. argued for an approach to printed images as means of visual communication rather than as autonomous works of art.⁷⁷ His argument that the printing press facilitated knowledge exchange because prints are 'exactly repeatable pictorial statements' is still influential, even though it has also been criticised from the beginning.⁷⁸ The recent interest in the materiality and reception of early woodcuts instead brings to the fore that prints from the same print run were often modified and used in very different ways and thus may have taken on widely varying meanings. Nevertheless, Ivins' advocacy of a communicative approach remains timely.

Another kind of connection between images and reading has been put forward by William H. Sherman. He has recently opened up a new direction in research of early modern readers' marks by approaching the marking of books as a visual rather than a verbal practice.⁷⁹ This approach not only pays attention to readers' engagement with – and creation of – images and other graphic signs, but also to the visual characteristics of textual annotations as testimonies to readers' conceptions of the page and of the act of reading. My study aims to contribute to these promising new avenues into 'visual reading.'

In this study, the analysis of readers' traces in illustrated books offers an empirical counterpart to the study of book producers' presentation strategies. A close look at the remaining traces yields important insights into early modern vernacular reading and knowledge cultures. Such an analysis brings to light

75 Jurkowlaniec and Herman 2021; Margócsy, Somos, and Joffe 2018, 79–95; Karr Schmidt 2017 and 2011; Rudy 2016; Areford 2010; Schmidt 2002; Van der Stock 2002.

76 Areford 2010. This type of research has focused mostly on single-sheet prints rather than book illustrations. Compelling endeavours to bridge the gap between art history and book history are being undertaken by Elisabeth Savage and Kathryn M. Rudy, among others, and by Ilja Veldman, Yvonne Bleyerveld, and Irene Schrier for printed works from the Low Countries in particular.

77 Ivins 1953.

78 Ivins' point is cited without criticism for example in Covey 2016, Introduction [unpaginated]. It was already criticized by Gombrich 1954, and recently by Margócsy 2019, 330, for attributing too much influence to 'exactly repeatable pictorial statements' on the development of early modern science.

79 Sherman [forthcoming]; Sherman 2018.

not only the habits of individual readers, but also conventions and patterns in how readers engaged – intellectually as well as materially – with illustrated books and knowledge and sometimes specifically with images.

Visual rhetoric as an interpretive framework

The organisation, visualisation, and reliability of knowledge – the three key themes of this study – manifest themselves in all kinds of design choices, by book producers as well as annotating readers. Ideas on visual rhetoric from information design studies offer an overarching framework within which the interplay of these themes in reading processes can be better understood.⁸⁰

The concept of visual rhetoric is used in information design studies in a broad sense to refer to the use of visual language for specific purposes, in specific contexts.⁸¹ Thus, visual rhetoric is about persuading an audience by means of visual, or graphic, elements to prefer a certain interpretation (or: way of reading, way of use) over others. The term also occurs in studies of early print culture, but frequently without theorising what it entails and what mechanisms underlie it.⁸² Ideas from information design studies contribute to a more systematic understanding of the concept. The practical outlook of this field – which design solutions work well under what circumstances, and why? – is instrumental for book historians to work the other way around, as we might say: to reconstruct the possible ways in which early modern book design made meaning.

In this study, I draw in particular on the ideas of communication scholar Charles Kostelnick, developed further by Kostelnick and Michael Hassett, about the rhetorical functions of design elements.⁸³ They argue, along similar lines to book historians and literary scholars like Genette, that all design elements – including images – convey signals to readers on how to use and interpret a

80 Information design studies looks more broadly at any type of media that conveys information, including books. Studies that combine ideas from present-day information design and communication studies with early modern book history include Bellingradt 2019; Silva 2019; Armstrong 2015; Gloning 2015; Carroll et al. 2013; Mak 2011. Studies addressing questions of visual communication and image-text relations primarily for post-1900 media include Bateman 2014; Stöckl 2011; Holsanova 2014; Mayer 2014; Kress and Van Leeuwen 2006; Martinec and Salway 2005; Stöckl 2004; Marsh and White 2003.

81 Barthes 1977b was among the first to consider the meaning-making potential of images as a form of rhetoric. Moys 2017, 207; Bateman 2014, 119; Hill and Helmers 2004; Horn 1998, 54; Kostelnick and Roberts 1998, 3–5; Kostelnick 1996, 10; Schriver 1997, 283–285; Schriver 1995, 6–9.

82 For example Shamos 2015, 4; Crowther and Barker 2013, 429. See for more critical uses of the concept Taape 2021; Reid 2019, esp. 7–8, 23–24 and Kemp 2010 and 1996.

83 Kostelnick and Hassett 2003, 99–103; Kostelnick 1996.

document (a book, leaflet, newspaper, letter, web page, or any type of written communication). A crucial point in their argument is that readers rely on visual conventions – familiar patterns shaped and sustained within a community of designers and users – to interpret these signals: ‘Conventional practice is intrinsically rhetorical.’⁸⁴ This process of interpretation is already set in motion before readers read the actual text. To name just some straightforward present-day examples of how visual conventions guide readers’ approaches to a document: the presence of a logo points to official communication from an organisation, text in bold type is commonly interpreted as more important than plain text, and a dotted line with a scissor icon indicates that that part of the paper is intended to be cut out. Examples of visual conventions in early printed books are the use of blackletter for vernacular text and Roman type for Latin text, tapered typesetting at the end of a section, and the presence of initials to signal hierarchy in text structure – a convention retained from manuscript culture.

Kostelnick identifies the following rhetorical functions in text design, conveniently summarised by Jeanne-Louise Moys:⁸⁵

Table 1. *Rhetorical functions in text design (after Kostelnick 1996, Kostelnick and Hassett 2003; summarised in Moys 2017)*

Structural functions	Stylistic functions
Reveal document structure Develop cohesion Enable expansion or contraction	Create interest Convey tone Establish credibility Signal emphasis Indicate usability

Kostelnick distinguishes between ‘structural functions’ and ‘stylistic functions.’ Structural functions pertain to the organisation of a document: they help readers find their way by clarifying how different parts are related. These functions are especially relevant for my analysis of knowledge organisation. ‘Stylistic functions’ help readers assess a document’s style, or in other words, what kind of document they are dealing with: for example, whether it is serious or more informal or playful in tone, whether they trust the information it provides, and how they are supposed to use it. These stylistic functions are at play in various constellations in all of the three main themes in my study.

⁸⁴ Kostelnick and Hassett 2003, 6.

⁸⁵ Moys 2017, 207; Kostelnick and Hassett 2003, 99–103; Kostelnick 1996. Schriver 1997, 250 provides a largely similar list of what type and space jointly work to achieve in document design.

This model, therefore, enables me to disentangle in what ways, through which aspects of their visual language, images contribute to the organisation, visualisation, and reliability of knowledge. I will refer throughout this study to the rhetorical functions that Kostelnick identifies.

Kostelnick and Hassett's argument about the key role of visual conventions in 'shaping information' is pertinent for early woodcut illustrations, first because these images draw heavily on conventions (iconographic traditions as well as reusing and copying specific images), and secondly because the books in which I study them are concerned particularly with communicating information or knowledge.⁸⁶ This model of interpretation thus opens up a new perspective on conventions in images, by focusing on how they function rhetorically. Moreover, the model helps to analyse the functions of images in relation to other elements of a book's design. This makes it particularly conducive for studying the early period of print when design conventions were in flux: the focus on visual rhetoric and visual conventions makes us more aware both of the conventions that continue to exist in our times (and which we may tend to overlook because we find them self-evident) and those that are typical of the early period of print, often rooted in manuscript culture.

Sources

The source base for this study is a corpus of fifteen titles. The selection is based on four criteria, each of which will be explained below: the titles were published in Dutch, multiple editions appeared (often also in other languages) in the period when print matured (c. 1500–1550), they contain multiple woodcut images within the text, and they present medical-astrological knowledge. The methods of selection are described in Appendix 1. I have examined these fifteen titles in a total of 51 editions, in 120 individual copies (see Table 2 and Appendices 1 and 2). The studied copies make up roughly 80 per cent of all known copies of these texts in public collections, based on the data of the Universal Short Title Catalogue with my own corrections and additions based on library catalogues, library visits, and secondary literature.⁸⁷ Though not

86 Kostelnick and Hassett 2003, 102 devote a single paragraph to images. *Shaping Information* is the title of their study (2003). Ideas differ on the distinction between information and knowledge (cf. Burke 2016, 6–7; Blair, Duguid, et al. 2020, x), but what is relevant for my study is that both information design and the books in my corpus are concerned with enlightening the reader on a certain matter.

87 See the overviews of copies for each title in Appendix 1. Some of the copies listed in the USTC turned out to be untraceable, also upon inquiry at the collection in question; for example of an undated edition of *Fasciculus medicine* said to be held at the KB, National Library of the Netherlands (<https://www.ustc.ac.uk/editions/438221>). Conversely, some

exhaustive, the corpus is sufficiently substantial and coherent to explore a wide range of possible presentation strategies and intended audiences, as well as of audience responses and user contexts.

Table 2. Outline of the research corpus, ordered chronologically by earliest known edition in Dutch. For details, see Appendix 1.

Title	Dates of editions consulted	Nr. of copies consulted
<i>Dat regiment der ghesontheyt</i> A rendition of the widely spread <i>Regimen sanitatis</i> , a verse text that provides rules for healthy living.	c. 1510, c. 1515	2
<i>Der scaepherders kalengier</i> A miscellany of medical and astrological items on time (e.g. calendar, moveable feasts, eclipses), bloodletting, influences of the planets and zodiac signs, a translation of Johannes de Sacrobosco's <i>De sphaera</i> , and more.	1511, c. 1514, 1516, 1539, 1544, 1546	7
Johannes de Ketham attr., <i>Fasciculus medicine</i> Translation of <i>Fasciculus medicinae</i> , a collection of medical treatises first published Venice 1491, wrongly attributed to Johannes de Ketham.	1512, 1529	10
Johannes de Cuba, <i>Den groten herbarius met al sijn figueren</i> Translation of <i>Gart der Gesundheit</i> (first published Mainz 1485). 435 short chapters on plants and other natural resources with medicinal qualities, providing many recipes. Short additional treatises added to each new edition. Images copied after <i>Hortus sanitatis</i> (first published Mainz 1491).	1514, 1526, 1532, 1533, 1538, 1547	27
<i>Tscep vol wonders</i> A compilation of astrological and medical content, including the nature and influence of the planets, the four complexions, influence of the planets on various parts of the body, diseases caused by zodiacal constellations, a translation of John of Rupescissa's treatise on <i>quinta essentia</i> . Probably compiled by printer Thomas van der Noot.	1514, 1520, 1535	10
Magninus Mediolanensis, <i>Tregement der ghesontheyt</i> A health regimen, attributed in the text itself to the fourteenth-century Italian physician Magninus Mediolanensis.	1514	4
Eucharius Rösslin, <i>Den roseghaert vanden bevruchten vrouwen</i> Translation of Rösslin's <i>Der Schwangern Frauen und Hebammen Rosegarten</i> (first published Strasbourg 1513), the first printed manual on obstetrics to gain wide renown.	1516, 1528, 1529, 1530, c. 1540a, c. 1540b, c. 1551, c. 1555a, c. 1555b, c. 1560a, c. 1560b	17
Hieronymus Brunswig, <i>Die distellacien ende virtuyten der wateren</i> Translation of Brunswig's <i>Small Book of Distillation</i> (first published Strasbourg 1500) that provides instructions on distilling and recipes for distilled waters.	1517	4

copies that I encountered in library catalogues had not yet been included in the USTC at the time I compiled my corpus. Information in the USTC sometimes turned out to be incorrect; for example, a copy of Tfund-1530 was listed at the Janshospitaal in Bruges, but upon examination this turned out to be a copy of a later edition, from 1622.

Title	Dates of editions consulted	Nr. of copies consulted
<i>Thuis der fortune ende dat huys der doot</i> A fortune-telling (group) game where different personifications lead the reader through the book resulting in a personal life advice, followed by a miscellaneous collection of information on bathing, food, the ages of man, and other medical-astrological subject matter.	1518, 1522, 1531, c. 1540	5
<i>Der dieren palley</i> Translation of the chapters on animals from the <i>Hortus sanitatis</i> . Books on land animals, birds, fish. Hundreds of short chapters, each with an image of the animal and an overview of its medicinal applications.	1520	5
<i>Den sack der consten</i> Illustrated book of secrets with recipes, tips and tricks – part practical, part mockery – for all kinds of domestic and medical issues.	1528, 1537	2
Petrus Sylvius, <i>Tfundament der medicinen ende chirurgien</i> A voluminous compilation of medical and astrological knowledge on a wide range of topics, including bloodletting, horoscopes, uroscopy, anatomy, surgery, plague, herbal medicine, women's and children's diseases, and healthcare for horses.	1530, 1532, 1540	9
<i>Der vrouwen natuere ende complexie</i> Translation of the first two books of Michael Scotus' <i>Liber physiognomiae</i> . Information (mainly for men) about types of women and their sexuality, how to generate male or female children, pregnancy, breastfeeding, dreams (related to the four complexions), the complexions of various kinds of meat, and of various human body parts.	c. 1531, c. 1535, c. 1538, c. 1540, 1555, 1563	7
Hieronymus Brunschwig, <i>Dits dat hantwerck der chirurgien</i> Translation of Brunschwig's <i>Cirurgia</i> (first published Strasbourg 1497), the first printed manual on surgery. Part of the woodcuts are copied after Hans von Gersdorff's <i>Feldtbuch der wundtartzney</i> (Strasbourg 1517).	1535	6
Johannes Indagine, <i>Chyromantia Ioannis Indagine</i> Translation of Indagine's <i>Introductiones apotelesmaticae elegantes in chyromantiam, physiognomiam, astrologiam naturalem, complexiones hominum, naturas planetarum</i> (Strasbourg 1522). The three main books deal with chyromancy (palmistry), physiognomy (judging character from facial traits), and astrology.	1536, 1554	5
15 titles	51 editions	120 copies

Chronologically my selection covers the first half of the sixteenth century – the decades when the market for medical-astrological works in Dutch with multiple illustrations began to surge.⁸⁸ This early age of print has been character-

⁸⁸ Before 1500, only a handful of illustrated books were published on these topics, most notably the Dutch *Herbarius* or *Kruydt-boeck* (Leuven: Johan Veldener, 1484) and Bartholomaeus Anglicus' *Van den proprieteyten der dinghen* (Haarlem: Jacob Bellaert, 1485). As they appeared so much earlier than the other illustrated works on nature and health, I have not included them in my corpus as the chronological gap of more than twenty years might have distorted my findings.

ised as ‘a period of innovation, experiment and compromise.’⁸⁹ I have selected works that were published several times before 1550, either in multiple editions in Dutch, or in Dutch and other languages. The appearance of multiple editions within this half century suggests, firstly, that there was, indeed, an audience for these works. Moreover, it means that their paratextual and visual traditions were established during this period. The period under consideration largely coincides with the traditional demarcation of ‘post-incunabula.’ In book historical studies of the Low Countries, the distinction between incunabula (printed before 1501) and post-incunabula (printed between 1501–1540) has always been and continues to be prominent, despite its arbitrary nature.⁹⁰ Any other demarcation in time is bound to be equally arbitrary, however. For this reason, the end date for the corpus is not treated too strictly, as some of the texts studied here continued to be published until the seventeenth century or even later.⁹¹ The first half of the sixteenth century is commonly denominated for the Low Countries either as ‘late medieval’ or ‘early modern.’ Although a fundamental stance on periodisation is not my aim here – except that attempts at strict demarcation of periods are neither possible nor fruitful – I will mostly use ‘early modern’ because many of the books studied here continued to be used for a long time after their publication.

With respect to language, the second selection criterion, my study concentrates on Dutch, the major vernacular in the knowledge and reading cultures of the Low Countries. Although I will regularly refer to Latin and vernacular versions of the works in my corpus (especially in German and English), my research is not set up as a comparative study. Such a study would be interesting for future research, to explore more systematically how similar books in different languages are related and to what extent they differ in their use of images. Of the

89 McKitterick 2003, 8, referring to the fifteenth and early sixteenth centuries. Vervliet 1978, 2 speaks of the ‘metamorphosis of printing from the swaddling-clothes of the incunabula period to an adult typography.’ Delsaerd 2017 argues that in the post-incunabula period (1501–1540), the printed book in the Low Countries gained increasing independence from manuscript tradition.

90 NK is still the most detailed bibliography of works printed in the Low Countries between 1501 and 1540. NK mentions for each edition whether it contains woodcuts, but does not describe them. On the distinction between incunabula and post-incunabula, see Gruys 1991.

91 This applies to *Der scaepherders kalengier*, *Der vrouwen natuere*, *Thuys der fortunen*, *Tfundament der medicinen*, *Den sack der consten*, *Roseghaert*. The later editions tend to be smaller in size and with fewer illustrations (or no illustrations at all), as for example *Der vrouwen natuere* and *Tfundament der medicinen*. In the case of *Thuys der fortunen* there is a gap of more than half a century after the edition of c. 1540 and the next known edition (1606). I have used such fault lines in the transmission history to determine for each work what the latest edition in my corpus would be.

studied works, one is truly bilingual: *Dat regiment der ghesontheyt* conveys health advice and information on the months and the zodiac in short verse texts, all of which are included both in Latin and in Dutch. In the other works, Latin terms are regularly inserted in Dutch sentences for technical terms such as names of instruments, plants (*Den groten herbarius* also provides names in Greek and Arabic), diseases, body parts, and astronomical phenomena. In most of these cases, such terms are accompanied by a translation or explanation in Dutch.

The third criterion, the focus on editions with multiple woodcuts set within the text, excludes editions with only an image on the title page.⁹² Title page images fulfilled important communicative and persuasive functions as a framework of interpretation for an entire book. Thus, they functioned differently from images within the text, which usually pertain to a specific part of the work. My focus on woodcuts also excludes other forms of printmaking, such as engravings, but these do not appear in Dutch medical and astrological books of this period.⁹³ Further, I did not study ornamental woodcut borders and initials.⁹⁴ Some texts in my corpus also appeared in unillustrated editions. For example, health regimens – a widespread text type throughout Europe to which *Dat regiment der ghesontheyt* and *Tregement der ghesontheyt* belong – were published much more commonly without than with illustrations. And the Dutch *Chyromantia* has many more illustrations than its Latin source edition.⁹⁵ This underscores that images, even when present, were not always *required* and, therefore, that the possible motives for and effects of adding images call for closer study. In this study, I use the terms ‘illustration’ and ‘illustrated’ solely to indicate that images are embedded in a book which for the major part consists of text. These terms are not meant to suggest that images are subordinate to the text, however, as a text passage can just as well be subordinate to an image, or both can be equally important.⁹⁶ For this reason, I will mostly use the more general term ‘image.’

92 For this reason, I excluded for example the book of secrets *Tbouck van wondre* (Brussels: Thomas van der Noot, 1513). Pouspin 2016 and 2017 analyses the functioning of title page images for a corpus of vernacular works in French with only an image on the title page.

93 Engravings circulated as single-sheet prints already in the fifteenth century, also in the Low Countries. Joyce Zelen is preparing a volume on Netherlandish and German engravings from the fifteenth century in the *New Hollstein* series.

94 These are present in the majority of editions under consideration, the borders often with floral and sometimes animal motifs. These motifs do not seem to have been chosen by the printers for a particular meaning in relation to the text.

95 A comparison between the Latin and the Dutch *Chyromantia*: Chapter 4 and Van Leerdam 2019a. See also Swan 2006 on the absence of images in many herbals.

96 These three types of image-text relations have been described by Roland Barthes as illustration (text takes precedence over image; the image limits the possible meanings of the text), anchorage (image takes precedence over text; the text limits, or ‘anchors,’ the possible meanings of the image), and relay (image and text are complementary fragments that jointly form a meaningful whole); Barthes 1977a, 25; Barthes 1977b, 38–41; see also

Fourthly, the sources broadly share a common theme: they aim to convey knowledge on health, human nature, and the cosmos, based on the theory of the four bodily humours in which medical and astrological aspects are closely intertwined.⁹⁷ My corpus is not intended to represent a clearly defined book type, however. Apart from a common theme, there are considerable differences between the selected titles, as will become clear throughout this study, not just with respect to design and illustration practices but also for example in the presence of specialist knowledge, entertainment elements, and traces of use. The thematic coherence enables me to focus primarily on the variety in mechanisms of communication rather than on the knowledge itself.

Structure of the book

This study is organised in five chapters. The first four chapters unravel the mechanisms and strategies of visual communication and presentation that book producers applied. In these chapters, I analyse images and their visual language in conjunction with texts, paratexts, and *intended* readers. Chapter 5 takes the perspective of the *actual* readers, focusing on early modern owners' marks and traces of use in individual copies.

Chapter 1 identifies the fundamental characteristics of the subject matter as well as the material appearance of the medical-astrological books in Dutch, and of the medical culture and print culture in which these books functioned, on which subsequent chapters will build. Chapter 2 analyses how the woodcuts contribute to the organisation of knowledge in three overlapping domains: a conceptual, intellectual domain; the domain of page design; and the domain of classifying the communicative genre to which a book belongs. Chapter 3 focuses on contemporary perceptions of the epistemic functions of images. It analyses the ideas that are reflected both explicitly and implicitly in the medical-astrological books – in particular, in textual references to images and in strategies of copying – about what analytical images do, how they communicate effectively, and how they can be used as knowledge tools. Chapter 4 discusses the contribution of woodcuts to the perceived reliability of knowledge, by focusing on two strategies that stand out: conveying authority and evoking

Bateman 2014, 34–35. The keyed diagrams of human anatomy in *Fasciculus medicine* provide examples where image and text are equally important or where the images even function as more or less independent units in the book.

⁹⁷ See Chapter 1. Not all of the selected texts deal with medical-astrological matters in their entirety. For example, *Thuys der fortunien* includes moralising verses as well, and *Den sack der consten* contains several recipes and tricks related to a comfortable and amusing life in general. In each of the selected texts, however, a significant part of the contents (roughly speaking, at least half of the book) explicitly concerns health and human nature.

playfulness. Although the latter might be thought to undermine reliability at first sight, I will posit that both motifs, in fact, work to gain readers' trust by encouraging their active involvement. Chapter 5 looks at the owners' marks and traces of use left by readers from the sixteenth and seventeenth centuries, addressing how these readers engaged with illustrated books on medicine and astrology, and with images and other visual elements in particular.



Detail of Fig. 1.8

CHAPTER 1

Bodies of Knowledge



Dutch Medical-Astrological Books between 1500-1550

In order to gain insight into the roles of book illustrations in the transmission of medical-astrological knowledge, it is first important to have a clear understanding of the types of books in which these images appear and of the sixteenth-century medical culture and print culture in which they functioned. This chapter introduces a number of key characteristics on which subsequent chapters will draw. It first shows why medical and astrological theory and practice in the sixteenth century necessitated the organisation of knowledge and an emphasis on reliability. It then discusses common practices of copying, reuse, and translation – both of images and texts – that shaped the ways in which images visualised knowledge. I introduce a distinction between narrative and analytical features in images, which will serve as a heuristic analytical tool in subsequent chapters for unravelling how and why different kinds of images were combined. The final part of the chapter discusses the intended audiences of these books on the basis of various textual and material indications.

1.1 | Medicine and astrology in the sixteenth century

Macrocosm and microcosm

Medicine and astrology were intertwined in theory as well as practice throughout the Middle Ages until well into the early modern period. This intertwining of both fields made perfect sense in the context of the underlying worldview, which was fundamental to the organisation of knowledge about nature and the human body. The cosmos was inherently harmonious and well-structured, according to medieval and early modern perceptions, because it was created by God. This neatly organised worldview is condensed into the theory of humoral pathology, which considers the microcosm of the human body to be intricately

connected to and affected by the macrocosm of the planets and the stars.¹ This theory was based primarily on Hippocratic and Galenic traditions that were transmitted to the Arabic world and that entered medieval Europe around the eleventh century through the school of Salerno. Although the finer points of humoral pathology evolved, from Antiquity, over many centuries, and could be subject to fierce philosophical and medical debate, modern scholarship has shown that the foundations of the doctrine were remarkably coherent and consistent. They form the bedrock of all the works studied here.

In this system of thought, the human body (microcosm) consists of four fluids or humours: blood, yellow bile, black bile, and phlegm. Each corresponds to one of the four temperaments or ‘complexions’ (*complexien*) as the Dutch texts call them (sanguine, choleric, melancholic, phlegmatic) and to one of the four elements (air, fire, earth, water).² Differences between individuals – in character, physical appearance, health, fortune in life – are accounted for by differences in their relative quantities of humours, caused predominantly by the constellation of the planets and stars at the time of birth.

The cosmos (macrocosm) in which these constellations formed, was conceived in the medieval and early modern geocentric worldview as a gigantic globe consisting of concentric shells, called spheres, which each have their own planet. The spheres revolve around each other and thus cause the movements of the planets. Ideas about the exact number of spheres differed, but among the outer spheres, without planets, are in any case those of the fixed stars (*firmament*) and the *primum mobile*, the ‘first moved,’ which was thought to set the other spheres in motion. Beyond the concentric spheres is the Empyrean, where God and the blessed souls reside. Motionless in the centre of the cosmic globe is Earth, the place that is farthest away from God.³ The earthly or sublunary sphere is the transient part of Creation, where the four elements constitute the primary ‘building blocks’ of which everything is made. The planets exert their influence on this ever-changing sublunary region. In the celestial region, from the sphere of the Moon up, everything is eternal and made of the fifth element, ether. In line with this distinction between the transient sublunary and the unchanging supralunary, medieval humoral pathology distinguishes sharply between the human body and the mind: the planets only influence the mortal

1 The present section draws particularly on LexMA-O, ‘Humoralpathologie,’ ‘Astrologie’; Van Leerdam et al. 2014; Jacquart 2013, 596–606; Arikha 2007; Siraisi 1990, 104–106; Seznez 1972, 45–50; Klibansky, Panofsky, and Saxl 1964, 3–15.

2 The Dutch word *temperament* was not used until 1634; WNT, ‘temperament.’

3 After Copernicus’ introduction of the heliocentric worldview in 1543, the Ptolemaic geocentric worldview continued to endure. The cosmos diagrams in *Der scaepherders kalengier* of 1576 and *Thuys der fortunens* of 1611 still show Earth at the centre.

body, whereas God has endowed the mind with free will, giving humans the responsibility to take control over their natural inclinations. This acknowledgement of free will was an important – and tirelessly repeated – argument in the legitimisation of astrology as a reliable and valid method of knowledge production.

All parts of Creation, including the humours, are qualified by combinations of the primary qualities hot/cold, moist/dry. Through these qualities, connections are established between human temperaments, the elements, planets, seasons, ages, animals, plants, body parts, types of food, and other aspects of life. For example, the choleric temperament is dominated by yellow bile, which is hot and dry, and it associates with the element of fire, the colour yellow, the season of summer, and the planet Mars. Medical-astrological treatises and health regimens explicate such connections and prescribe which practices and remedies are beneficial to which types of people, at what time of year, at what age, in order to maintain or restore a healthy humoral balance. Disease is essentially a disbalance in the humours and, consequently, in the qualities hot/cold and moist/dry. People of a choleric complexion, for example, are said to be thin because of their dryness, rapid in their speech and movements because of their heat, and quarrelsome, clever, and audacious. Their heat makes them susceptible to fever. To drive out excessive cholera, they need to eat cold and moist foods – *Trege ment der ghesontheyt* (1514) advises rhubarb, *cassia fistula* (golden rain tree), chicken, veal, and wine, among other things⁴ – and they should not have much physical exercise. It was of great importance to know the right moment for medical treatments, notably in the case of letting blood, depending on the zodiac sign and the season, the time of day, the patient's age, and to know which vein to let at which time.

The strong tie between medicine and astrology was only loosened in the seventeenth century, when astrology was gradually removed from the academic curriculum.⁵ In popular medicine, however, humoral theory remained foundational until the nineteenth century.

Disciplines and practitioners

Like medical theory, practical healthcare was largely characterised by continuity between the later Middle Ages and the early modern period.⁶ A paradoxical

4 Trege-1514, fol. c4v.

5 Vermij and Hirai 2017, 406–407 point out that, to date, no satisfactory explanation has been proposed for the occurrence of this 'marginalization of astrology' in this period.

6 Fissell 2011, 417 observes 'deep continuities' in medical publishing for lay healers until approximately 1640. Siraisi 1990, 48 points to a continuity between the thirteenth and

aspect of that continuity is that both medical practitioners and astrologers were regularly faced with challenges to their authority, in intellectual as well as social terms. These challenges were related to the intellectual status of the *disciplines* of medicine and astrology as well as to the expertise and social status of individual *practitioners*. The reliability of medical and astrological knowledge, another key theme of the present study, was thus a matter of ongoing debates within universities as well as in society at large.

Within the structure of scholarly disciplines, the intellectual status of medicine incited disputes particularly because of the interwovenness of theory and practice, each with their own approaches and epistemic values.⁷ Medicine was classified both as *scientia* (theoretical, fundamental knowledge) and as *ars* (practical knowledge, craft). As *scientia*, it had been an established academic discipline since the early days of the universities around 1200: like law and theology, it was one of the higher faculties that students could enter after graduating in the seven liberal arts at the arts faculty. The discipline was divided into *medicina theorica* and *medicina practica*, both taught at the university (and both largely text-based). Their mutual subclassifications and diverging and sometimes clashing methods of knowledge production (for example the contested value of *exempla* or case studies as sources of knowledge) were at the heart of many scholarly debates.⁸

At the same time, medicine was classified as one of the *artes mechanicae* (mechanical arts, i.e. practical disciplines or crafts) and education and training took place outside of the university context as well.⁹ Practitioners such as surgeons, barbers, apothecaries, and midwives were trained in practice through a master–apprentice system – the male practitioners commonly within the guilds.¹⁰

seventeenth centuries in the institutional organisation, the curriculum, and the ‘claims to social and intellectual primacy’ of university-trained physicians. Likewise, J. Henry 1991, 218 states that the Renaissance ‘saw no major or lasting changes in the institutions of medicine.’ On developments in the regulation and professional organisation of medical occupations during the sixteenth century, see Murphy 2012 (on ‘medical reformation’ in Nuremberg); Van Hee 2002 (on barbers and surgeons in the Low Countries).

7 This paragraph draws in particular on LexMA-O, ‘Ars medicinae’; Schütte 2017, esp. Chapter 2 (31–72); Jacquart 2013, 590–592; Murphy 2012, esp. Chapter 3 (57–86); Cook 2006; Huizenga 2003, 324–346; Stolberg 2002; Siraisi 1990, 49–55. On the classification of disciplines: Cadden 2013; Blair 2007a, 288–293; Bacher 2000a and 2000b. Wallis 2010, 205–317 presents various medieval sources that reflect debates on the status of medicine as a science or an art. In Gregor Reisch’ classification of disciplines in *Margarita Philosophica* (1503), medicine is part both of physics (classified under theoretical philosophy) and of the mechanical arts (classified under practical philosophy); Cunningham and Kusukawa 2010, xxxv.

8 Jones 2013; Stolberg 2003.

9 Medicine was classified as one of seven mechanical arts, for example, by Hugh of St. Victor in the twelfth century in his *Didascalicon*, Book 2, Chapters 20 and 26.

10 On the training of surgeons and barbers: Huizenga 2003, 238–242; Van Hee 2002, 110 and

Historian of science Pamela H. Smith points out that humoral pathology served as an ‘organizing framework’ for all kinds of artisanal, practical knowledge.¹¹ Thus, theory and practice were intertwined both in an academic context and in daily practice.¹² Indeed, historian of science John Henry observes that basic knowledge of humoral pathology was present throughout society as ‘part of everyone’s mental furniture.’¹³ It was paramount to know about one’s own constitution in order to be able to provide a doctor with the necessary information in case of illness.

A multitude of different kinds of practitioners – both professionals and laypersons – were active in medicine and healthcare.¹⁴ University-trained physicians primarily focused on making diagnoses and prescribing medication. Many European cities had officially appointed town physicians. They competed for patients with surgeons and barbers, who commonly did handwork such as treating wounds and fractures and pulling teeth, but also did not hesitate to provide diagnoses and prescriptions (and charged less money than the physicians did). Apart from the more or less formally trained practitioners, many others were also engaged in providing healthcare: local healers; nurses in convents, hospitals or poorhouses; and not to forget a host of quacks and charlatans. Moreover, within domestic settings, ordinary people also took care of their own health, for example by preparing herbal remedies and medicinal foods, and treating wounds, colds, and other common inconveniences. With the emergence of print culture, an increasing number of how-to books was offered to assist in these kinds of do-it-yourself healthcare. At the same time, manuscript culture remained vivid as early modern household members also continued to compile their own collections of handwritten recipes and medical instructions.¹⁵

The multifaceted social organisation of medical practices gave rise to competition and controversies that could be quite fierce and that resonate in the medical books. As a result, the organisation and legitimation of medical knowledge were closely intertwined, as subsequent chapters in the present

121–128; Siraisi 1990, 177–186. On the training of apothecaries: Halikowski 2009; for the Low Countries: <https://www.nationaalfarmaceutischmuseum.nl/artikelen/een-vak-apart> (accessed 23 April 2023). Green 2008, esp. 134–140 discusses why midwives, and their training, were much less organised than male medical professions. On midwives, see also Rietveld-De Jong 2008, 237–239.

11 Smith 2014, 31.

12 Siraisi 1990, 48.

13 J. Henry 1991, 210.

14 Jones 2011; Cook 2006, 417–419; Huizenga 2003, 221–232; J. Henry 1991; Pelling and Webster 1979. Specifically for the Low Countries: Van Hee 2002, 108–121.

15 Van Krimpen, Van Velzen-Barendsen et al. (forthcoming); Leong 2018a; Leong and Pennell 2007.

study will further illustrate. Academic physicians found themselves in what has been called a ‘situation of dual conflict’: on the one hand, they had to legitimise their discipline’s position towards other academics; on the other hand, they experienced tough competition from other practitioners in the health market.¹⁶ A hierarchical distinction was widely upheld – perhaps less as a social reality than as a rhetorical construction¹⁷ – between university-trained physicians, on the one hand, and professionally trained surgeons and barbers and apothecaries on the other. This hierarchy gave rise to mutual criticism expressed – explicitly or implicitly – in many medical works, especially in their prefaces. It was a commonplace to complain about incompetent or even fraudulent practitioners, often with an eye to increasing one’s own reliability or that of one’s own professional community.¹⁸ For example, Hieronymus Brunschwig, who was a surgeon and apothecary in Strasbourg and the author of *Distellacien* and *Hantwerck*, criticises unlearned ‘masters’ who administer the wrong medications.¹⁹ Brunschwig particularly endeavoured to present the surgeon’s hands-on experience as a reliable source of knowledge (see Chapter 3). The Antwerp physician Petrus Sylvius, who wrote *Tfundament der medicinen*, blames barbers for letting too much blood, including healthy blood, thus forcing their customers to keep coming back.²⁰ He also blames ‘masters’ who keep knowledge to themselves that could benefit the common good. His rant against such egoistical secrecy testifies to conflicting ideas about access to medical knowledge.²¹ At the same time, Sylvius’ invective is evidently a clever strategy to promote his own book, which, as he claims, will share all this knowledge.

In practice, the hierarchical distinction between physicians and other medical professionals was perhaps not as clear as the former would have liked, and different groups intermingled in all kinds of ways. For example, physicians and surgeons were sometimes united in a single guild; surgeons made diagnoses and thus ventured into the traditional domain of the physicians; and

16 Schütte 2017, 278 (‘doppelte Konfliktsituation’) and abstract in English. See also the case of competition discussed in Stolberg 2007: when physicians became reluctant to perform uroscopy because of the risk of misdiagnosis, patients turned to lay healers who continued to apply this widely appreciated means of diagnosis.

17 J. Henry 1991, 192–195.

18 Bouwmeester and Van Vledder 2016 provide various examples from the Low Countries. Halikowski 2009, 38–41 discusses the troublesome relations between apothecaries and physicians. Jurina 1985, 257–292 provides numerous visual examples of physicians being ridiculed. See also Cook 2006, 419; Eamon 1994, 94–95; Slack 1979, 257.

19 Dist-1517, fol. A1r.

20 Tfund-1530, fol. 2A2r.

21 Eamon 1994, specifically 142–143 on the topos of revealing secret (medical) knowledge for the common benefit. On secrecy in early modern science, see also Davids 2005a and 2005b; Long 2001.

conversely, physicians started to apply empirical methods of surgeons and even charlatans in attempts to compete with such popular healers and to legitimise these practices in the context of learned medicine.²² It is important to note that the expressions of mistrust or accusations of incompetence pertain to the acts of practitioners rather than to the underlying theory of humoral pathology, which still enjoyed virtually unwavering confidence during the first half of the sixteenth century.

Practitioners of astrology, too, regularly had to defend their art. Perhaps even more fiercely than in the case of medicine, controversy raged over the validity of its methods and over its intellectual status. Astrology was, in any case, closely related to astronomy, but the difference between both was by no means as clear-cut as it is today and both were studied and practiced within as well as outside of the university. Astronomy, the study of the movements and shapes of celestial bodies, was one of the liberal arts. Astrology, the study of the influence of these movements on earthly life, was seen as a subdiscipline or as a practical extension of astronomy, but in many cases the two were not clearly distinguished at all and the terms could be used interchangeably.²³ Similar to medicine, too, was that astrology's theoretical basis was largely uncontested. Until well into the sixteenth century (or even later), it was widely assumed that the planets influenced life on earth.

There was controversy, however, not least among astrologers themselves, about how and to what extent humans are capable of understanding and predicting these influences.²⁴ Throughout the centuries, but with heightened intensity in the fifteenth and sixteenth centuries when many popular works of astrology were printed, critics drew on two recurrent arguments: that astrological knowledge was uncertain or even speculative, and that it was deterministic. In these debates, a distinction was often made between natural and judicial astrology. Natural astrology was commonly allowed, also within the universities;

22 On the appropriation of non-scholarly empirical methods among university-trained physicians: Rankin 2021 (esp. Chapter 3) and 2017 (esp. 277); Stolberg 2014; Murphy 2012, esp. 255–257; Huizenga 2003, 244–245. The intermingling of scholarly knowledge and craft knowledge occurred in many fields in this period, as has been demonstrated seminally by Long 2011. Stolberg 2015b argues that physicians' oral communication to patients differed from learned medical writings because physicians attempted to meet their patients' expectations and beliefs, lest they should turn to competing healers. Van Hee 2002, 111 mentions a case in the Low Countries of a physician who entered the guild of barbers-surgeons.

23 Cadden 2013, 243; North 2013, 458–459, 473–474; Rutkin 2006, 543; Moyer 1999, 228–229; French 1994, 33–34.

24 For this paragraph I draw especially on Barnes 2016, 11–12; Salman 1999, 42–43; Van Kampen, Pleij, Stumpel et al. 1980, 15–18; Capp 1979, 16–17; Chapman 1979, 279; Seznec 1972, 42–49; Thorndike 1941, 159–177. Marianne Winder's bibliography of German astrological texts contains a section with 'anti-astrological literature' which includes a variety of satirical publications; Winder 1966, nrs. 202–243.

it focused on understanding the influence of the planets and stars on natural phenomena such as the weather, harvests, and human complexions in a general sense. Judicial – or artificial – astrology, by contrast, was condemned as too deterministic: it claimed to predict specific events and thus did not leave room for the interference of humans' free will.²⁵ Indeed, it could even be associated with practices of magic, divination, and superstition.²⁶

Already throughout the Middle Ages, therefore, many astrological works hastened to justify their content through disclaimers acknowledging that free will is not governed by the stars and that man, as a result, is able to withstand the inclinations caused by celestial influences (according to the Latin adage *astra inclinant, sed non obligant*). The preface of *Thuys der fortunten*, a so-called book of fortune that tells the reader's fortune in a game-like way, cautions readers with respect to its predictions: *al vallet somtijts waer, men sal daerin niet te vast gelouen* ('though it may sometimes happen to be true, one should not believe in it too firmly').²⁷ Willy L. Braekman, scholar of Dutch popular literature, surmises that such a disclaimer was apparently successful since the Church never placed *Thuys der fortunten* on the index of forbidden books.²⁸ Apart from the issue of determinism, the difficulty to prove or refute astrological predictions was also a source of controversy, engendering mutual accusations of falsehoods or trickery among astrologers. In the Dutch sources, this becomes most clear in *Chyromantia*, in the preface by the anonymous translator into Dutch. The translator ends an exceptionally lengthy and rather defensive praise of the importance of natural astrology with a reference to the controversy to which it was subjected: 'One is not to pay attention to, nor believe, the tricksters who reject and condemn this art, claiming that it is uncertain because the writers often oppose each other, as if there were any art in which the writers agreed on everything.'²⁹

25 The translator's preface to *Chyromantia* emphatically praises only *Astrologi naturael*: *Want die Astrologie artifiaciael is van die geleerden ghedamneert ende verdreuen* ('because artificial astrology has been condemned and dispelled by the scholars,' fol. B4v).

26 On the relations between astrology, divination and magic: Boudet 2006.

27 *Thuys*-1518, fol. A2r. The emphasis on free will is repeated on the last page (P4v) and on K2r in the passage introducing the foldout sheet that displays the 'house of Fortune' with each planet coupled to a natural inclination (see Fig. 2.21 on p. 116).

28 Braekman 1980–1981, 14–15. *Thuys der fortunten* did provoke criticism, however, by Joannes David in his *Christelicken Waerseggher* (Antwerp: Jan Moerentorf, 1603); see Meeus 2015, 348–353. David fulminates against *Thuys der fortunten* for drawing readers – and young readers in particular – 'to superstition, fortune-telling and such ungodly rashness' (cited in Meeus 2015, 349).

29 *Men sal nyet hooren noch oock ghelouen die guychelaers, die welcken verwerpen ende damneren dese konsten, seggende dat si onseker zijn, daer om, dat die scriuers dicwil teghens malcander lopen, ende gheuoelen dicwyl contrari malcander als recht oft daer enighe const waer, in welcken die scrijvers in alle dinghen accordeerden*. Chyro-1536, fols. C1v–C2r.

1.2 | Circulating texts and images in medical-astrological books

The ways in which the Dutch illustrated books present medical-astrological knowledge is strongly influenced by their textual sources as well as by two defining features of their woodcuts. With respect to the texts, many of the works studied here were translations of recent or earlier works, while a substantial group also seems to have been compiled specifically for the Dutch market. The first defining feature of the woodcuts is that the vast majority was not made as a new design but copied or reused, often deriving from German sources. Secondly, the image programmes are characterised by the combined presence of analytical and narrative elements.³⁰ Both characteristics need to be interpreted as highly significant elements of sixteenth-century visual practices. They provide insight into book producers' strategies of conceiving illustrated books that were meant to transmit medical-astrological knowledge.

Compiling, translating, and creating medical-astrological knowledge

In the first half of the sixteenth century, the market for practical and instructive works expanded, both for illustrated and unillustrated works. On the one hand, medieval 'bestsellers,' such as health regimens and instructions for bloodletting, continued to live on, gaining new appearances in print and attracting new and larger audiences. Putting such 'classics' into print is commonly considered by scholars of early print culture as a secure and steady source of income for printers, who had to cope with the development of new business models in a rapidly changing, competitive business. On the other hand, by the early sixteenth century, the medium became increasingly important for the exploration and dissemination of new forms of knowledge, for example in books of anatomy, herbals, almanacs, and books of secrets. Images took up new roles in knowledge production, for example as visual arguments or eyewitness accounts (see also Chapter 3). These dynamics of traditional and new knowledge were constantly at play, both in content and form.

The vast majority of works studied here are presented in new forms that are specifically tailored to the print market (in terms of their title, text compilations, layout, etc.) even when the texts derive from earlier (fifteenth-century or much older) sources. The sources from which the book producers in the Low Countries have drawn testify to the transnational character of knowledge circulation and to the strong impetus that the printing press provided in this

³⁰ I use the term 'image programme' in this study to refer to the entire set of images in a single edition. I distinguish image programmes from image series, see Chapter 2.

process. Especially German works seem to have been used as sources. A number of these were, in turn, translated from Dutch into English. Appendix 1 provides details of each of the works in the corpus.

Only three of the fifteen texts can be considered medieval ‘bestsellers’ that were published with roughly the same textual content with which they had circulated for centuries. *Dat regiment der ghesontheyt* is based on the *regimen sanitatis* tradition, a didactic verse text on maintaining good health. *Tregement der ghesontheyt* is a translation of a fourteenth-century *regimen sanitatis* by the Italian physician and astrologer Magninus Mediolanensis. *Der vrouwen natuere ende complexie* is a translation of part of Michael Scotus’ *Liber physiognomiae* (1220).

As many as seven of the fifteen works are translations of newly written or newly compiled works from the late fifteenth and early sixteenth century. The medical anthology *Fasciculus medicine* was first published in Latin in Venice, 1491; the herbal *Den groten herbarius* is a translation of the *Gart der Gesundheit* (first published in 1485); the distillation manual *Distellacien* is a translation of Hieronymus Brunschwig’s *Small Book of Distillation* (first published in 1500); *Der dieren palley* is a translation of the book on animals from the *Hortus sanitatis* (first published in Latin in Mainz, 1491); the midwifery manual *Roseghaert* is a translation of Eucharius Rösslin’s *Der swangern frauwen und hebammen rosegarten* (first published in 1513); *Chyromantia*, which comprises treatises on chyromancy, physiognomy, and astrology, is a translation of Johannes Indagine’s *Introductiones apotelesmaticae elegantes in chyromantiam, physiognomiam, astrologiam naturalem, complexiones hominum, naturas planetarum* (first published in Latin in Strasbourg, 1522); the surgery manual *Hantwerck* is a translation of Hieronymus Brunschwig’s *Das Buch der Chirurgia* (first published in 1497).³¹ One work in the corpus, the medical anthology *Tfundament der medicinen*, was written or at least compiled by a named author from the Low Countries, Petrus Sylvius of Antwerp. The Dutch edition of 1530 was the *editio princeps*.³²

These (translations of) ‘new’ works thus make up roughly half of the corpus. ‘New’ should, of course, be nuanced, as these works also draw heavily on medieval and classical authorities. *Fasciculus medicine*, for example, is primarily

31 Rösslin and Indagine were still alive when their works were published in Dutch (unlike Brunschwig), but there are no indications that they were involved in any way in the translation process or in the design and arrangement of the translated editions.

32 The year 1530 is retained in the prefaces to the editions of 1532 and 1540. No translations of this work are known in other languages. Petrus Sylvius was from Antwerp, as he states in his signature at the end of the preface (*Petrus Syluius Antuerpianus Anno MDXXX, Tfund-1540*, fol. A2v). He must have been a medical professional, judging from his remark that [*d*]aerom sal ick ooc minen dienst ende arbeyt in die lichamelike medicine bewisen totten gemeynen nut, profite ende bate (‘For this reason I will provide my service and labour in bodily medicine for the common benefit,’ fol. A2r). Biographical information about him is lacking, however.

a compilation of treatises from different periods, but it was compiled – and its woodcuts designed – specifically for the print market and subsequently translated in this form.³³ *Den groten herbarius* is a clear exponent of the medieval herbal tradition in which Dioscorides was the main authority on medical knowledge of plants. Yet, the medical-astrological works often interweave references to traditional *auctoritates* with observations from contemporary medical practice. Hieronymus Brunschwig, the author of *Distellacien* and *Hantwerck*, explicitly states that he bases his work both on bookish knowledge and his own hands-on experience.³⁴ In *Tfundament*, Petrus Sylvius also refers both to classical authorities and to his own professional experience.³⁵ Thus, these works testify that observation and empiricism were increasingly valued as reliable ways of knowledge production in the sixteenth century, while traditional authorities also continued to be used as foundational sources of reliable knowledge.³⁶ The images reflect this gradual shift, as we will see throughout subsequent chapters: many are based on medieval iconographies while other, more recent designs reflect the growing importance of empirical and observational knowledge, such as the distilling instruments shown in *Distellacien*, the face types in the physiognomy section of *Chyromantia*, or the surgical devices in *Hantwerck*.

Significantly, of the seven translated ‘new’ works, six are of German origins.³⁷ The woodcuts, too, testify to a strong orientation on German source material, as will be discussed below. Both the texts and the woodcuts could either be translated/copied literally or with larger or smaller adaptations. Some texts were translated relatively quickly into Dutch. This applies in particular to the *Roseghaert* (1516), which was published in Dutch just three years after its original publication in German, earlier than its translation into any other vernacular. *Chyromantia* (1536) was published in Dutch fourteen years after its initial appearance; in this case, too, the Dutch translation came earlier than those in French and English. While *Fasciculus medicine* was not translated into Dutch particularly quickly – 21 years after its first appearance – the fact that it was translated is noteworthy, as Italian and Spanish are the only other vernaculars in which this work is known. Moreover, this work provides a rare instance where

33 Coppens 2009b, 169–170 on the persistent yet incorrect attribution of the work to Johannes de Ketham.

34 Dist-1517, fol. a2r. See also Rankin 2014, 116–122; Taape 2014, 248–249.

35 Tfund-1530, fol. A2r.

36 Long 2011; Daston 2011; Huizenga 2003.

37 *Fasciculus medicine* is the only translation based on an edition (in Latin) printed in Italy. *Dat regiment der ghesontheyt* most likely also had a German source edition; the bilingual (Latin and vernacular) verse text appears nearly identically in German editions, but without illustrations. See Appendix 1.

the Dutch translator's name is known. This Petrus Antonianus – about whom nothing else is known – identifies himself in the preface.³⁸

In addition to three medieval 'bestsellers,' seven more or less integrally translated 'new' works and one 'new' work by a contemporary Netherlandish author, the corpus comprises four anonymous compilations that seem to have been tailored specifically to the print market in the Low Countries; no exact counterparts are known in other languages. *Tscep vol wonders* addresses a variety of astrological and medical topics in a series of short chapters, while also comprising a long treatise on *quinta essentia* based on the work of the fourteenth-century alchemist John of Rupescissa. We may safely assume that the printer Thomas van der Noot was the compiler and translator of *Tscep vol wonders*, but he does not identify himself as such in the book except through his printer's mark.³⁹

Thuys der fortunien stands in the tradition of so-called books of fortune, a kind of interactive horoscopes where readers proceed through various steps, determined by throwing dice or spinning a wheel of fortune or, in this case, turning a pointer on a dial, to finally arrive at a 'personal' life advice or a telling of their fortune. In addition to the book of fortune, *Thuys der fortunien* also includes a range of short sections on a variety of medical and astrological subjects.

Der scaepherders kalengier, like the book of fortune, is part of an international tradition without being an integral translation of another work. 'Calendars of shepherds' also circulated in French (*Compost et kalendrier des bergiers*), English (*Calendar of Shepherds*) and German (*Schapherders Kalender*), all of which shared at least partially similar content. The transmission history of these works is extremely complex as both the traditions in different languages and the individual editions in the same language differ substantially.

The book of secrets *Den sack der consten* is compiled of even shorter texts than *Thuys der fortunien* and *Der scaepherders kalengier*: it is an entertaining parade of recipes, household tips and tricks, practical jokes, and magic tricks. Both *Tscep vol wonders* and *Den sack der consten* explicitly refer to their compilatory character

38 The only other instance in my corpus where the translator identifies himself is Rose-1516, where the printer Thomas van der Noot says that 'I, Th vander N' has translated the work from high German into 'our common language' (fol. n6r). *Chyromantia* and *Der scaepherders kalengier* also have a 'translator's preface,' but in neither case is the translator's name provided. On the role of translators: Rizzi 2018; Fransen, Hodson and Enenkel 2017; Cook and Dupré 2012; Besamusca and Sonnemans 1999.

39 The preface is written in the first person with references to the process of compiling and translating ('gathering fruits' from 'various orchards') as well as to the acquisition of a printing privilege (which was granted to Van der Noot in 1512, see Verheyden 1910, 209), and *Tscep-1514* and *Tscep-1520* contain Van der Noot's printer's mark. His name does not appear anywhere in the book, however. On the contents and possible sources of *Tscep vol wonders*, see Van Gijsen 1993.

in their prefaces, pointing out that they have drawn on a variety of sources from different languages.

As becomes clear in compilations such as these, text passages could circulate individually and be incorporated in ever-changing combinations. For example, *Tscep vol wonders*, *Thuys der fortunen*, and *Der scaepherders kalengier* share some of their content. Moreover, some of the recipes from *Den sack der consten* had appeared earlier in the unillustrated *Tbouck van wondre* (1513).⁴⁰ Furthermore, a passage on vapours in the air in *Thuys der fortunen* is also present in French and English ‘calendars of shepherds’ as well as in Gregor Reisch’ *Margarita philosophica* (first published Freiburg, 1503).⁴¹ My point is not to trace the origins of text passages, as that would, in many cases, be fruitless, but to emphasise what we may call the modular character of many of these early medical-astrological books. Pieces of old and new knowledge, long and short, bookish and experiential, faithfully translated or freely adapted, from classical and contemporary sources, could all be combined in ever new ways. As we will now see, printers deployed similar strategies of combining, reusing, and adapting in their use of woodcuts.

Reusing and copying woodcuts

The reuse and copying of woodcuts was a widespread practice during the early period of print. This could be done across different titles, across different editions of a title, and within a single edition.⁴² The vast majority of woodcuts in my corpus are either reused or copied; entirely new designs are rare. Indeed, many designs draw on iconographic conventions that already circulated in manuscripts.⁴³ The relief printing technique, whereby an image is drawn on a block and all parts are cut away that should not be printed, was highly suitable for reuse and copying and thus facilitated efficient use of the costly

⁴⁰ *Tbouck van wondre* (Brussels: Thomas van der Noot, 1513). Braekman 1989, 14–15.

⁴¹ Among others: *Compost et calendrier des bergiers* (Paris: Guy Marchant, 18 July 1493), fols. 16v–m1r; *Margarita philosophica* (Freiburg: Johann Schott, 1503), fol. D5r; *Kalender of shepherdes* (London: Richard Pynson, 1506), fols. N2v–N3r; *Thuys-1522*, fols. K1r–K2r.

⁴² Daniel Bellingradt uses the term ‘media recycling,’ both for texts and for images, and with respect to images distinguishes between ‘inspirational echoes’ (copied blocks) and ‘identical echoes’ (reused blocks); Bellingradt 2019, 24. Taylor Clement distinguishes between two types of reuse, which she calls ‘plural reproduction’ (reuse within a single book) and ‘afterlife reproduction’ (reuse across multiple books across time); Clement 2016, 387–388. For further literature on copying and reuse, see Introduction note 49.

⁴³ Early woodcuts with evident manuscript ancestors include, among many others, images of the zodiac signs (Hourihane 2007), many images of herbs (Olariu 2014; Baumann and Baumann 2010, 113), and of babies in wombs (Green 2009, 173–180; Roberts and Tomlinson 1992, 15–17, 22–23). For an overview of iconographic themes in medieval medical miscellanies, see Gross 1993.

woodblocks.⁴⁴ Woodcuts were an efficient technique for three reasons in particular. First, unlike engravings, they could be combined with moving type in one print form, thus allowing for the production of leaves containing both text and images in a single impression.⁴⁵ Secondly, they were durable: it is estimated that a block could last for as much as 1,000 impressions. Thirdly, they were not only easy to reuse (whether unaltered, sawn, or assembled), but also to copy. Copying required nothing more than to trace or redraw an existing print on a new block and cut it. The printer thus saved on design costs, yet still had expenses for cutting a new block. These costs for cutting were substantially higher than for designing a block.⁴⁶ Especially for small and relatively simple blocks, copying did not entail substantial savings. Other motivations therefore must have played a role.

As a consequence of the prolific reuse and copying, many editions show great variety in style and quality of the woodcuts. While style can be a highly meaningful aspect of visual language, and therefore of an image's rhetorical functioning, the stylistic diversity in the Dutch sources (also within individual editions) is so strong that the book producers hardly seem to have deployed style strategically.⁴⁷ In order to avoid overinterpretation, my analyses therefore do not focus specifically on stylistic aspects. Indeed, we need to look beyond style for a fuller understanding of how the images in these books conveyed meaning.

In the Dutch medical-astrological books, copied images often derive from German sources, similar to many of the texts described above. For more or less integral translations such as *Fasciculus medicine*, *Distellacien*, *Der dieren palleys*, and *Chyromantia*, entire image programmes were copied from the Latin or German source editions, though always with some modifications.⁴⁸ Such newly cut blocks after existing designs could in turn be copied, reused and exchanged among printers for subsequent editions, as we see, for example, in the *Chyromantia* edition of 1554 printed by Jan Roelants. All of its images are either reused from or closely copied after Jan Berntsz' edition of 1536 (Figs. 1.1 and 1.2). The various editions of *Den groten herbarius* offer another example where a copied image programme was retained in all subsequent editions. The images

44 For enlightening explanations of how woodcuts were made, see Franklin 2019; Griffiths 1996, 13–22; Landau and Parshall 1994, 21–23; Gaskell 1985, 154–156.

45 This applies when a single colour of ink was used; for multicolour printing, multiple impressions were required. On colour printing: Savage 2021; Stijnman and Savage 2015.

46 Kusukawa 2012, 45; Landau and Parshall 1994, 41.

47 Schaepe 2019 and Orgel 2000, 64–65 point out cases where style (in particular: the out-moded style of decades-old woodcuts) seems to have been deployed for rhetorical purposes, to present a book as part of an earlier tradition.

48 See Chapter 3.

for the first edition in Dutch, published by Claes de Grave in 1514, were copied after the German herbal *In disem buch ist der herbarij: oder krüuterbuch: genant der gart der gesuntheit*, published by Johann Prüss in Strasbourg in 1507 (or perhaps after a now-lost edition that was very closely related). While the copied woodblocks depicting plants were each used once, the copied images of people processing minerals and other natural resources were used multiple times within the same edition.⁴⁹ De Grave's images, including the repetitions within the book, were reused as well as copied for subsequent editions of *Den groten herbarius* (see Appendix 1).



Fig. 1.1. Physiognomy of the ears; with inserted scholar figure and a king in profile. *Chyromantia Ioannis Indagine* (Utrecht: Jan Berntsz, 1536), fol. N3r. Utrecht, University Library, Rariora R fol. 456. [Chyro-1536-U01]



Fig. 1.2. Physiognomy of the ears, woodblocks reused from *Chyromantia* (1536); with inserted scholar figure and a king in profile, closely copied after the 1536 edition. *Chyromantia Ioannis Indagine* (Antwerp: Jan Roelants 1554), fol. N3r. Antwerp, Hendrik Conscience Heritage Library, Collectie Stad Antwerpen, D 44078 [C2-516 e]. [Chyro-1554-A170]

49 In the successive chapters on gold, silver, and quicksilver in *Den groten herbarius* of 1514, the same woodblock is even used three times in a row, of which twice on the same page opening (see Chapter 5); fols. d3r, d3v, d4r.



Fig. 1.3. Diagrammatic image of the internal organs, copied after *Margarita philosophica* (1503). *Chyromantia Ioannis Indagine* (Utrecht: Jan Berntsz, 1536), fol. O1r. Utrecht, University Library, Rariora R fol. 456. [Chyro-1536-U01]



Fig. 1.4. Diagrammatic image of the internal organs. Gregor Reisch, *Margarita philosophica* (Freiburg im Breisgau: Johann Schott, 1503), fol. F2v. Washington, D.C., Library of Congress, Rosenwald 595.

In addition to entire image programmes for translated works, German influence can also be pinpointed in individual woodcuts which, once copied, could then also be reused and copied again numerous times. For example, an anatomical image of a half figure showing the internal organs inside the opened body appears in *Thuy's der fortunē, Der dieren palleys, Der vrouwen natuere*,⁵⁰ and *Chyromantia* and goes back to one of the numerous images in *Margarita philosophica* (1503; Figs. 1.3 and 1.4).⁵¹ Even a small, generic image of a physician inspecting a urine flask in *Thuy's der fortunē* (1518) bears a detailed resemblance to an image in a German calendar from 1515 (Figs. 1.5 and 1.6).⁵²

⁵⁰ This image is not included in the octavo editions of 1555 and 1563.

⁵¹ *Margarita philosophica* (1503), fol. F2v. On this work, see also Chapter 2. In the Dutch editions, instances of reuse as well as copying occur for this image.

⁵² *Diser Kalender zeygt dir clarlich [...]* (Strasbourg: Mathis Hüpffuff, 1515), fol. J2v. The resemblance between both woodcuts is so close that it seems likely that this particular block served as the source for Van Doesborch's illustrator of *Thuy's*-1518, even though I have not



Fig. 1.5. Physician with urinal.
Thuys der fortunen ende dat huys der doot (Antwerp: Jan van Doesborch, 1518), fol. G1r.
 Antwerp, Museum Plantin-Moretus – UNESCO World Heritage, R 47.14.
 [Thuys-1518-A12]



Fig. 1.6. Physician with urinal.
Diser Kalender zeygt dir clarlich [...] (Strasbourg: Mathis Hüpuff, 1515), fol. J2v.
 Trier, Stadtbibliothek, Inc 2359.

The German-speaking regions were early in developing a market for illustrated medical and astrological books, around 1500.⁵³ The Netherlandish printers seem to have been keenly aware of this development and of the potential of this type of books. The Dutch translations and copied woodcuts in turn served as sources for editions in other countries, especially England – in some cases, the woodblocks themselves migrated between the Low Countries and England.⁵⁴ Jan van Doesborch in particular created an important link in the international exchange between the German-speaking regions, the Low Countries and England.⁵⁵

Not only do practices of copying and reuse intermingle in all kinds of ways, but it is also sometimes difficult to tell them apart. A phenomenon that has so

been able to establish whether he copied it after this particular calendar or after another edition – the block was undoubtedly reused in multiple works. Van Doesborch's copy was reused in *Thuys-1522* and *Thuys-1531*, and copied again in *Thuys-1540*.

⁵³ Pantin 2013, 26; Eamon 1994, 95–96.

⁵⁴ For example, Brunschwig, *The vertuose boke of Distyllacyon* (1527) reuses Thomas van der Noot's woodblocks of distilling instruments from *Distellacien*.

⁵⁵ Franssen 2017a shows that Van Doesborch was an important link in the transmission of 'popular fiction' from the German regions via the Low Countries to England. My findings indicate that he played a similar role with respect to medical texts and illustrations.

far remained largely unnoticed and that merits closer investigation in future research, is that printers sometimes possessed multiple blocks of the same image.⁵⁶ Duplicates can be identified for example in the personifications of the planets in *Thuis der fortunen*: in all editions, two different series of the same iconography occur (see Fig. 2.19 on p. 114 and Fig. 2.21 on p. 116).⁵⁷ With somewhat more effort, duplicates can also be discerned among the many half figures depicting scholars in *Den groten herbarius* of 1532 (Fig. 1.7a–b). These examples suggest that such figures – especially generic depictions that could be useful in a variety of contexts – were truly stock images, used so frequently that one copy in stock did not suffice.

Much remains unknown about the work division within print shops: to what extent were choices of images made by printers, publishers, authors, illustrators, or typesetters?⁵⁸ Although the books themselves provide ample testimony that woodblocks were reused within a workshop, and sold, passed



Fig. 1.7a–b. Duplicate blocks of a single image of a scholar.
Den groten herbarius (Utrecht: Jan van Doesborch, 1532), fols. N3r and N3v.
Washington, D.C., Library of Congress, Rosenwald 1107. [Herb-1532-Wo2]

56 On ‘duplicates’ in Christophe Plantin’s stock, see Chen 2020, 43–46; in the stock of Andrzej Piotrkowczyk I in Cracow: Jurkowlanec and Herman 2021, 7.

57 Discussed in Chapter 2. Other instances of duplicates in *Thuis der fortunen*: *Thuis*-1518, fol. A2v (wind directions); *Thuis*-c1540, fol. D3v (male half figures), see Van Leerdam 2019b.

58 Such questions have recently been addressed for sixteenth-century France (Baydova 2023 and 2017) and Spain (Pedraza-Gracia 2022). Briefer discussions in Pouspin 2016, Chapter 11 Par. 34; Kusukawa 2012, 45; Landau and Parshall 1994, 34; Pastoureaux 1982, 509. Our

on, and lent to fellow printers, we rarely know who determined in what cases existing blocks would be reused or exchanged. Designing and cutting a woodblock were different kinds of expertise that were usually executed by different craftsmen.⁵⁹ Little is known about the identity and the work methods of the craftsmen who designed illustration programmes and made the woodcuts. Research on stylistic characteristics and attributions suggests that certain illustrators worked for multiple printers, while others are primarily associated with a single printer. Both Jan van Doesborch and Thomas van der Noot seem to have had long-time cooperations with specific (anonymous) illustrators, each of them with a style that is recognisable in a range of different publications.⁶⁰ All illustrators of the Dutch medical-astrological corpus remain anonymous, however.⁶¹

The printers each seem to have favoured different strategies of copying and reuse. The publications of Jan van Doesborch, Willem Vorsterman, and Jan Berntsz are characterised by intensive and clever reuse of existing blocks, in particular of generic stock images. These printers reused images not only across medical-astrological publications, but also across other text types, such as narrative literature and chronicles. They did not do so haphazardly, however, but used images that were particularly suitable for multifunctional use. They also took care that there was, at least, a general thematic or associative relation between image and text.⁶² Van Doesborch applied a similar strategy in his engagement with texts: he was always keen for opportunities to reuse textual material.⁶³ Typical of Berntsz' strategy is that he made clever use of Van Doesborch's woodblocks: in the 1530s, both printers worked together at

knowledge is mostly based on cases where new designs were made (e.g. Kusakawa 2012 on the designs for Fuchs' herbal images and Vesalius' anatomical images; Cunningham and Kusakawa 2010, xxiv–xxviii on the designs for Reisch's *Margarita philosophica*; Landau and Parshall 1994, 40–41 on the designs for Schedel's *Weltchronik*), whereas less is known about common decisions on copying and reuse.

- 59 Landau and Parshall 1994, 8–9. Fuchs' *De historia stirpium* (1542) is a well-known yet exceptional case where three artists involved in the creation of the woodcuts are mentioned and even portrayed in the book itself: Albrecht Meyer made watercolours of the plants, Heinrich Füllmaurer transferred them in drawing onto the woodblocks, Veit Rudolph Speckle cut the blocks; Kusakawa 2012, 45–47; Dackerman 2011, 142–143; Arber 1912, 180–183.
- 60 Delen 1934 provides many examples of (anonymous) illustrators working for multiple printers in the Low Countries, e.g. pp. 12–13, 22. On the master of Jan van Doesborch: Delen 1934, 22–23; on the master of Thomas van der Noot: Delen 1934, 30–32.
- 61 No names of illustrators are mentioned anywhere in the Dutch corpus. A few of the woodcuts in *Tfundament der medicinen* have been attributed on stylistic grounds to Jan Swart van Groningen, including the image of Job on the dung heap (Tfund-1530, fol. Q1r) that Vorsterman reused from his bible edition of 1528 (the *Vorstermanbijbel*).
- 62 Pouspin 2017 makes a similar observation about the stock images used on title pages of French vernacular books.
- 63 Franssen 1990, 181.

the same address in Utrecht, and Berntsz continued to use the blocks after Van Doesborch's death in 1536.⁶⁴

In the works printed by Jan Roelants, yet another strategy stands out: his editions of *Chyromantia* (Chyro-1554) and *Der vrouwen natuere* (Vrouw-1555, Vrouw-1563) include exceptionally faithful copies from earlier editions of these works by Jan Berntsz (see Figs. 1.1 and 1.2 on p. 59). This is particularly striking as Berntsz's images for these works derived from various sources (including many instances of his typical reuse) and thus combined many different styles. Roelants's images, preserving all of this stylistic variety, betray their character as copies especially in the flow of their lines and in facial expressions: these elements are generally slightly more rigid and contrived than in Berntsz's woodcuts.

A very different strategy is typical of the works of Thomas van der Noot. His books contain quite a few woodcuts for which no source is known and which, therefore, might be new designs, such as the title page woodcuts of *Tscep vol wonders* (Tscep-1514, Tscep-1520) and various scenes in *Tregement der ghesontheyt* (Trege-1514) like those depicting nursing and travelling. Some of his woodcuts are partial copies. Details of the woodcut depicting the element of water, in a series of the four elements in Trege-1514, show a striking resemblance to the title page woodcut of Hieronymus Brunschwig's *Small Book of Distillation* of 1500 (of which Van der Noot published a translation, *Distellacien*, three years after *Tregement*).⁶⁵ Details such as the figure of the drinking man, the stag standing upright against a tree, and the diving duck in the water are so much alike that the German woodcut must have served – directly or indirectly – as Van der Noot's example (Figs. 1.8 and 1.9). Like other printers, Van der Noot copied and reused woodcuts, but he – or at least his illustrator – seems to have taken comparatively much liberty in his woodcut designs.

The widespread practices of reusing and copying woodcuts impacted early print culture in ways that cannot solely be explained in terms of technology or savings in production costs. While this way of engaging with images was certainly facilitated and spurred by the technological possibilities of the printing press, it also became a fundamental part of how sixteenth-century viewers approached and interpreted images. As Patricia Fumerton and Megan Palmer aptly note in a handbook on material culture, 'woodcuts were not simply reused. Many were remade. And remade. And remade.'⁶⁶ Time and again, this involved costs for cutting new blocks. The example of partial copying in Van der

64 Franssen 1988, esp. 189–190.

65 Trege-1514, fol. f3v. See also Van Leerdam 2019b.

66 Fumerton and Palmer 2016, 386.



Fig. 1.8. The element water, with red accents added in rubrication ink.

Tregement der ghesontheit (Brussels: Thomas van der Noot, 1514), fol. f3v.

Berlin, Staatsbibliothek Preußischer Kulturbesitz, 4" Ji 407. [Trege-1514-Bo5]



Fig. 1.9. Title page image of Hieronymus Brunschwig's *Small Book of Distillation* (Strasbourg: Johann Grüninger, 1500). The lower half was re-used on the title pages of subsequent editions (1505, 1509, 1515), see Fig. 3.15 on p. 178.

Darmstadt, Universitäts- und Landesbibliothek, Inc. IV 206.

Noot's woodcut of the element water further underlines that the aim was not always simply to produce images as cheaply as possible. Copying and borrowing motifs was not limited to the medium of print, moreover; it was also common in paintings, reliefs, tapestries, glass windows, and many other artefacts from this period. The repeated appearance of an image, or an image motif, affected the ways in which images could convey meaning. With respect to reused woodcuts in early modern ballad broadsheets, Katie Sisneros has pointed out that a 'singular image brought with it a lifetime of meaning.'⁶⁷

Analytical and narrative representations

The illustration programmes in the Dutch medical-astrological books are characterised by a mixture of what can be called analytical and narrative representations. In addition to copying and reuse, this is another crucially influential feature in how these images contributed to the transmission of knowledge. I understand analytical representations as images, or parts of images, that visualise objects or concepts with the primary goal of elucidating to the viewer what they look like or how they work.⁶⁸ Analytical representations are inherently epistemic: they make assertions about truth and, as such, they are 'a visual "this is";' as Gunther Kress and Theo van Leeuwen describe it in their seminal study of the grammar of visual design.⁶⁹ Kress observes that 'epistemological commitment cannot be avoided' in such images: any representation entails decisions about shapes, relations between parts, etc. that rule out other possibilities of how something might look.⁷⁰ In the medical-astrological books, analytical features prevail, for example, in images of plants, animals, the relations between human body parts and the signs of the zodiac, or the concentric structure of the cosmos.⁷¹ By narrative representations, I understand images or parts of images that represent some kind of action or narrative: scenes in which something *happens*.⁷² Narrative features are

⁶⁷ Sisneros 2018.

⁶⁸ Kress and Van Leeuwen 2006 use the term 'analytical representations' as a subcategory of what they call 'conceptual representations' (subtitle of Chapter 3: 'Conceptual Representations: Designing Social Constructs'). I prefer 'analytical' as a collective term over the somewhat confusing 'conceptual.' Unlike Kress and Van Leeuwen, I do not attempt to distinguish further subcategories. While their aim is to establish an exhaustive categorisation – something I do not believe is possible – my aim is to adopt a broad distinction between 'narrative' and 'analytical' as a pragmatic tool for analysis. See also Lüthy and Smets 2009 on the problems of establishing a typology of medieval and early modern scientific images.

⁶⁹ Kress and Van Leeuwen 2006, 91.

⁷⁰ Kress 2012, 44–45.

⁷¹ See especially Chapter 2 (discussion of diagrams) and Chapter 3.

⁷² Kress and Van Leeuwen 2006, subtitle of Chapter 2: 'Narrative Representations: Designing Social Action.'

prevalent in, among many others, an image of a barber letting a patient's blood, a woman nursing a baby, a scholar reading a book, people eating and drinking at a table.⁷³ The fifteen studied works can be grouped by predominant type of representation as follows:

Table 3. *Predominance of narrative and analytical features in images in the fifteen studied works*

Mostly narrative representations:	Mostly analytical representations:	Substantial presence of both:
<i>Dat regiment der ghesontheyt</i> <i>Der scaepherders kalengier</i> <i>Tscep vol wonders</i> <i>Thuys der fortune</i> <i>Den sack der consten</i> <i>Der vrouwen natuere</i>	<i>Fasciculus medicine</i> <i>Den groten herbarius</i> <i>Roseghaert</i> <i>Distellacien</i> <i>Der dieren palleys</i>	<i>Tregement der ghesontheyt</i> <i>Tfundament der medicinen</i> <i>Hantwerck</i> <i>Chyromantia</i>

The relevance of these categories in the present context is prompted by the sources themselves, as combinations of different kinds of images are so strikingly present.⁷⁴ I do not mean to suggest, however, that these two categories constitute an exhaustive or universal typology.⁷⁵ Nor are they mutually exclusive. They should be understood rather as dimensions or visual registers that characterise an image to a greater or lesser extent. Indeed, combinations of analytical and narrative features occur regularly within a single image. For example, some of the animals in *Der dieren palleys* are shown in action (mating bears, snakes biting men, ants crawling around a tree) while, at the same time, the images can be considered ‘a visual “this is”’ (‘this is a stork,’ etc.; Fig. 1.10). For some analytical representations, the ‘visual “this is”’ can be ambiguous: for example, the anatomical diagram of a skeleton in *Tfundament der medicinen* has an hourglass and a coffin at its feet, thus clearly functioning not only as an instruction about the bones in the human body but also as a moralising *memento mori* (see Fig. 2.10 on p. 103).⁷⁶ In allegorical images, for example of the labours of the months, narrative scenes of activities (e.g. ice-skating) represent a concept (‘December’; see Fig. 0.1 on p. 20). Allegorical representations of the signs of the zodiac convey a message such as ‘this is Gemini’ through a depiction with

73 Discussed especially in Chapters 2 and 4.

74 Michael Twyman distinguishes eight ‘dimensions of pictorial language’ that play a role in effective communication, first and foremost the dimension of ‘narration’ versus ‘description’; Twyman 1985, 259–262.

75 For example, these categories would not be insightful for an analysis of alchemical allegorical images (for a typology of such images in manuscripts see Limbeck 2014), or of images in prose romances.

76 On such a connotation of anatomical images of skeletons, see Carlino 1999, 88–90, and see Chapter 3. In a similar vein, it is very possible that images of certain plants, for example, also had religious or moralising connotations.



Fig. 1.10. Stork on a roof feeding its young. *Der dieren palley*s (Antwerp: Jan van Doesborch, 1520), fol. R2r. The Hague, KB, National Library of the Netherlands, KW 226 A 19. [Dier-1520-Ho4]

narrative qualities, of naked twins embracing (see Fig. 4.18 on p. 223). In the context of medical-astrological books, I will consider allegories as primarily narrative: they are not intended to show what a planet or a month or a stellar constellation looks like, but rather function like mnemonics, visual shortcuts to bring to mind a certain concept.⁷⁷

The categories of narrative and analytical representations, then, are not intended to classify each individual image, or to analyse all possible meanings of individual images, but to differentiate between different kinds of visual language that were used. Thus, they help us understand how book producers attempted to cater to the visual literacy and the information needs of their intended audiences. Indeed, the joint presence of analytical and narrative representations might be an aspect where vernacular books and Latin works on similar topics differ. Narrative representations generally seem to appear less frequently in Latin books, but further research on a larger – transnational – corpus will have to establish whether this is true.

1.3 | The target audiences of medical-astrological books

As printers produced for anonymous audiences, they had every interest in making clear for what purposes and what kinds of readers their products were intended. The issue of legitimising knowledge by conveying its value and

⁷⁷ By contrast, in the classification of Kress and Van Leeuwen 2006, allegories would fall under symbolic structures, a subcategory of conceptual representation (pp. 105–106).

reliability is therefore at play in early print culture not just from an epistemic, but also from a commercial point of view. Vernacular books were potentially accessible to a more diversified audience than books in Latin. And as we have seen, the range of people engaged in medical and astrological practices was especially broad, varying from do-it-yourself practitioners at home to university-trained physicians, each of whom had their own demands and expectations of books. This does not mean, however, that all vernacular medical books were intended for ‘everyone.’ To understand more precisely what readers were targeted by the various titles and for what purposes they were supposed to be able to use these medical-astrological books in Dutch, close study of this audience is necessary.⁷⁸

For the Low Countries, foundational contributions to such studies have been made by Herman Pleij. He has drawn a vivid picture of the civic culture in which early printed instructive books in Dutch circulated.⁷⁹ Although his thesis on an elitist ‘civilisation offensive’ has been nuanced by several scholars, especially those working on rhetorician culture, he has importantly influenced our view of civic literary culture in the Low Countries as reflecting and being driven by ideals of virtue, rationality, usefulness, and the common good – a view that is still widely upheld and continues to be developed further.⁸⁰ As these studies show, a large middle and upper class in the cities was interested in living virtuous lives and in understanding the world around them, and preferred to read about these matters in their vernacular mother tongue.

The interest in ‘practical,’ instructive literature was likely broader than purely hands-on application. Arjan van Dixhoorn has pointed out that ‘the arts books produced by [Thomas] Van der Noot, and many other printers in the Low Countries of the time in general, might be better understood in the context of an Aristotelian-inspired philosophical interest rather than only in the context

78 Griffin 2019, 112–113 also points out that much is still unknown about the audience of astrological works in the vernacular. Taape 2021 identifies the ‘striped layman’ that appears in many German printed images and texts, and notably in the surgery and distillation manuals by Hieronymus Brunschwig, as a key figure for understanding the audience of vernacular medical books. Taape argues that the figure in striped clothes is a visual trope to represent the ‘common man’ as a ‘liminal character’ (p. 23), ‘sandwiched between the uneducated poor and elites of greater wealth, influence, and learning’ (p. 16). A similar characterisation of the ‘common man’ is provided by Eamon 1994, 99–102, in a discussion of the target audience of the medical works compiled by Walther Hermann Ryff (c. 1500–1548).

79 Esp. Pleij 1982, 1988, 2007.

80 Pleij 2007, 670–677; Pleij 1988, e.g. 183–191 on chambers of rhetoric as ‘institute of civilisation’ and 328–336 on *burgermoraal* (civic morality); Pleij 1982, 44. Van Dixhoorn, Mareel, and Ramakers 2018a, 18–20; Van Dixhoorn 2018; Vandommele 2011, esp. 143–200; Buys 2009; Van Bruaene 2008, esp. 231–233; Franssen 1990, 165–179.

of the practical use in workshops and households.⁸¹ The participants of the ‘vernacular knowledge communities’ in which he situates these books may be found among ‘artisans, artists, printers, merchants, civil servants, clergymen, teachers, scholars, noblemen and members of urban patrician families and the princely court.’⁸² Printers such as Thomas van der Noot, Jan van Doesborch, and Willem Vorsterman, who were members of artist’s guilds, confraternities, and rhetorician’s chambers, were actively involved in these communities.⁸³

Different types of evidence in the books themselves provide clues to identify the intended audiences.⁸⁴ Firstly, explicit appeals to prospective buyers are commonly found on title pages and in prefaces.⁸⁵ On the one hand, such specifications of user groups and usefulness testify to the printers’ concern with specific target markets. In the preface to *Tfundament*, its author Petrus Sylvius states that he has made the book in the service of ‘all physicians, surgeons and apothecaries,’ and in *Hantwerck*, Hieronymus Brunschwig addresses ‘you young novice masters and servants of barbers and surgeons.’⁸⁶ *Den groten herbarius* includes a treatise ‘for people who live in villages and castles far away from the masters’ on how to make medicinal oils, ointments, and potions.⁸⁷ On the other hand, many references to intended audiences are quite generic: everyone (*Tscep vol wonders*, *Der dieren palleys*, *Chyromantia*, *Dat regiment der ghesontheyt*), men (*Der*

81 Van Dixhoorn 2014, 104. My findings suggest, nevertheless, that the majority of users’ traces in surviving copies point to a predominantly practical interest; see Chapter 5.

82 Van Dixhoorn 2014, 109. On p. 113 he specifies ‘[m]arkers for the identification of members of the vernacular knowledge community’ in Brussels: ‘participation in a chamber of rhetoric, the use of the particular language and verses that rhetoricians specialized in, the use of mottos and aliases and of the discourse of the love of knowledge (for which the notions of “wonder” and “conste” or art are keywords), and the interest in all kinds of arts and sciences.’

83 Like many other book printers, Willem Vorsterman, Jan van Doesborch, and Jacob van Liesvelt were members of St. Luke’s guild in Antwerp; Adam 2017, 17–18; Van der Stock 1998, 259, 261, 266; Franssen 1990, 12. Thomas van der Noot, and perhaps also Jan van Doesborch, were rhetoricians; Van Dixhoorn 2014, 113. Van der Noot was also a member of the Confraternity of Our Lady of the Seven Sorrows in Brussels; Pleij 1982, 54. Braekman 1980–1981, 5, 7 suggests that Van Doesborch’s edition of *Thuyts der fortunens* originated in the community of rhetoricians.

84 Chapter 5 analyses owners’ marks to assess the extent to which intended and actual users coincide.

85 On the question how, and to what extent, title pages and other paratexts fulfilled promotional functions: Silva 2020; Tromans 2019; Smith 2000, 145–146. On the history and functions of title pages: Bertram, Büttner and Zittel 2021 (forthcoming); Trettien 2019; Rautenberg 2008; Smith 2000. On prefaces: Duncan and Smyth 2019a, 6–10; Evans 1999. Specifically on title pages and prefaces of early printed works in Dutch: Franssen 1990, 93–102 (in works printed by Jan van Doesborch); Vermeulen 1986, 34–42; Pleij 1982, 44–48 (in *artes* texts printed by Thomas van der Noot). In Chapter 3, I relate the explications of users and types of use to the predominance of narrative or analytical representations.

86 Tfund-1540, fol. A2r; Hantw-1535, fol. #1v.

87 As announced on the title pages of Herb-1532, Herb-1538, and Herb-1547.

vrouwen natuere), those who like to hear something new (*Sack der consten*), for the benefit of the common people (*Herbarius*, *Distellacien*, *Tfundament der medicinen*).⁸⁸ Some works combine references to specific groups of professionals with a more general target audience. *Fasciculus medicine* claims to be profitable to ‘all surgeons and other people.’⁸⁹ *Roseghaert* states that the book is written for pregnant women as well as for the education of midwives – while also stating emphatically that the book should be kept out of the hands of ‘children or villains’ who would read it rather to disgrace women than for understanding.⁹⁰

Although many audience references may be generic, they should not be dismissed as mere marketing rhetoric. While strategies of persuasion always imbue prefaces and title pages, any commonplaces on audience and use nevertheless inform us about the common perception of these types of books.⁹¹ Moreover, in the case of medical books, references to broad categories of audiences, both professionals and non-professionals, might reflect an awareness of the great variety of medical practitioners discussed above. Overall, the book producers seem to have taken care to appeal both to interested lay readers – to satisfy their curiosity and/or to provide do-it-yourself guides to a healthy and long life – and to (novice) practitioners. Learned readers, such as humanists or physicians, are less frequently specified, but should not be excluded as intended audiences. *Den groten herbarius* states explicitly that it was written ‘for the benefit of the learned and the unlearned,’ and physicians are among the practitioners addressed in *Tfundament der medicinen*.⁹² From *Tscep vol wonders* and *Thuys der fortunien* it becomes clear that female readers were also assumed to use the books. Both works pay explicit attention to astrological advice and observations for women – though these are considerably more concise than those for men.⁹³

88 See also Vermeulen 1986 on motivations and legitimations mentioned in early printed books in the Low Countries.

89 *allen Cyrurginen Ende andere menschen*, Fasc-1512, title page.

90 The first edition (Rose-1516) only mentions pregnant women as the target audience; in subsequent editions (from Rose-c1528 onwards), midwives are also mentioned explicitly as a target audience. The colophon warns against use by *vileynen* (Rose-1516, fol. n6r) and in later editions also children.

91 Certain commonplaces may have been associated with certain types of works: it seems significant, for example, that the commonplace reference to ‘all good Christians’ as a target audience, common in religious books, rarely appears in the medical context. For the value of clichés and topoi as ‘a telling index of belief and behavior,’ see Freedberg 1989, 50.

92 Herb-1514, fol. a2r; Tfund-1540, fol. A2r: *medicinen* (i.e. medical doctors, physicians; cf. MNW, ‘medicijn’).

93 E.g. *Thuys-1518*, fol. C4r (the figure of Galathea addressing *ghi meeskens*, ‘you girls’), D2r (the figure of Edelaert says: *Al seg ic van mans, die vrouwen moeten oec geeert sijn / Bi dit scriuen moeten si oec gheleert sijn*; ‘Although I speak of men, the women should be honoured, too, and be educated by these writings’). *Tscep vol wonders* describes the nature of people born under the influence of each of the seven planets, distinguishing explicitly between sons and daughters (Tscep-1514, fols. a2r–b1v).

Indications of intended use are not only provided by explicit appeals in the text, but also by the material appearance of a book, including its images. As discussed in the Introduction, all material and visual elements fulfil rhetorical functions, providing signals to how the book is to be used and interpreted.⁹⁴ A revealing signal is book size: nearly all of the examined editions are in folio or in quarto. This relatively large size and the use of rather thick, sturdy paper for virtually all editions suggest that they will not have been cheap books, especially not the lavishly illustrated folios such as *Den groten herbarius* and *Der dieren palleyes*.⁹⁵ The earliest octavos in my corpus date from the 1530s, and only three texts were published in this smaller size that was more common for cheap print: *Der scaepherders kalengier*, *Roseghaert*, and *Der vrouwen natuere*.

Another aspect of material appearance that the studied books have in common is that the text takes up a larger part of the book than the images. We may, therefore, assume that all of the books were aimed primarily at a literate audience (in the vernacular at least; not necessarily in Latin). Admittedly, we can conceive of situations in which illiterate people came into contact with books such as *Der scaepherders kalengier*, which was undoubtedly present in many households, or the ‘group game’ of *Thuys der fortunien*.⁹⁶ Yet, the notion of images functioning as books for the illiterate, a topos that frequently occurs in early printed religious works and which is sometimes still voiced by present-day scholars, certainly does not apply to the medical-astrological works.⁹⁷ This makes the central question of this study, about the functions that images *do* fulfil in such vernacular works, all the more pertinent.

Indications for the intended readership are also provided through language use.⁹⁸ Firstly, the books deploy a rich vocabulary to emphasise their aims of

94 Moys 2017, 205–208; Kostelnick and Hassett 2003, 99–103; Schriver 1997, 250; Kostelnick 1996, 24–27; see Introduction.

95 Paper costs could constitute up to half of the total production costs of early printed books; Kusakawa 2012, 50. For post-incunabula in the Low Countries, Cuijpers 1998, 49–50 comes to a more modest calculation of 20–40 per cent – obviously still a factor of significance for the sales price. On paper costs, see also Hirsch 1974, 34–36. On the relation between a book’s size and its function: Aston 2004. On the (complicated) relation between book size and costs: Dane and Gillespie 2010.

96 With respect to reading versus hearing, Cuijpers 1998, 231–232 has noted that Dutch instructive texts (*artes* literature) contain more references to ‘reading’ than to ‘hearing,’ contrary to narrative works. Pleij 2008, 109–110 has argued that private reading gained ground for *artes* literature in the fourteenth century.

97 On this topos, which goes back to a letter by Pope Gregory the Great written around 600, and a nuancing of its applicability to medieval images: Duggan 2005a and 2005b; Ott 2000, 118–124; Chatelain and Pinon 2000, 237; Camille 1985, esp. 32–37.

98 An aspect that falls outside the scope of the present study is textual adaptations: comparing translations and their sources will likely offer further insight into the types of readership that book producers envisioned.

instruction and knowledge transmission, frequently using verbs such as knowing, understanding, explaining, noting, teaching, and learning. The reader is often addressed through phrases such as ‘one should know that...,’ ‘this book teaches us...,’ or ‘I will now tell you...’⁹⁹ Such direct addresses call in particular on readers’ willingness to be educated.

A further indication of envisaged audiences is that the majority of the texts are in prose – *Dat regiment der ghesontheyt* is the only work in verse. This predominance of prose not only points to an intended readership of literate readers, but also to individual rather than communal reading. Some of the texts include verse passages as an additional aid to memory, or as a source of entertainment. In the *Fasciculus medicine*, knowledge of the four complexions is summarised in four brief passages in verse.¹⁰⁰ *Der scaepherders kalengier*, from the edition of c. 1514 onwards, contains verse texts in the calendar section describing each month, as well as verses on the planets and their children.¹⁰¹ In *Thuys der fortunien*, the section with the book of fortune is in verse while the informative and instructive texts that follow it are in prose. Such inclusions of short verses suggests that book producers made an effort to present knowledge in an accessible – pleasant and easily memorisable – form that may also have appealed to readers with less specialist knowledge. Attention to accessibility is also evident from another aspect of language use: many of the texts provide Dutch translations or explanations of specialist Latin terms.¹⁰²

99 E.g. *Nv wil ick v segghen wat tripliciteyt of drieheyt der teeken en es* (‘Now I will tell you what triplicity or threeness of the signs [of the zodiac] is,’ Tscep-1520, fol. b2r); *Wiltmen te hulpen comen in swaren herten geboerten [...]* *Soe moetmen mercken tghene dat hierna staet* (‘If one wants to aid in a difficult birth, so one should take heed of what follows now,’ Rose-1516, fol. b3v); *Men sal weten dat om te genereren is de eerste sake die wille gods almachtich* (‘One shall know that in order to generate, the first thing [that is required] is the will of God almighty,’ Vrouw-1535, fol. B3r); *Chiromantia leert ons hoe dat wi wt seker trecken ende linien der handen eerkennen sullen de nature, complexie ende toegeneygentheit der menschen* (‘Chyromancy teaches us how we may recognise the nature, complexion and inclination of people from certain traits and lines of their hands,’ Chyro-1536 title page). My underlinings.

100 Fasc-1512, fol. a4v. One seventeenth-century reader commented that they are ‘silly verses’ (Fasc-1512-Ko7b).

101 These verses are not yet present in the first Dutch edition, Scaep-1511. According to Franssen 2017b, 7–8 the verses about the months are partly derived from *Dat regiment der ghesontheyt*.

102 This is especially visible in *Chyromantia*, where Latin terms are repeated in printed marginalia while the running text explains them in Dutch (e.g. *ende wordet gheenoemt linea media naturalis, dat is die middelste natuerlijcke linie*, with *linea media naturalis* repeated in the margin; Chyro-1536, fol. C3r). Many examples can also be found in other works, for example *flobothomia oft die latinghe* (‘flobothomia or bloodletting,’ Fasc-1512, fol. b2r); *Dat leuen des menschen is principalic gestelt in humido radicali, dat is tseggen in die radicael vochticheit want als dye dyebrect dan sterft die mensche* (‘Human life is principally set in *humido radicali*, that is to say in the radical moistness, because if this misses then the human dies,’ Dier-1520, fol. A5r); *Van dat eynde hier af machmen maken een elevatorium of eenen opheffer* (‘Of the outer end [of this instrument] one can make an *elevatorium* or raiser,’ Hantw-1535, fol. G4v).

1.4 | Conclusion

The Dutch medical-astrological books from the first half of the sixteenth century convey knowledge of what since Antiquity was perceived as a well-structured, harmoniously organised universe in which mankind had its natural place. By contrast, the organisation of the *disciplines* of medicine and astrology was considerably less clear and harmonious. Consequently, the legitimisation of medical and astrological knowledge was an issue of ongoing concern, both in debates among practitioners themselves and in debates beyond these disciplines. The Dutch works, also those by contemporary authors, draw heavily on medieval and classical authorities as legitimate sources of knowledge. At the same time, they bear witness to an emerging epistemology of personal, practical experience that gained further ground in the course of the sixteenth century. The visual rhetoric of images was a crucial aspect in strategies to convey the reliability of knowledge, as we will see in Chapters 3 and 4 in particular.

The subject matter of the images, in other words the knowledge that they visualise, was shaped by practices of copying and reuse that had a distinctly transnational character. Similar practices also underlie the constitutions of the texts, resulting in ever new combinations and adaptations. The heavy German influences stand out especially, both in the texts and in the woodcuts. In this respect, the transnational dynamics of medical-astrological works seem to differ from those of prose romances, for which recent research has demonstrated predominant French influences.¹⁰³ The combination of analytical and narrative features in the woodcuts is a foundational characteristic of the image programmes in the Dutch books.

The many ways in which both texts and images were translated, repurposed, and recombined challenge the argument that the printing press brought new levels of standardisation and uniformity. This argument, which has become especially influential through the works of Elizabeth L. Eisenstein and William M. Ivins jr., considers it a highly novel – indeed, revolutionary – aspect of print that it facilitated the exchange of ideas as readers used identical copies of a work. With respect to printed images, Ivins famously referred to ‘exactly repeatable pictorial statements.’¹⁰⁴ However, uniformity was not only belied by readers’ modifications to individual copies – as we will see in Chapter 5 – but perhaps even more profoundly by the constant flow of new editions and new adaptations of texts as well as images.¹⁰⁵

103 De Bruijn 2019.

104 Eisenstein 1979; Ivins 1953.

105 See also Johns 1998, 19–30, who challenges Eisenstein’s ideas on the importance of ‘fixity’ in print for the dissemination of knowledge.

The intended audience of the illustrated medical-astrological books was diversified yet primarily literate, consisting of both lay readers and professionals. Despite the sometimes quite generally formulated target audiences, the books were by no means within the financial and literacy range of ‘everyone.’ They will have circulated predominantly among the urban middle and higher classes, which included medical professionals, other artisans, merchants, government and church officials, and members of the chambers of rhetoric. Owners’ inscriptions, traced in Chapter 5, provide an impression of the broad range of readers.

While this chapter has teased out broader tendencies to contextualise the research corpus, Appendix 1 discusses each of the fifteen examined titles with a focus on their edition history, subject matter, and images. Readers who are interested to know more about these titles may prefer to consult the Appendix before proceeding to Chapter 2.



Detail of Fig. 2.5

Organising Knowledge



Conceptualisations and Visual Strategies

Images play a role in organising knowledge in a variety of ways. This chapter aims to unravel the visual strategies they deploy to conceptualise, structure, and classify medical-astrological knowledge. I distinguish three domains of knowledge organisation: first, images express conceptualisations and intellectual orderings of Creation. Secondly, they structure knowledge on the page, both as layout elements and through the visual elements within the images themselves. Thus, images fulfil what Kostelnick calls ‘structural functions’ in the visual rhetoric of a book’s design.¹ Thirdly, they help readers to classify a book in terms of communicative genre.

These three domains have mostly been studied separately. However, they are closely intertwined, as one of the numerous woodcuts in *Thuis der fortunēn* illustrates.² The image, a so-called zodiac man or *homo signorum*, shows a standing figure whose body is covered by symbols of the zodiac signs (Fig. 2.1).³ On his head is a ram (Aries), under each of his feet is a fish (Pisces), two tiny human figures representing Gemini are clinging to his arms. The image contributes to all three of the above-mentioned domains of knowledge organisation. In the conceptual domain, the zodiac man visually epitomises the medieval and early modern worldview of harmonious order between macrocosm and microcosm. In the domain of book design, the image deploys various organisation strategies through its visual language. First, the zodiac man can be ‘read’ like

1 Kostelnick and Hassett 2003, 100; Kostelnick 1996, 24–25; see Introduction.

2 *Thuis*-1518, fol. G1v. The same woodblock is also used in the 1522 and 1531 editions of *Thuis der fortunēn*; the edition of c. 1540 has a different image of a zodiac man.

3 On the iconography of the zodiac man, widespread since the thirteenth century: Hübner 2013. Zodiac men also appear in all editions of *Der scaepherders kalengier*, *Fasciculus medicine*, and *Tfundament der medicinen*.

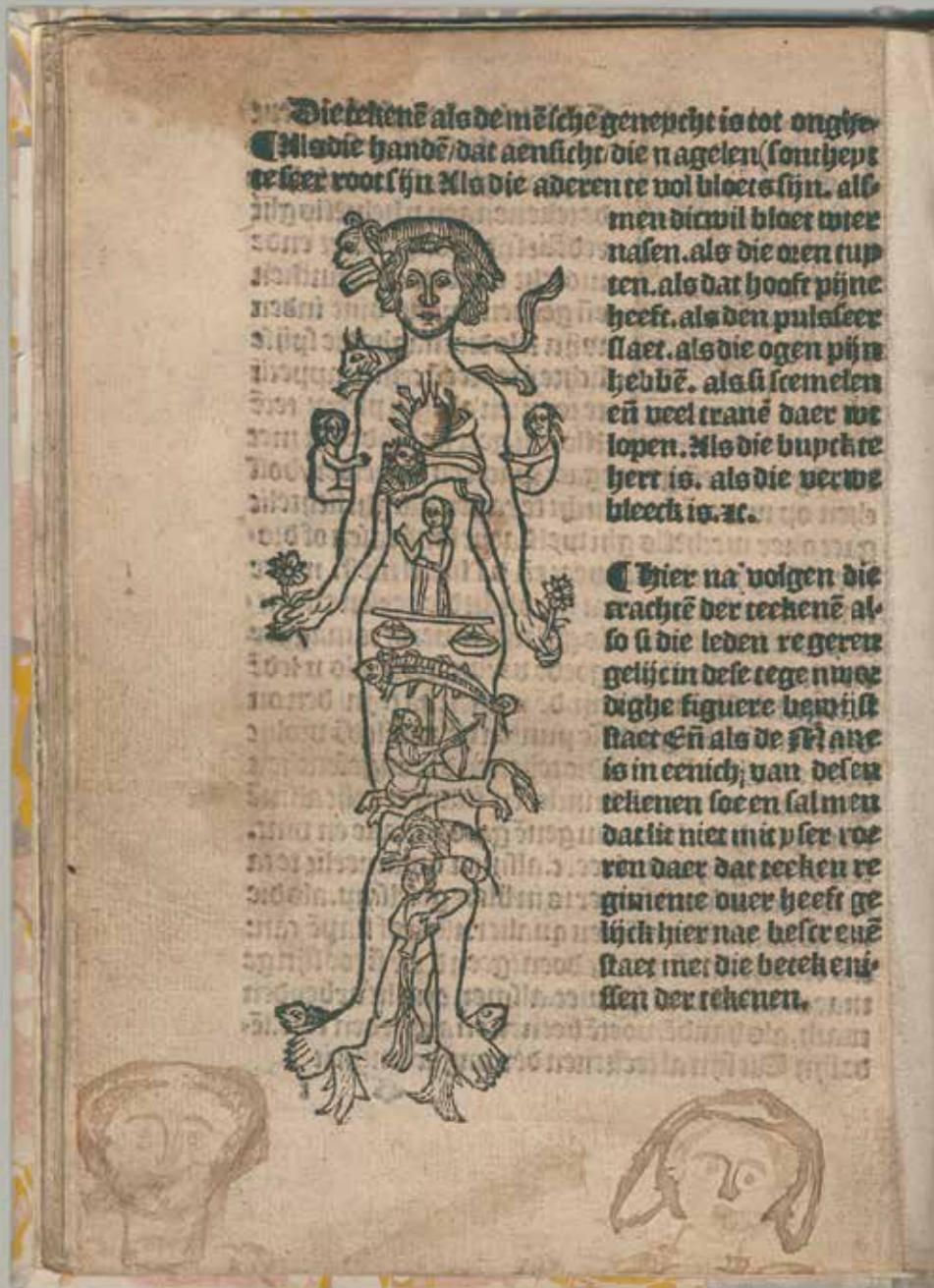


Fig. 2.1. Zodiac man, and two hand-drawn attempts at copying the head.
Thuis der fortune ende dat huys der doot (Antwerp: Jan van Doesborch, 1518), fol. G1v.
 Antwerp, Museum Plantin-Moretus – UNESCO World Heritage, R 47.14. [Thuis-1518-A12]

a diagram: it uses spatial positioning on the page to visualise the connections between parts of the cosmos and parts of the human body. Secondly, the representation of the zodiac signs constitutes a visual enumeration within the image: all of the twelve signs of the zodiac have their place on the human body. Apart from these organisation strategies through visual language *within* the image, the image as a visual element on the page also contributes to knowledge organisation within the book's design. It marks the beginning of a text section on the influences of the zodiac signs. For each sign, the text is structured in the same way, discussing which body part is influenced when the Moon is in that particular sign (i.e. the connections as visualised in the image), what activities should or should better not be undertaken under this sign, and what the nature is of people who are born under it. Like the image, then, the text presents knowledge in a clearly structured form, and text and image are affiliated both in terms of layout and content. Finally, the image has a signalling function in the organisation of text types. By means of a well-known and recognisable iconography, the image guides readers' expectations as it provides signals how to classify the type of text they are dealing with. As the zodiac man exemplifies, it is important to study the intertwinement of various domains of knowledge organisation as a single image often functions within multiple domains.

Late medieval and early modern conceptualisations of knowledge organisation have been studied mainly by scholars of intellectual history and history of science. Particular attention has been paid to the ordering of disciplines, as well as to the ordering principles of encyclopaedic works and their attempts to collect and classify all available knowledge.⁴ Much work has also been devoted, most notably by historian Ann M. Blair, to new ways developed in the sixteenth century to compile and store knowledge from multiple sources and to manage the 'information overload' caused by the printing press, for example with the help of commonplace books.⁵ These studies of conceptual orderings of knowledge tend to focus more on ideas and textual strategies than on the ways in which images could contribute to such orderings.⁶

In the material domain of book design, structuring and signalling functions of visual elements have been addressed in recent years from the perspectives of cultural history (book history, history of knowledge), literary history, as well as historical linguistics (and particularly pragmatics). Several studies of paratexts and reading culture bring to the fore how conceptual and material

4 Cadden 2013; Siegel 2012; Blair 2007a; MacDonald and Twomey 2004; Büttner, Friedrich and Zedelmaier 2003; Holländer 2000; Zedelmaier 1992.

5 Blair 2010a; Cevolini 2016; Moss 1996.

6 Notable exceptions where images are a central focus: Siegel 2012; Holländer 2000.

organisation of knowledge intersect: structures of knowledge are mediated through interactions of images, texts, and paratexts.⁷ Focusing mostly on textual organisation, scholars of historical pragmatics have been exploring how organising strategies take shape in late medieval and early modern practical texts both through language use (e.g. thematic structures, formulaic language, expressions of stance, strategies of code switching) and through visual elements (e.g. chapter titles, title pages, text units) within a book.⁸ As far as these studies examine illustrated texts, their attention to images is mostly subsidiary to the analysis of textual elements.

Scholars from various fields have pointed out that book illustrations (both in manuscripts and early printed books) could fulfil a structuring function in the architecture of the book as they often signal the start of a new section.⁹ This function, which often seems to be taken for granted, needs to be problematised: vernacular medical-astrological books also contain many images that do *not* function as structuring aids. In order to gain a better understanding of the extent to which images provided readers with grip on a book's structure, I will approach them from the angle of visual rhetoric and evolving visual conventions (see Introduction) to offer a new perspective.

In the domain of design, knowledge is not only organised in constellations of texts and images, but also within individual images. Visual language offers strategies for showing relations, emphasising, abstracting, repeating, or simplifying, among many other things. Conventions in such visual organisation strategies are culture-specific and they shift over time.¹⁰ While these histories until recently had received only modest critical reflection from historians of science, scholars of visual studies or *Bildwissenschaft* have put them in the limelight.¹¹ The first half of the sixteenth century is an interesting period in this respect. On the one hand, many medieval conventions were still in use, as exemplified by the iconography of the zodiac man, or, for example, the practice of rendering important parts of an image in a relatively large size.¹² On the other

7 Foundational: Mak 2011; Enenkel and Neuber 2005. See also Griffin 2019; Panse 2012; Gardt, Schnyder, and Wolf 2011.

8 E.g. Gloning 2020 and 2015; Carroll et al. 2013; Taavitsainen and Pahta 2011; Habermann 2001.

9 Panse 2012, 95; Meier 2010, 167–169; Tran 2007, par. 5; Büttner 2003, 273–285; Habermann 2001, 150–155; Chatelain and Pinon 2000, 244–248; Cuijpers 1998, 218 (specifically on early printed books in Dutch); Hellinga 1991, 50.

10 Kostelnick and Hassett 2003, esp. 17–24, 39–41, and Chapter 4 on ‘The Mutability of Conventions.’

11 Egmond 2017; Drucker 2014; Bredekamp, Schneider and Dünkel 2008; Lefèvre 2004; Twyman 1985; Murdoch 1984.

12 Enlarged parts are found, for example, in the images in Hans von Gersdorff's *Feldtbuch der Wundtartzney* (1517) that were copied in *Hantwerck*: a number of devices for resetting

hand, developments such as the emergence of print culture, humanism, empiricism, and the Renaissance style all entailed shifts in visual language and conventions.

The functions of images in signalling the communicative genre to which a book belongs – the third domain of knowledge organisation I discuss in this chapter – are a key issue in document design studies. For readers, a document's design – in this case: a book's design – provides important grip for distinguishing and recognising genres.¹³ In this domain, too, visual conventions are crucial as 'well-worn paths for interpretive survival.'¹⁴ This approach of genre as a communicative rather than a – problematic – literary concept is conducive to the field of book history.¹⁵ As various scholars have observed, early printed books, and medical works in particular, are notably difficult to subdivide into different genres or text types.¹⁶ Close attention to visual conventions in the books' material appearance may enhance our understanding of how contemporary readers approached and classified these works.

This chapter investigates the three domains of knowledge organisation and their various intersections. Focusing on the first domain, I examine the overarching concepts – some philosophical, others more pragmatic – that govern the arrangement of the books and how these concepts are manifest in texts as well as images. At the intersection of the first and the second domain, I look into diagrams and image series as pervasive visual strategies for organising knowledge both conceptually and spatially, within the two-dimensional space of the page. Combining the second and third domain, of page design and text classification, this chapter then shows how images work together with various paratexts, including navigational aids, to emphasise the practical usefulness of the knowledge presented in the books. This analysis also proposes how images could function as genre indicators.

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- broken or stiff limbs are shown with an excessively large leg in the device compared to the surgeon who is handling the device. This visual strategy is discussed in Panse 2012, 99.
- 13 Kostelnick and Roberts 1998, 438 define 'genre' in this sense as '[a] type of document [...] that embodies distinct visual features that readers typically associate with that type of document.' As Spitzmüller 2013, 278 notes: 'Genres stabilisieren Kommunikation dadurch, dass sie Kontexte, Rahmen für die Interpretation kommunikativer Äusserungen, darstellen.' See also Moys 2017, 206; Bateman 2008, esp. 9–11 and 177–178; Kostelnick and Hassett 2003, 96–99; Schriver 1997, 250; Taavitsainen 2005, 184.
- 14 Kostelnick and Hassett 2003, 74.
- 15 On the unease of historians of medieval literature with the concept of (literary) genre: Besamusca 2018, esp. 15–17. As Besamusca points out, medieval and early modern terms to indicate genres are used inconsistently, they differ from those we use now, and we often do not know their precise meanings. See also Sullivan 2007.
- 16 E.g. Minuzzi 2021; Griffin 2019, xiii, xix, 111; Cavallo and Storey 2017, 23–24; Fissell 2011, 417–418; Taavitsainen 2005, 183–185; Taavitsainen 2004; Riha 1992; Vermeulen 1986, 154–164; Slack 1979, 238; Hirsch 1974, 131–132.

2.1 | Conceptual organisation of knowledge

The Dutch vernacular books on medicine and astrology apply a range of conceptual organisation principles, both in their textual structure and in their layout. Most of the works examined here are divided into multiple parts, called books, which are the primary units of organisation. They usually address different topics within the overarching medical-astrological theme. Various principles can govern the order in which the different parts are arranged within a volume, and the ordering within these different parts. While many of these structuring principles were already common in the Middle Ages or even earlier, it is typical for the era of print that in several cases commercial motifs were evidently also at play in the overarching organisation. Religion only plays a modest role in the conceptual organisation of medical knowledge in the Dutch books, remaining mostly implicit and becoming explicit primarily as a structuring framework. This finding seems striking, especially in comparison to contemporary English medical works.

Intellectual principles of organisation

Book titles and title page woodcuts give a first impression of how these books conceptualise the organisation of knowledge. Several titles describe the book in terms of sites and containers of knowledge. *Tscep vol wonders* uses the metaphor of a ship, which is elaborated upon in the preface: this book is like a strange and ‘well-made’ trading ship. It is a pleasure to see from the outside, yet it gives even greater joy when people get to know the rich merchandise that is inside.¹⁷ The metaphor is also reflected in the woodcut on the title page, which shows a large ship with on its deck a physician inspecting a urine flask and an astronomer/astrologer using a quadrant, a clear reference to the medical and astrological content of the book (Fig. 2.2).¹⁸ Another metaphorical title visualised on the title page is *Den sack der consten*. This illustrated book of secrets is introduced by a woodcut of a bearded man emptying a sack. Text scrolls that are falling out of the sack indicate the type of light-hearted content the reader could expect: ‘To make yellow [blond] hair,’ ‘To ignite fire without fire,’ and ‘For hard breasts...’

17 *Tscep*-1514, fol. a1r. On the preface of *Tscep vol wonders*, which, in addition to the ship metaphor, also deploys the metaphor of an orchard full of fruits, see Pleij 1982, 23–25; Van Gijzen 1993, 131.

18 The editions of *Tscep vol wonders* (1514, 1520, 1535) each have a different woodcut on the title page, yet all three show a ship as a central motif. The woodcut of the 1535 edition is a close copy after an image from *Tregement der ghesontheyt* of 1514, showing people embarking on a ship from a quay and two other ships in the background.



Fig. 2.2. Title page of *Tscep vol wonders* (Brussels: Thomas van der Noot, 1514), fol. a1r. Leiden, University Library, 1498 B 5: 2. [Tscep-1514-Lo4]

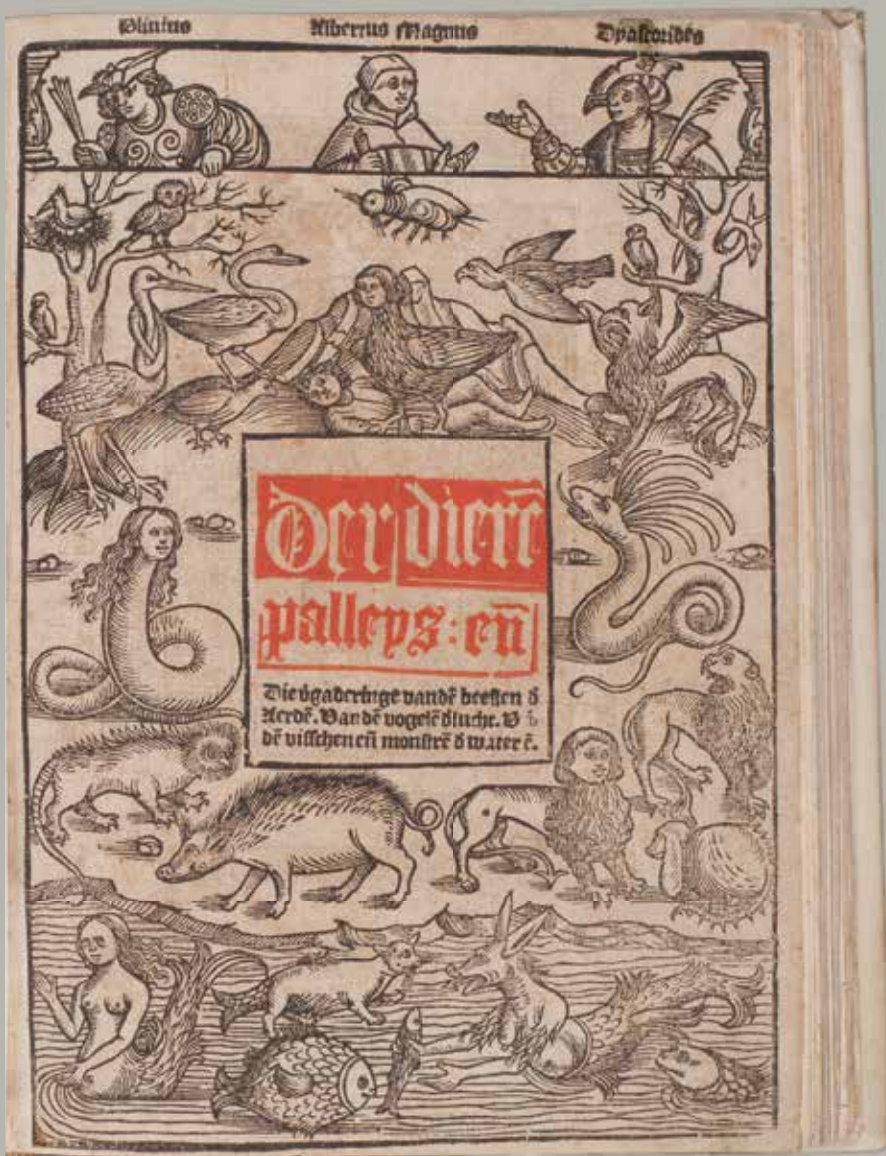


Fig. 2.3. Title page of *Der dieren palley* (Antwerp: Jan van Doesborch, 1520), fol. A1r. The Hague, KB, National Library of the Netherlands, KW 226 A 19. [Dier-1520-Ho4]

among other things.¹⁹ Further titles presenting the book as a site or container of knowledge include *Der dieren palley* ('The palace of animals' – the title page woodcut does not show a palace but a gathering of different animals in a landscape, Fig. 2.3), *Fasciculus medicine* ('The small bundle of medicine'), and *Den roseghaert vanden bevruchten vrouwen* ('The rose garden of pregnant women').²⁰ These titles, then, present the book as a space or an object that physically carries knowledge. As the titles allude to gatherings of multiple pieces of knowledge, they also reflect the compilatory character of the texts.

How exactly are the contents of these 'containers' of knowledge structured? In general, medieval medical texts often combine multiple ordering principles, as historian of medicine Gundolf Keil has observed in a foundational study.²¹ Especially larger texts incorporate both additive and interfering orderings. This is true for the early printed works, too, as the case of *Der dieren palley* exemplifies. It is divided into separate books about animals that live on the land, in the air, and in the water, respectively. This organisation of subject matter follows the Aristotelian triad of the living environments of land, air, and water.²² The division is visually marked by a full-page woodcut at the beginning of each book. The same block from the title page, showing a wide range of animals and containing a blank frame for typographic text, is reused for each of the different books, every time with a different text. The work starts with a discussion of the human brain and intestines, illustrated with two woodcuts copied after Gregor Reisch's *Margarita Philosophica* (1503; see Figs. 2.14 and 2.15 on p. 108).²³ This order is justified in the preface: man is dealt with first because he is the most noble and superior part of Creation. Thus, a hierarchical order is embedded in the ecological one. A more practically oriented form of organisation also nests within the overarching ecological order: a semi-alphabetical, loosely applied ordering of the animals according to their Latin name – which may be confusing at times, as the text does not always mention the Latin name. For example, in the book on land animals, fleas and pigs are incorporated among animals starting with a P, although the text only mentions their Dutch names *vloeyen*

19 Sack-1528, fol. A1r. In the only surviving copy of *Den sack der consten* of 1537, the title page is missing.

20 The editions of *Fasciculus medicine* and *Roseghaert* do not have an image on their title page, except for Rose-c1551a. An ambiguous metaphor is *Tfundament der medicinen ende chyrurgien* (The foundation of medicine and surgery): is the 'foundation' the knowledge of these subjects, or the physical book that provides that knowledge?

21 Keil 1987, 243. See on the combined use of different criteria of organisation also Egmond 2017, 58, 78; Panse 2012, 48–53.

22 On this order, see Keil 1987, 243. These three living environments also coincide with three of the four elements, as observed by Houwen 2004, 67.

23 On *Margarita philosophica*, see also below. Unlike the two woodcuts, the text in *Der dieren palley* on the brain and the intestines does not derive from *Margarita philosophica*.

and *vercken*, respectively, rather than *pulex* and *porcus*. All individual chapters are structured similarly, headed by a woodcut and in many cases the chapter number, and then providing a description of the characteristics and the living environment of the animal in question followed by an overview of its *operacien*, i.e. the medical applications of its various parts.²⁴ Within a single work, then, many different organising principles were used at different levels, and images could function as reading guides to signal these structures.

Alphabetisation as a main ordering principle is relatively rare in the Dutch books. Apart from *Der dieren palleyes*, it is used for the plants in *Den groten herbarius* and *Tfundament*, and the recipes for distilled waters by main ingredient in *Distellacien*.²⁵ Both the scholastic and humanist tradition preferred topical orderings – the fruits of intellectual endeavours to understand the harmonious Creation – over the arbitrary order of the alphabet.²⁶ This perceived inferiority of alphabetical organisation seems implicitly manifest in *Den groten herbarius* and *Distellacien*, both of which supplement the alphabetical organisation with topically organised indexes, for example from head to feet, and according to purpose (for stimulating sweat, for purging, for curing wounds, etc.).²⁷ As was common until well into the sixteenth century, the items are ordered semi-alphabetically, by their first letter only.²⁸ In *Den groten herbarius*, for example, *menta (munte)* appears before *malva (malue oft pappalen)*.²⁹ The names of plants and animals stand out visually in various ways, for example by means of a printed initial, larger type, whitespaces, or (in *Den groten herbarius* and *Der dieren palleyes*) the presence of a woodcut. Such visual structures allow readers to identify relatively easily at what point in the alphabet they find themselves within the book.

A main structure based on chronology or steps in a process, another common type of structure, can be found in *Roseghaert* and *Distellacien*. *Roseghaert* follows the chronology of pregnancy and giving birth. The text starts out with a description of how the child sits in the womb, illustrated with two woodcuts exemplifying the natural and the unnatural position of a baby in the womb. The text then proceeds to discuss the time of labour and various complications

24 Rather strikingly, quite a few chapters are not numbered, and the name of the animal is in most cases not marked as a heading but simply used as the first word of the running text.

25 The plants in *Tregement der ghesontheyt* are not ordered alphabetically but according to type and quality, including fruits and cold and hot vegetables.

26 Alphabetisation gained ground as an ordering principle around the late twelfth century. On the history of alphabetisation: Duncan 2022; Flanders 2020; Duncan 2019, 265–266; Blair 2010a, 40–41; Blair 2007a, 296; Zedelmaier 2007, 236–238; Parkes 1991a, 62–63; Rouse and Rouse 1982, 210–212; Daly 1967, 96 (on the medieval West).

27 See also Egmond 2012, 144–146 on medieval systems of organisation used for plants.

28 Zedelmaier 2007, 238.

29 Herb-1526, fols. v1r, v2r.

that may arise, with illustrations of a birthing chair and various problematic positions of babies in wombs (see Fig. 3.8 on p. 153).³⁰ The book ends with unillustrated chapters on how to care for newborn children and how to treat their diseases. Similarly, *Distillacien* is divided according to the process of distilling. It first explains the basics of distilling and how to produce the equipment needed, including images of these instruments (see Fig. 3.14 on p. 177), before proceeding to an unillustrated semi-alphabetical section on how to produce various distilled waters.³¹

Some books are roughly structured from basic to specialist knowledge. The first chapters of *Tscep vol wonders* almost read like astrology for dummies, whereas the latter third of the volume consists of an elaborate, unillustrated treatise on *quinta essentia* based on the work of the fourteenth-century alchemist John of Rupescissa.³² *Der scaepherders kalengier* starts with a section on time that any reader might be able to relate to (a calendar and verses about the twelve months, how to calculate the date of Easter, etc.). Further on in the volume, a translation of Johannes de Sacrobosco's *De sphaera* discusses the shape of the cosmos and the movements of the planets with a theoretical sophistication that contrasts distinctly with the verses in the calendar section. Like *Tscep vol wonders*, *Der scaepherders kalengier* ends with a long and unillustrated text, in this case about the twelve signs of the zodiac and their 'houses.' This latter section seems aimed at a more specialist readership than the earlier parts of the volume.

Whereas not all works have such an evident overarching organisation principle as those discussed so far, they always combine various principles that structure their parts. A regularly applied substructure is one that focuses on parts of the human body from head to feet. This *a capite ad calcem* structure had already been common in texts on ailments and remedies already since Antiquity.³³ It governs sections of *Tregement der ghesontheyt*, *Tscep vol wonders* and *Hantwerck*, and registers in *Den groten herbarius* and *Distellacien*. The head-to-feet principle is also expressed visually in diagrams of the human body, such as the zodiac man discussed above (see Fig. 2.1 on p. 78), and the equally common figure of the vein man (see Fig. 2.12 on p. 105, Fig. 5.11 on p. 276).³⁴ This type of

30 A full-page scene in the German *Rosegarten* (1513) that introduces the section on giving birth, showing a woman in labour assisted by a midwife, has not been copied in the Dutch editions; see Chapter 3.

31 In the German (1500, 1505, 1509, 1515) and English (1527) editions, the section on distilled waters does have illustrations.

32 Van Gijsen 1993, 134; Marissens 2011, 2. See also Appendix 1.

33 According to Keil, it has been testified as far back as the Middle Kingdom of ancient Egypt (c. 21st–17th century BC); Keil 1987, 230.

34 Panse discusses how the head-to-feet scheme governs the iconography of the vein man as well as the so-called wound man; Panse 2012, 97–98. Vein men occur in all editions of

diagram indicates the locations of different veins in the body that should be let on different occasions. It is usually accompanied by a textual explanation that discusses the veins from head to toe. Although the images do not have an imposed viewing order (unlike the text, which only makes sense when read from left to right, top to bottom), their compositions guide viewers' eyes and, in this way, suggest a specific ordering. The upright format entices viewers to start at the top and then move down, especially when the body parts are labelled alphabetically, starting with A for a part of the head.

Substructures according to countable schemes are particularly numerous, including schemes of four (complexions, elements, seasons), seven (planets, days of the week), or twelve (months, zodiac signs).³⁵ These schemes, already commonly used for centuries, are often illustrated with an accompanying series of images. Woodcut series of the four complexions, the seven planets, and the twelve zodiac signs are among the most frequently recurring, as I will discuss below. The four elements were not yet a frequently depicted topic in prints in the early sixteenth century.³⁶ The four woodcuts of this topic in *Tregement der ghesontheyt* of 1514, each marking a chapter on the element in question, are an early example (see Fig. 1.8 on p. 65).

Such countable schemes organise knowledge through enumerations that identify different aspects of, or different reasons for, a natural phenomenon. This 'enumerative text strategy,' as historical linguist Irma Taavitsainen has called it, is applied in practically all of the studied works.³⁷ Enumerations may cover multiple chapters, like the four elements in *Tregement*, but they also appear frequently within chapters. Well-known schemes are sometimes combined with less common ones, such as the five types of diseases and six reasons why letting blood is necessary discussed in *Fasciculus medicine*.³⁸ Enumerations are not only deployed as a textual strategy but also as a visual strategy, as the discussion of image series below will show.

A distinction between theoretical and practical knowledge also occurs as an organising principle, yet only to a limited extent. Theory and practice are in many cases not treated strictly separately, and theory is primarily provided to serve practical purposes. Indeed, many texts are characterised by a constant intermingling and alternation of general theoretical principles, observations

Fasciculus medicine, *Tfundament der medicinen*, and *Der scaepherders kalengier*. A wound man occurs in *Fasciculus medicine*. Skeleton diagrams with labels to identify the bones from head to feet occur in *Fasciculus medicine*, *Den groten herbarius*, and *Tfundament der medicinen*.

35 On common countable schemes, see Keil 1987, 236–240.

36 Shamos 2015, 100–101.

37 Taavitsainen 2011, 99; Taavitsainen 2006, 446–447.

38 Fasc-1512, resp. fols. a3r, b2r.

from medical practice, and practical instructions.³⁹ We do see, however, that a number of texts offer a theoretical basis before they address practices based on this theory. *Chyromantia* starts with an extensive introduction to the human hand and the terminology for its various parts. *Hantwerck* starts with a book on anatomy, as the author Hieronymus Brunschwig complains that many physicians and surgeons lack this essential knowledge. In a similar vein, *Fasciculus medicine* first discusses the four humours as a foundation of all medical practices.⁴⁰ Such an ordering for part of a book, especially for its beginning or for the beginning of a section, underlines that a theoretical introduction was deemed essential in order for readers to be able to apply knowledge from the book in practice.

Commercial strategies of organisation

In addition to all of the discipline-related and topical ways of ordering knowledge discussed so far, a number of works show clear signs that commercial considerations could play a role in the overarching structure of a book, aimed at arousing prospective buyers' interest. One of these strategies is to place the most attractive section at the beginning and name the entire book after it. In *Der vrouwen natuere* and *Thuys der fortunien*, the part from which the work's title is drawn and with which the book starts is only a small part – but likely the most appealing part – of the entire volume. *Der vrouwen natuere* starts by explaining the nature of women with particular attention to female sexuality, indicating how a man can know whether a woman wants to have sex, when a woman is likely to conceive, whether she is pregnant of a boy or a girl, and what factors influence the quality of mother's milk. However, the work also contains a substantial section on the four complexions, which does not specially address female physiology. *Thuys der fortunien* starts with a lavishly illustrated game of fortune and further contains visually impressive fold-out sheets depicting the 'house of Fortune' (see Fig. 2.21 on p. 116) and the 'house of Death.' The rest of the work consists of informative yet mostly less spectacular texts on astrological and health-related topics, which the title does not reflect even though these texts make up some two thirds of the volume.

39 Taape 2014 discusses the interwovenness of theory and practice in Hieronymus Brunschwig's *Small Book of Distillation*, from which *Distellacien* is translated. Van Gijzen 1993, 135 observes for *Tscep vol wonders* how theoretical expositions are continuously connected to practical applications.

40 *Tscep vol wonders* and *Distellacien* also start with theoretical chapters (on astrological concepts and principles, and on what distilling is, respectively) to lay the foundation for the subsequent chapters.

In some cases, combining more or less related texts in a single volume was quite obviously a commercially driven strategy of organisation. This is clear from the way subsequent editions of *Den groten herbarius* were extended with additional texts. The edition of 1532 adds an ‘Anthidotarius for barbers and others,’ which describes how to make plasters, powders, and other kinds of medicines. The edition of 1533 subsequently adds a treatise on syphilis or ‘Spanish pox’ and that of 1538 a treatise on cultivating trees and their fruits. Each time, the title pages emphasise that the newly added treatise ‘is not in the other Herbarius’ (*in dander Herbarius niet en is*), implying that the latest edition is worth buying even for those who already own an earlier edition.⁴¹

Indications of the joint sale with another work, most notably present in *Den groten herbarius* of 1532, further inform us of what kinds of works were considered related. Such indications are therefore relevant to the third domain of knowledge organisation I have distinguished, the classification of text types. On the final page of the 1532 edition, Jan van Doesborch advertises a volume on distilled herbal waters that he hopes to publish, including an outline of its contents.⁴² He states that these waters are more convenient to use than the juices of the plants described in the present volume. Thus, Van Doesborch appealed to potential buyers even before he actually produced the envisaged work.

Religion as an overarching framework

It is noteworthy that religion is less prominently present in the structuring of the Dutch medical-astrological works than we might expect, considering the religious basis of medieval and early modern perceptions of the order of nature and the cosmos. In the sixteenth century, the study of nature was still widely considered as a means to achieve a better comprehension of divine truth, often expressed through the metaphor of ‘reading the Book of Nature.’⁴³ In the Dutch books, however, this perception is voiced only sporadically and concisely. Instead, the prefaces emphasise in a very practical sense how knowledge of

41 For Claes de Grave’s 1533 edition this promise might have been disappointing to some readers: except for the new treatise on Spanish pox and a new title page, the entire volume was a reissue of his 1526 edition. See Appendix 1 and Van Leerdam 2021, 361–362.

42 Herb-1532, fol. Z4r. Van Doesborch probably refers here to a now-lost edition of Brunshwig’s *Small Book of Distillation* (translated as *Distellacien*) or perhaps the *Large Book of Distillation* of 1512, of which no translation in Dutch survives. See also Franssen 1990, 36. Van Doesborch practiced joint sale more often, as is testified for the prose romances *Van Jason ende Hercules* and *Die historie van den stercken Hercules* (both published in 1521) by Besamusca 2017.

43 Jorink 2010. See also Egmond 2017, 13 with further references; Vandommele 2011, 149–193; Cunningham and Kusukawa 2010, xlviij, lii–lvij; Pleij 2007, 178–183; Harms 1985, 80–82; Chapman 1979, 275.

divine Creation (plants, animals, remedies) can be put to good use for healing purposes. Religious means of healing such as prayers are virtually absent. In this respect, these books differ strikingly from vernacular English works. As historian of medicine Mary Fissell observes: ‘Most English popular medical publishing can be summed up as the three Rs: regimen, recipes, and religion.’⁴⁴ In the Dutch books, by contrast, the third R is present almost exclusively through references in prefaces and colophons, for example through the common topos that the healing powers of natural substances are bestowed on us by God.⁴⁵ In terms of organisation strategies, such references provide a concise religious framing for the medical and astrological main content. Explicitly religious images are accordingly rare; one example is the woodcut of God who creates Eve from Adam’s rib in the preface of *Der dieren palley*s (Fig. 2.4). It illustrates a recounting of the story of Creation which tells how God entrusted Adam with knowledge of the liberal arts and all creatures of nature, and how Adam gave all creatures their names.⁴⁶ Such religious frameworks stimulate



Fig. 2.4. God creates Eve from the sleeping Adam’s rib.

*Der dieren palley*s (Antwerp: Jan van Doesborch, 1520), fol. A2r.
The Hague, KB, National Library of the Netherlands, KW 226 A 19.
[Dier-1520-Ho4]

44 Fissell 2011, 419.

45 Religious framing is present, among others, in the prefaces to *Den groten herbarius*, *Thuus der fortun*en, *Der dieren palley*s, *Tfundament der medicinen*, and at the end of Herb-1514, *Thuus der fortun*en, and Rose-1529.

46 The other woodcuts with religious themes include the creation of Eve in Tscap-1520 (not in Tscap-1514 and Tscap-1535), images of the holy Trinity with saints in heaven and of Job in *Tfundament der medicinen*; Christ as Man of Sorrows at the end of Thuys-1522, Christ as Salvator Mundi at the end of Rose-1529, and Christ about to be crucified at the end of Thuys-1531. It is noteworthy that the religiously themed woodcuts in German editions of Brunschwig’s *Cirurgia*, Rösslin’s *Rosegarten* and Gersdorff’s *Feldtbuch* (including images of saints and of an author figure with an angel) were all left out in the Dutch translations of these works; see Chapter 3 and Panse 2012, 100–107, 112.

reflection on and admiration for the wonders of Creation, while instruction and explanation constitute the core of the works.⁴⁷

None of the editions I have studied address medical care in conjunction with care for the soul, although this was a common combination in late-medieval culture.⁴⁸ We do find this combination in the English namesake of *Der scaepherders kalengier*, the *Calendar of Shepherds*, as well as in the French *Compost et kalendrier des bergiers* from which the English tradition derives. Indeed, comparison of ‘calendars of shepherds’ in French, English, Dutch, and German suggests a watershed in the transmission of these works.⁴⁹ The English and French editions have a substantial amount of religious content, including explanations of the Ten Commandments and the Lord’s Prayer and treatises on virtues, vices, and the pains of hell. As book historian Martha W. Driver has pointedly characterised the organisation of the English editions, ‘the calendar and astronomical charts [are] wrapped around the many religious, devotional, and *memento mori* texts like newspaper around fish and chips.’⁵⁰ By contrast, the religious content in the Dutch and German calendars of shepherds is practically limited to the calendar section where saints’ days are listed. Unlike the French and English prefaces, the Dutch and German prefaces do not say anything about the health of the soul and only address the health of the body. As a consequence of this evidently deliberate removal of religious content, the Dutch and German editions must have functioned differently than those in French and English, but these differences are not well understood yet. With the earliest Dutch edition published in 1511, the alteration seems too early to be confessionally motivated.⁵¹ A practical explanation may be more likely than an ideological one. That the ‘three Rs’ were such a common combination in English medical books and apparently much less common in the Low Countries and Germany, suggests that the printers of the calendars of shepherds in different countries strategically catered to local market demands and audience expectations that had grown in the course of decades.⁵²

47 Encouraging admiration and curiosity seems particularly intended in *Der dieren palley*; see below and Chapter 3.

48 Jones 2006, 15–24.

49 Van Leerdam (in preparation), research conducted with a fellowship of the Tiele-stichting (2022).

50 Driver 2003, 211. See also Yoshikawa 2013 and Hüb 2015, 93.

51 Arnoud Visser has demonstrated for humanist emblem books that ‘confessional silence’ was a strategy to ‘negotiate religious diversity’; Visser 2008, 166. I thank Katell Lavéant, Jeroen Vandommele, and the participants of the symposium ‘Was ist historische Wissens- und Gebrauchsliteratur?’ (Wolfenbüttel, 29–31 August 2022) for discussing with me the (limited) likelihood that confessional controversies were at play already around 1510.

52 I thank Kathrin Chlench-Priber for her observation, shared at the symposium mentioned in the previous note, that German almanacs rarely include religious content.

The Dutch corpus suggests, at any rate, that, in the sixteenth century, it was not always deemed necessary to incorporate an overtly religious dimension in a medical-astrological work – a brief reference or a subtle framework at the beginning and/or end of the text could suffice. While many recent studies have rightly emphasised the inextricability of the spiritual and the worldly in late medieval culture, my findings suggest that a distinction between both categories may nevertheless have been acknowledged, or even considered relevant, in certain contexts at the time.⁵³ Further comparative transnational research is necessary to establish more precisely to what extent the secular character of the Dutch books and the strong religious component in English books were typical, and to establish how the apparently diverging expectations and conventions in different regional book markets developed.⁵⁴

Besides the succinct references to religion, however, the Dutch books contain an implicit religious dimension throughout. It may be recognised in the frequently encountered ‘enumerative text strategy’ and enumerative organisational schemes discussed above. As they order knowledge of nature in quantifiable parts, such schemes convey the *ordo* and harmony of Creation. The concept of *ordo* was a central one in medieval thought: it described the notion of a natural and divinely instigated order in which all aspects of Creation have their place, and which the human mind is capable of comprehending.⁵⁵ Thus, the organisational strategies according to the four complexions, the seven planets, etc. may work to reinforce and underline the brief references made at the beginning or end of a text to God as the almighty Creator. Moreover, enumerations convey that it is intellectually feasible for human beings to understand Creation: that we are capable of describing all of its parts in comprehensive lists. Implicit in the pervasive schemes of four, seven, twelve, or whatever number, is the assumption that intellectual and practical efforts can help humans get a grip on the world they live in, the sublunar part of the cosmos that is governed by decay and fickleness.⁵⁶ Indeed, in the preface to the *Roseghaert*, the author Eucharius

53 On the intermingling of religious and worldly aspects of medieval culture: e.g. Folkerts 2021; Vavra 2019; Barnes 2016; Buys 2015, 85; Smith 2014, 26; Corbellini et al. 2013; Yoshikawa 2013; Reisch, Cunningham and Kusukawa 2010, xlvi–liv; Griffin 2007, 113–117; Jones 2006.

54 See for other examples of Dutch and German translations and adaptations where religious components were likely deliberately removed, and of English translations where they were added: Van Gijsen 1993, 134; Luff 2005, 303–307; Huizenga 2008, 440–441; Versendaal 2022, 240–242. Systematic research would need to assess whether these examples point to a pattern or whether counterexamples are equally abundant.

55 LexMA-O, ‘Ordo (-ines).’ On the ‘religious undercurrent’ of image series of the labours of the months and the zodiac signs, evincing man’s place in the natural order of the cosmos, see Hourihane 2007, l–liv.

56 On sixteenth-century ideas of commanding and controlling nature through human intellect and reason, see Taape 2014, esp. 239–240; Buys 2018, 55; Buys 2015, esp. 97–103; Van

Rösslin praises God for the reason and wit He has endowed mankind with, so that the size of the heavens and the courses of the planets have become ‘fully and entirely’ (*ghanselijck ende heel*) known to us.⁵⁷ As Keil concludes, the complexity of multiple, combined organisational principles makes clear that vernacular medical texts not only convey ‘how-to’ knowledge (*Handlungswissen*), but indeed construct a worldview of humans as microcosms in the context of the macrocosm.⁵⁸ This study shows that this worldview is constructed not just through textual organisation, but also through images.

2.2 | Visual organisation strategies: Diagrams and the diagrammatic

Visual language offers ways of organising knowledge within the two-dimensional space of the page. Different visual strategies of organisation come to the fore in two pervasive types of images that are analysed, respectively, in the present and the following section: diagrams and image series. Diagrams structure knowledge by means of schematic representation; image series establish cohesion as they visually connect different parts of a book.⁵⁹ Thus, both of these types of images always, by their nature, play a role in knowledge organisation. Both of them visually organise parts of a whole: diagrams do so within the space of the image, image series do so within the wider space of the book. The analysis of their visual language touches both on the conceptual domain and the domain of page layout. Both types of images deploy specific design conventions to visualise conceptual structures. Analysis of these images provides a dual insight. Firstly, it reveals what visual organisation strategies the book producers used (and which ones they did not use) to make medical-astrological knowledge accessible to a wide audience. Thus, secondly, the analysis shows what visual conventions they presumed their audiences to be familiar with.

The visual language of diagrams is rooted in scholarly traditions.⁶⁰ Diagrams, and the diagrammatic, however, had gained a much broader reach by the early sixteenth century. Diagrams are inherently analytical representations as they ‘make claims about the way things really are.’⁶¹ Their key aim, according

Dixhoorn 2014, 103 and 107; Vandommele 2011, 146–149; Eamon 1994, 104.

57 Rose-1516 fol. [a]2r; also cited in Pleij 1982, 45.

58 Keil 1987, 245.

59 Kostelnick identifies ‘establishing cohesion’ as one of the ‘structural functions’ that design elements perform. Kostelnick 1996, 25; see Introduction, Table 1.

60 Siegel 2012, 53–56; Maclean 2006, 137–141; Bonhoff 1993.

61 Baldry and Thibault 2006, 79. On analytical images, see Chapter 1.

to cognitive psychologist Barbara Tversky, is ‘to structure information to enable comprehension, inference, and discovery.’⁶² Thus, through visual organisation, they invite and facilitate the reader to engage actively with the presented knowledge. Diagrams have been studied from different perspectives – history of science, information design, visual studies – yet their definition is not straightforward. Various studies mention single characteristics of diagrams without providing an explicit, comprehensive definition.⁶³ The *Oxford English Dictionary* (OED) defines a diagram as ‘[a]n illustrative figure which, without representing the exact appearance of an object, gives an outline or general scheme of it, so as to exhibit the shape and relations of its various parts.’⁶⁴ Proceeding from this definition, I will focus on three interrelated characteristics of diagrammatic visual language: outlines rather than naturalistic details, spatial representation of the relations between parts of a whole, and integration of visual and textual elements. Even with the OED’s definition at hand, however, it is not clear whether some images should be considered diagrams. Rather than attempting to establish for each image whether it is a diagram or not, my aim here is to use these three characteristics to get a better understanding of how images apply the diagrammatic mode to structure knowledge. As we will see, the visual language of the diagrams in the Dutch books suggests that the book producers catered to target audiences that had only a modest familiarity with diagrammatic visual conventions.

The Dutch medical-astrological books contain a substantial number of evident diagrams. Various of these have already been touched upon, such as the zodiac man (see Fig. 2.1 on p. 78) and cosmos diagrams (see Fig. o.2 on p. 20). Of the fifteen texts in my corpus, nine contain one or more diagrams in every edition.⁶⁵ They pertain to two main subjects: the cosmos and the human body. The cosmos-related diagrams include, among other things, a visualisation of the concentric structure of the cosmos (*Thuys der fortunien, Der scaepherders kalengier*), circle-shaped tools for calculating the golden number and the dominical letter (*Der scaepherders kalengier, Tfundament der medicinen*), and horoscopes with the twelve houses of the planets shown within a square (*Tscep vol wonders, Chyromantia, Tfundament der medicinen*). Among the diagrams relating to the human body are anatomical images (for example, showing and labelling the bones of the human skeleton,

62 Tversky 2017, 350.

63 On the problem of definition: Hiippala and Bateman 2022; various contributions in Kupfer, Cohen and Chajes 2020; Siegel 2012, 52–53; Bucher 2007, 115–121. Krämer and Ljungberg 2016 include a section titled ‘What is a diagram’ without providing a clearcut definition. Similarly, the section on ‘Diagram semantics’ in Horn 1998 lists functions of diagrams yet does not provide an overarching definition.

64 OED, ‘diagram.’ This definition is also followed by Lüthy 2018.

65 *Der scaepherders kalengier, Fasciculus medicine, Den groten herbarius, Tscep vol wonders, Thuys der fortunien, Der dieren palleys, Tfundament der medicinen, Hantwerck, Chyromantia.*

in *Fasciculus medicine*, *Den groten herbarius*, *Tfundament der medicinen*, *Hantwerck*), vein men showing the locations of the veins suitable for letting (*Der scaepherders kalengier*, *Thuys der fortunens*, *Tfundament der medicinen*), and urine wheels explaining the meanings of different colours of urine (*Fasciculus medicine*). As we saw earlier, both main subjects converge in images of the zodiac man or *homo signorum* (*Der scaepherders kalengier*, *Thuys der fortunens*, *Tfundament der medicinen*), in which human body parts are linked to the signs of the zodiac.

Outlines, spatiality, image-text integration

The first characteristic generally attributed to diagrams is that their visual language contains, to a greater or lesser extent, abstraction or simplification, as they provide ‘an outline or general scheme’ of a phenomenon or object and its various parts.⁶⁶ The case of *Chyromantia* illustrates the different degrees to which this strategy for the visual organisation of knowledge could be applied. In the book on chyromancy (i.e. palm reading), each diagram of a hand shows a simple outline with the lines in the palm that are discussed in the text (Fig. 2.5).

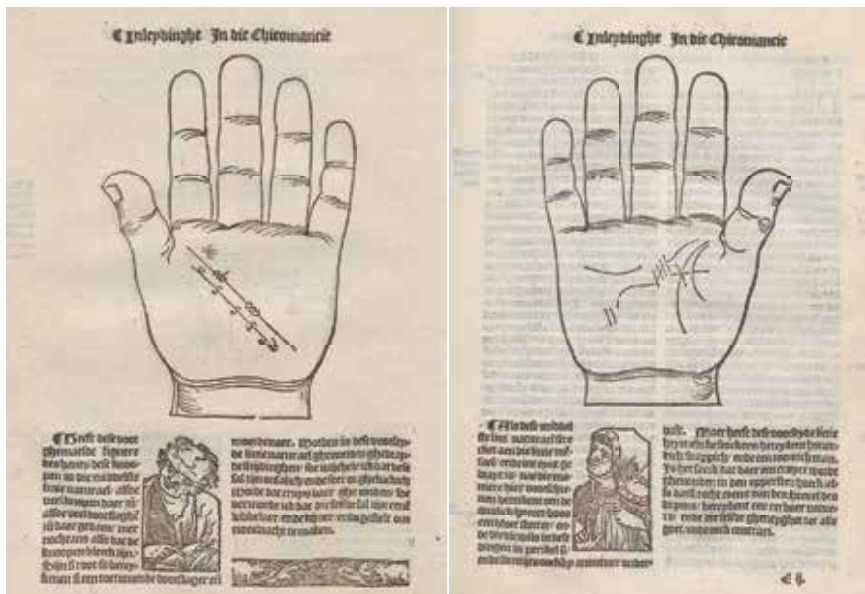


Fig. 2.5. Chyromancy diagram of lines in the hand. *Chyromantia Ioannis Indagine* (Utrecht: Jan Bernsz, 1536), fols. E1v-E2r. Utrecht, University Library, Rariora R fol. 456. [Chyro-1536-Uo1]

66 Cited from OED, ‘diagram.’

The strategy of outlining is used here to emphasise certain information and to leave out any details (including shadows or other suggestions of depth) that are not relevant to the subject matter of the text.

The much more abstracted series of birth horoscopes in the book on natural astrology illustrates how diagrams can ‘visually compress’ a complex phenomenon or object by means of abstraction.⁶⁷ These diagrams show the constellations of stars and planets when the Sun is in a particular zodiac sign at the moment of birth. Following medieval visual convention, each diagram consists of a square that represents the firmament, divided into twelve triangular sections that represent the twelve ‘houses’ through which the planets pass (Fig. 2.6).⁶⁸ Each house



Fig. 2.6. Horoscope diagrams, with hand-colouring. *Chyromantia Ioannis Indagine* (Utrecht: Jan Berntsz, 1536), fol. 11r. Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 I38Du 1536. 1536-B16]

67 Siegel 2012, 53 (‘visuell komprimiert’); Gormans 2000, 55 (‘visuelle Komprimierung’).
 68 Similar diagrams also appear in *Tscep vol wonders* and *Tfundament der medicinen*. The square shape was current until the fifteenth century for this type of diagram; in the sixteenth century, other shapes, including circles, emerged as well; LexMA-O, ‘Horoskop.’ For an elaboration on how the twelve-part ‘grid’ was used, see the section ‘Specialist Medicine and Horoscopes’ in *Medical Astrology* (<https://onlineexhibits.library.yale.edu/s/medical-astrology/page/specialist-medicine-and-horoscopes>, accessed 23 April 2023); French 1994, 43–44; North 1986, 1–2, 153–155.

oock weycken ende bochrich makende.
¶ Scrapio: Dese heerne wordē in mede-
 medecijnen ghebesecht / en niet maect
 electuaris en syropē af. **¶ Pine:** zyn goet
 en alder best genut dē ghenē die haer na-
 tuerlijche cracht en leue die de gheesten
 vermindert en ontgaen zyn. En oock dē
 genē die aen haer lijf van sietten en cranc-
 heden vertereet zyn. **¶ Si** vermeerder en
 dat bloet en bene in dat lichen en tot al-
 le dese crancheden machmen pinee in ne-
 men met censitropē / oft electuaris / oft al-
 leene. **¶ Den rooch vā warmen wate** e
 daer pinee in gesodē is en daer ouer gese-
 tē metteers silt dē bloet loop in dē buye
¶ Pinee gesodē en die ghesodē gheleijch
 amandē / en eenē brij daer wt gemaect
 met supcher / en sleyn rosinen daer onder
 gemengt. En desen brij met hoender sop
 ingeonōd dient tot allen siecē der boest
 en hi sonder den ghenen die lichen ende
 enē cotten adem hebbe. En desen pacien-
 ten salmen hare bedden maken / also dat
 si meer daer inne sietten dan ligghen.
Piscacea. **¶ Cap. CCC. xxij.**
 Piscia latine. Piscacea grece.
 Siskoch vel fustech arabi.



¶ Scrapio: Dese vruchten wassen in dē
 lande vā Damasco. **¶ Rabbi Mos-**
 ses **¶ Onder alle vruchten zyn Piscacea die**

beste / en si crachtigē die mage en leuere.
¶ Piscacea zyn in bitten ende droochyt
 ghetempert / en si hebbe veel duetken in
 haer. **¶ Dial.** Dese vruchte wāsi haer
 sellen / en in medecijnen wortse gesecht



¶ Psaar: Dese vruchte
 geen / maect goede ver-
 douwinge en ver starct
 en opent die boest / ende
 repnicht die longhen.
¶ Galie. Die olie vā de
 ser vruchte is goet dē hoofde / alst daer me-
 de bestchen wort. **¶ Kuerrops:** Dese
 vruchte is goet ghetē der maghe / wāt si en
 mach daer af niet dsopt wordē noch si en
 ran daer af niet te zeer gelayereet wordē
 wāt si maect die mage gesont en lustich
 mer in sald niet te veel af etē. **¶ Kueren.**
 Dese vruchte vstarct therte en maect goet
 bloet. **¶ Die meesters in ca. piscacea:** Dese
 vruchte zyn so goet gese als amandē.
¶ Dese vruchte gesodē en daer onōd gemē-
 get nuy indira een half loot / en satpionis
 ee half dragma / en dit is anē gerdōneer
 met honich / en dat ghemacht daer mede
 best chē / biengt coit / dars bequamenheit
 tot dat oncrupch werck / en ver meer dert
 sperma dars die natuer der menschen.
¶ Perem. **¶ Capitel. CCC. xxij.**
 Pira latine. Cunnerean grece.



Sij vis sanis esse nolijte fructibus esse

Fig. 2.7. Images of plants flanked by decorative borders, a half figure of a scholar, and annotation *Sij vis sanis esse nolijte fructibus esse*.

Den groten herbarius (Utrecht: Jan Berntsz, 1538), fol. E1v.

The Hague, KB, National Library of the Netherlands, KW 226 A 8. [Herb-1538-Ho4]

was considered to influence a specific aspect of human life. The diagrams show the positions of stellar constellations and planets as symbols within the houses.

The use of abstraction in the pairs of faces in the book on physiognomy shows why it can be difficult to establish for sixteenth-century woodcuts whether they are diagrams (see Figs. 1.1 and 1.2 on p. 59). The face pairs appear to be stereotypical or even caricature portraits rather than diagrams, each pair emphasising possible shapes of a specific feature of the face that is discussed in the text (e.g. a high and a low forehead, a crooked and a straight nose, etc.). Yet, there is an element of abstraction in their exaggeration and in the way in which some of these heads are represented as disembodied objects floating against a blank background. By juxtaposing two contrasting and exaggerated shapes, each pair represents the outer ends of a scale of possible shapes, thus enabling readers to conceptualise a classification of these shapes.

The face pairs exemplify philosopher Claus Zittel's observation that 'schematic' and 'realistic' qualities intermingle in all kinds of ways in early modern scientific images.⁶⁹ Zittel argues that the commonly upheld dichotomy between schematic, diagrammatic, normative images on the one hand and mimetic, realistic images on the other is untenable. In the Dutch sources, this argument is substantiated not only by the face pairs in *Chyromantia*, but perhaps even more so by the images of plants in early printed herbals like *Den groten herbarius*. These herbal images have little detailing and shading, showing the crude plant shapes against a blank background (Fig. 2.7). Their appearance has schematic qualities, even though the text of *Den groten herbarius* claims that they were drawn after living plants.⁷⁰ Scholars have attempted to classify the plant images in early printed herbals in the way that Zittel calls into question, i.e. dividing them into 'schematic' and 'realistic' images.⁷¹ Historian of science Bruce T. Moran proposes a more fruitful perspective: he points out that the '[m]ore schematic than realistic' character of early modern plant woodcuts makes them in fact applicable in different contexts, for different forms of thinking. Such images 'broadened the experience of knowing by inviting the viewer to fill in the gaps between clear-cut lines and the thing itself.'⁷² Such an invitation to 'fill in the gaps' echoes Tversky's previously mentioned description of diagrams' aim to 'enable comprehension, inference, and discovery.'

69 Zittel 2005, 541.

70 On claims of lifelikeness in *Den groten herbarius*, see Chapter 3 and Van Leerdam 2021, 369–370.

71 For the *Gart der Gesundheit* (Mainz: Peter Schöffer, 1485), of which *Den groten herbarius* is a translation, Baumann and Baumann 2010, 111–176 have even gone so far as to try and establish for each individual woodcut whether it was drawn after nature or whether it follows an already existing iconographic scheme.

72 Moran 2017, 402.

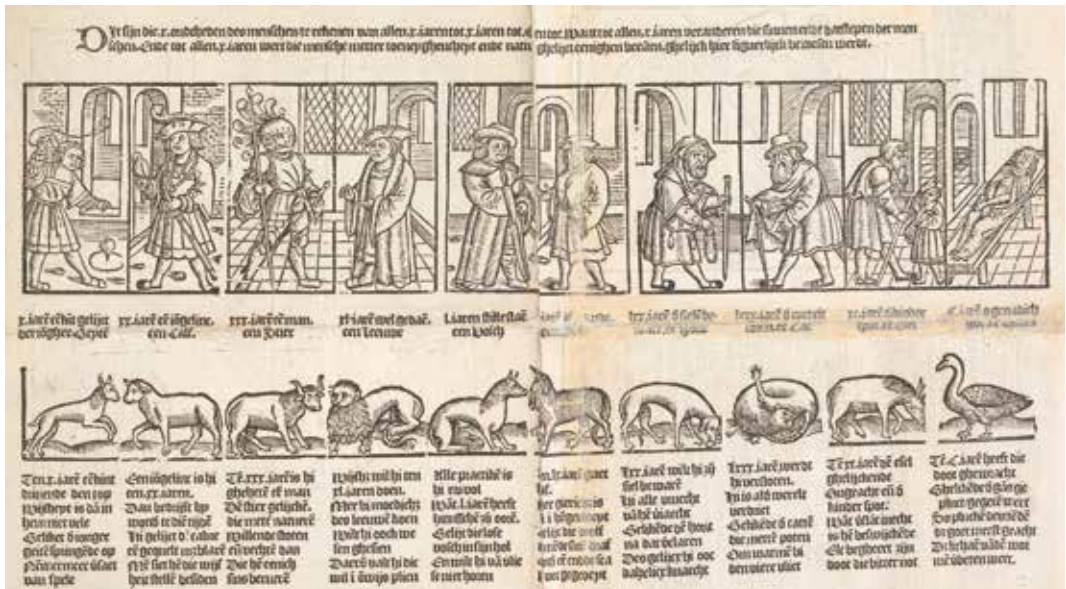


Fig. 2.8. The ten ages of man likened to ten animals. *Thuis der fortunen ende dat huys der doot* (Utrecht: Jan Berntsz, 1531), fold-out sheet, quire N. The Hague, KB, National Library of the Netherlands, KW 227 E 55. [Thuis-1531-Ho4]

Chyromantia's face pairs invite the reader to categorise information in a way that typifies not just scientific images, but woodcuts in early printed books more generally. The characteristic of abstraction or schematic representation is present to a greater or lesser degree not only in 'scientific' or analytical images, but in virtually all woodcuts of the period. This makes attempts at a strict demarcation of diagrams from non-diagrams especially futile. Most images in the Dutch medical-astrological books are characterised by a relatively limited amount of detail and by rather generalised representations in clear-cut lines, whether they depict surgical instruments, plants, the months of the year, a bathing scene, or a doctor examining a urine flask.⁷³ They visualise universals rather than particulars: not a specific, individual object or event but an outline of its general appearance.⁷⁴ Thus, they implicitly incite readers to conceive of categories as mental structures of knowledge.

73 Perhaps the most 'particular' image in my corpus is the author portrait of Johannes In-dagine in *Chyromantia*, copied after the Latin edition of 1522. Even this portrait, however, shows few truly individual traits.

74 Egmond 2017, 126–161 (Chapter 5) provides a rich and enlightening discussion of sixteenth-century ideas about generic versus specific images.

In addition to representing abstracted outlines, the second characteristic of diagrammatic visual language is that it organises knowledge spatially. Diagrams ‘make spatial relations meaningful’ through the way they arrange marks (lines, shapes, symbols, etc.) on the page.⁷⁵ The position of a particular part within the diagram tells us something about how this part is conceptually or physically connected to other parts.⁷⁶ In the Dutch books, this diagrammatic use of spatial relations, too, is applied to varying extents. It is strongly present in cosmos diagrams and zodiac men, for example. From the cosmos diagram in *Der scaepherders kalengier* a reader may deduce that the Earth is at the centre of the cosmos and that the other planets revolve around it (see Fig. 0.2 on p. 20); from the zodiac man we may understand that the feet are influenced by the zodiac sign of Pisces (see Fig. 2.1 on p. 78).

A spatial organisation of knowledge can also be found, however, in images for which it is not clear whether they should be considered diagrams. For example, *Thuis der fortunien* contains a fold-out sheet that pairs the ten ages of man to ten animals (Fig. 2.8).⁷⁷ For each decade of human life, images of a man of that age and of an animal are set below each other, with an accompanying verse that explains the likeness: a ten-year-old child (shown playing with a spinning top) is likened to a goat that never tires of playing, a man of forty is likened to a lion because he gains wisdom but also wishes to be admired for his courage, and a man of ninety (shown with a crooked back and a walking stick) is likened to a donkey because he has lost his wits and is ridiculed by children. Although the individual images of people and animals on this sheet are not diagrammatic, their arrangement on the page certainly has a schematic quality: it is this spatial arrangement that conveys the relations between ages and animals. The example again shows that the distinction between ‘diagram’ and ‘not a diagram’ is not always clear-cut, but that an analysis of diagrammatic elements of visual language helps us understand how knowledge is organised in images.

The third characteristic of diagrammatic visual language is the integration of textual elements within the image. Many diagrams have text labels: identificatory keywords or captions connected to specific parts of the image. Such labels form a non-pictorial layer over the more graphic or pictorial elements of a diagram – a visual convention that readers need to understand in order to recognise and decode a diagram.⁷⁸ Readers have to make an additional decoding effort when labels are a key (e.g. a letter or number) that refers to an explanation

75 Drucker 2014, 66.

76 Tversky 2017, 350.

77 The same scheme of the ten ages appears in *Der dieren palleys* (1520), fols. A3v–A4r. On representations of the ages of man: Jansen-Sieben 2003; Hazelzet 1994; Burrow 1986.

78 Bateman, Wildfeuer, and Hiippala 2017, 280.

outside of the image. This system, used for example in the case of the vein man in *Der scaepherders kalengier* (see Fig. 2.12), requires readers to navigate back and forth between the image and the running text. While such keyed diagrams were already conventional in medieval geometry, for example, their presence in a vernacular work like *Der scaepherders kalengier* testifies that this convention entered from scholarly tradition into works that targeted a less specialised audience.⁷⁹ It is significant that *Der scaepherders kalengier* does not explain the labelling system used in the vein man, while it does provide instructions for the use of other diagrams, such as the circle diagrams with which to calculate the dominical letter and the golden number for each year (indispensable aids to calculate, respectively, the day of the week for each date and the dates of the moveable feasts; Fig. 2.9).⁸⁰ The presence or absence of user instructions provides a clear indication of which visual forms were assumed to be familiar among the intended audiences.

The design of text labels illustrates that visual conventions do not shift overnight. We see the printers experimenting with a new aspect of conventional text labels: indication lines that connect the labels to the individual parts of the image.⁸¹ This feature, so self-evident in our own times, does not seem to have been in common use before the fifteenth century: throughout the Middle Ages,

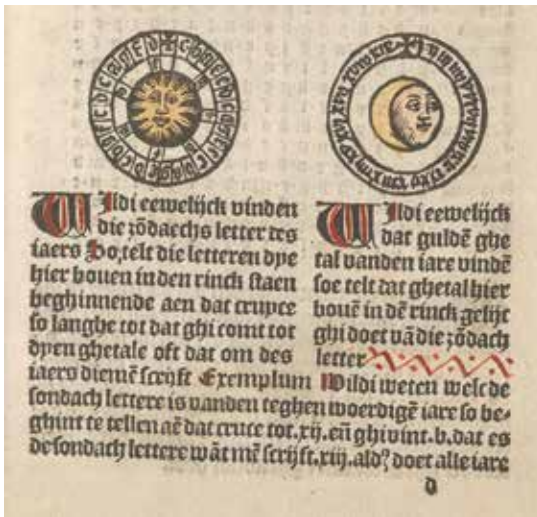


Fig. 2.9. Diagrams for finding the dominical letter and golden number for each year, with instructions how to use them. *Der scaepherders Kalengier* (Antwerp: Willem Vorsterman, 1516), fol. d1r. Washington, D.C., Library of Congress, Rosenwald 1137. [Scaep-1516-W02]

79 Letters are commonly used in geometric diagrams to label points or lines that are explained and discussed in the main text. Keyed diagrams also appear for example in the first, Latin, edition of *Fasciculus medicine* (1491). A number of further examples from Latin works are depicted in Pantin 2013, 21, 41.

80 Falk 2020; Gumbert 2003, 217–218. *Der scaepherders kalengier* also explains to readers how to read the various columns in the calendar section.

81 On these dynamics, see Kostelnick and Hassett 2003, esp. Chapter 4.

text labels were commonly placed directly next to or inside the relevant parts of an image.⁸² The addition of connecting lines gained ground especially in the early decades of the printing press and seems to have become established relatively quickly as a widely understood visual convention. Yet, such connecting lines were evidently still a rather new feature for printers as well as readers. In the various editions of *Tfundament der medicin* and *Fasciculus medicine* we find anatomical diagrams where a number of connecting lines are empty, lacking text labels that were foreseen in the image's design (Figs. 2.10 and 2.11).⁸³ That the empty lines recur in subsequent editions – and have not been annotated or corrected in any of the copies I have examined – suggests that they did not violate readers' expectations.



Fig. 2.10. Anatomical diagram of a skeleton, used here to represent a vein man; several indication lines lack labels; a coffin and hourglass at his feet as *memento mori* symbols. *Tfundament der Medicinen ende Chyrurgien* (Antwerp): Willem Vorsterman, 1540), fol. B6r. Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 S985f 1540. [Tfund-1540-B16]

82 Herrlinger 1970, 54–60.

83 In *Tfundament der medicin*, a skeleton diagram (*Die anathomie*, Tfund-1530 fol. T3v) is reused to depict a vein man on fol. B6r. The number of indication lines was evidently tailored to the indication of bones rather than veins. In *Fasciculus medicine*, indication lines without labels are present in the diagrams of the wound man and the female anatomy (head), while the diagram of the skeleton has more labels than indication lines.

Dit is die derde tabule van dat wesen d vrouwen En
 hoe dat die vencht ontfangē en geyeneret en gheboerē
 wordē En vele radē en medicamentē teghen die siechten
 ende ghebrekē der vrouwen



Fig. 2.11. Female anatomy, captioned ‘the third *tabule*,’ indication lines emanating from the head lack labels; annotation *toette* written inside the genitals.
Fasciculus medicine (Antwerp: Claes de Grave, 1512), fol. d3v.
 Amsterdam, Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 88. [Fasc-1512-Ao4]

The examples of the empty connecting lines also illustrate that adhering to the convention of text labels in diagrams posed quite a few challenges to early printers – probably more than to scribes or illustrators. The technology of the printing press facilitated the inclusion of text within a woodcut in two ways. The first option was to add typographic text (i.e. printed from movable type) to a woodcut, either by leaving a hole in the block in which to insert type (as in the title page of *Der dieren palleyes*, see Fig. 2.3 on p. 84) or by adding the type next to the block. As the skeleton diagrams with empty connecting lines demonstrate, this option required coordination in the print shop: the designer or cutter of a block had to anticipate the addition of text in the right places and the compositor had to know which text should be inserted in which place in the image. Alternatively, the text in a woodcut could be xylographic, cut in the woodblock and thus an inextricable part of the image (see e.g. Figs. 2.9, 2.15). While this option allowed for less flexibility than typographic text, it made reuse particularly easy. Xylographic text had its own pitfalls, however: the labels in the woodcut of the vein man in *Der scaepherders kalengier* of 1539 are printed in mirror image, as the woodcutter had cut them the right way round in the woodblock instead of mirrored (Fig. 2.12). Despite the technical challenges, it is clear that the visual convention of text labels remained fundamental to the design of diagrams and was thus retained, and, indeed, further developed, in the transition from manuscript to print.



Fig. 2.12. Vein man with xylographic labels (letters) printed in mirror image. *Der scaepherders Kalengier* (Antwerp: Symon Cock, 1539), fol. C3r. Amsterdam, Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 488. [Scaep-1539-A04]

Comprehensible diagrams

Although diagrams were quite common in the Dutch works – with the majority of medical-astrological editions containing at least one image that can be safely qualified as a diagram – the selection and presentation of diagrams suggests that book producers applied diagrammatic visual language only to a limited extent, to ensure its comprehensibility for a wide audience. This becomes apparent, as we will now see, first from a comparison with related editions in Latin, secondly from the joint presence of diagrams and narrative images, and thirdly from the limited use of abstract, conceptual diagram shapes, such as wheels and trees. The book producers seem to have assumed that not all readers were equally familiar with the diagrammatic mode as a visual form of knowledge organisation.

First, a number of diagrams in the Dutch works derive from *De sphaera* and *Margarita philosophica*, but they constitute a limited selection of relatively generic, elementary images from these Latin works. Even though both *De sphaera* and *Margarita philosophica* were basic textbooks, their subject matter and the visual language of their diagrams is considerably more sophisticated than the Dutch medical-astrological works. Johannes de Sacrobosco's *De sphaera* (written around 1230), a staple astronomy textbook for university students, circulated in print since 1472, and with increasingly rich image programmes since Erhard Ratdolt's illustrated edition of 1482.⁸⁴ Many of its diagrams required a substantial amount of spatial intelligence on the part of their readers (Fig. 2.13).⁸⁵ The abbreviated rendition of *De sphaera* in *Der scaepherders kalengier*, however, limits itself to the bare minimum: it contains nothing but a selection from the four chapters of Sacrobosco's text (without the commentaries that were often included), and the two overview images, depicting the cosmos diagram (see Fig. 0.2 on p. 20) and an armillary sphere (a celestial globe) held by a hand, that had become standard for all *De sphaera* editions since 1482.⁸⁶

Of the images from the voluminous *Margarita philosophica*, an even tinier fraction was copied into the Dutch works. *Margarita philosophica* ('The Philosophical Pearl'), first published in 1503, was written by the Carthusian humanist Gregor

84 On *De sphaera* and its illustrations: Pantin 2020; Crowther and Barker 2013, esp. 430–433; Hamel 2006; Gingerich 1999; Thorndike 1949. The project *The Sphere. Knowledge System Evolution and the Shared Scientific Identity of Europe*, led by Matteo Valleriani at the Max Planck Institute for the History of Science (Berlin) works on a census of printed copies of *De sphaera*: <https://sphaera.mpiwg-berlin.mpg.de> (accessed 23 April 2023).

85 Crowther and Barker 2013, 429.

86 Gingerich 1999, 211 considers these images 'a standard requirement.' On visualisation strategies in armillary spheres, see Krifka 2000, 419–421. Both diagrams appear in all editions of *Der scaepherders kalengier* I examined, either reused or copied.

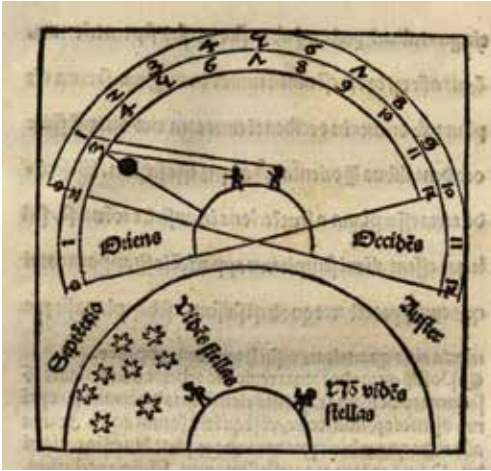


Fig. 2.13. Diagram that demonstrates that the heavens and Earth are round.

Johannes de Sacrobosco, *De sphaera* ([Leipzig]: [Martin Landsberg], [c. 1495]). Munich, Bavarian State Library, 4 Inc.s.a. 1606, fol. B7v.

Reisch (c. 1467–1525) as an ‘epitome of the whole of philosophy.’⁸⁷ It provides an extensively illustrated introduction to the university disciplines of the seven liberal arts, natural philosophy, and moral philosophy in the form of a dialogue between a master and a pupil. Its woodcuts range from allegories of the disciplines to abstract geometrical and astronomical diagrams, among many other things. Two diagrams deriving from this work, showing the human brain and the intestines, occur in *Der dieren palley*s and *Thuy*s der fortun

en while the intestines diagram is further included in *Der vrouwen natuere* and *Chyromantia*.⁸⁸ The brain diagram of a head in profile indicates the locations of the various faculties and the senses (Figs. 2.14 and 2.15). The anatomical diagram shows the internal organs, identified through text labels, inside the opened belly of a half figure (see Figs. 1.3 and 1.4 on p. 60). These diagrams circulated independently from their original context: the text passages that they illustrate in the Dutch works were not taken from *Margarita philosophica*.⁸⁹ Other diagrams from *Margarita philosophica*, including a detailed diagram of the human eye, do not appear in the Dutch works.⁹⁰

87 Cunningham and Kusukawa 2010, x–xiii.

88 Reisch, *Margarita philosophica* (1503), fols. F2v and H2r. Derivation from this work may be indirect: both diagrams are also included in Hieronymus Brunschwig’s *Large Book of Distillation* (1512), likewise without further elements from *Margarita philosophica*.

89 The diagrams of the brain and the intestines also appear in *The noble lyfe* (the English translation of *Der dieren palley*s) and *Handy warke* (the English translation of Brunschwig’s *Cirurgia*), both of which were translated into English through Dutch.

90 A series of tiny images depicting ‘fiery impressions’ caused by vapours in the sky, included in *Thuy*s der fortun

en and *Der dieren palley*s, may derive from *Margarita philosophica* or from French and English ‘calendars of shepherds’ in which they also appear; see Appendix 1.



Fig. 2.14. Diagram of the mental faculties (internal and external senses). Gregor Reisch, *Margarita philosophica* (Freiburg im Breisgau: Johann Schott, 1503), fol. H2r. Washington, D. C., Library of Congress, Rosenwald 595.



Fig. 2.15. Diagram of the mental faculties (internal and external senses), copied after *Margarita philosophica* (1503). *Der dieren palley* (Antwerp: Jan van Doesborch, 1520), fol. A6v. The Hague, KB, National Library of the Netherlands, KW 226 A 19. [Dier-1520-Ho4]

Compared to *De sphaera* and *Margarita philosophica*, then, the Dutch books show a concern for simplification as they copy only a small number of diagrams, and only those that provide general overviews rather than those aimed at understanding observations of more specific phenomena.⁹¹ As Andreas Gormans notes in his historical study of scientific diagrams, the presence and ‘phrasing’ of a diagram in itself already implies a certain prior knowledge of the phenomenon it addresses.⁹² It seems that the early printers in the Low Countries did not dare to count on such prior knowledge for a variety of phenomena visualised in *De sphaera* and *Margarita philosophica*.

⁹¹ As will be demonstrated in Chapter 3, strategies of reduction and simplification are not just visible in these separate diagrams but also in larger series of images that were copied in various medical-astrological works in Dutch.

⁹² Gormans 2000, 54.

Secondly, diagrammatic visual language is present to a limited extent in the Dutch books because the illustration programmes never consist solely of diagrams: whenever diagrams are included, they are combined with images with more narrative and/or allegorical features. The variety in image types is particularly large in *Der scaepherders kalengier*, *Thuys der fortunien*, *Tfundament der medicinen*, and *Chyromantia*. The presence of diagrams does not just presuppose prior knowledge of the represented phenomenon, but also of how to decode their visual language and distinguish it from narrative visual language. The presence of relatively few and relatively generic diagrams amidst more narrative images again suggests a concern with non-specialist readers who would have been familiar with the visual conventions of diagrams only at an elementary level.⁹³

Thirdly, the modest application of the diagrammatic in the Dutch books also becomes apparent from the fact that traditional, geometrically shaped diagrams such as wheels (*rotae*), squares, and tree diagrams, are rare in these works.⁹⁴ By contrast, such shapes are frequently present in *scholarly* medical works from the same period.⁹⁵ This difference merits further research: perhaps there are differences across geographic regions or text types at play, but the divergent presence of abstract geometrical shapes may also be due to differences in intended audiences (scholarly versus lay readers). That the Dutch books do not draw on these centuries-old visual conventions for diagrams might provide yet another indication that the book producers did not dare to assume an advanced knowledge of diagrammatic conventions among their target audiences.

Moreover, the choice not to include abstract wheels or trees may be related to the functions of the diagrams. Gormans distinguishes two types of functions, which he connects, respectively, with medieval and early modern practices of knowledge structuring. Traditional medieval diagrams were commonly synoptic and mnemonic, intended to help memorise theories and (abstract) concepts, often by using geometrical shapes such as wheels and trees.⁹⁶ Gormans considers their function in the context of the medieval practice of deductive reasoning. They generally embody the idea that both human activity and natural processes are subordinate to God, who has an explicit place in many of these diagrams. As the examples in this chapter have shown, however, many diagrams in the Dutch sources are aimed at distinguishing and comprehending

93 In my corpus, the work with the relatively largest number of diagrams is *Fasciculus medicine*: six out of its ten images clearly qualify as diagrams.

94 Tree diagrams do not occur anywhere in the books I have studied. For a range of medieval examples of such traditional shapes, see Murdoch 1984.

95 Pantin 2013, 20–21; also Maclean 2006.

96 Gormans 2000, 56.

the various parts of objects and phenomena in the physical world – ranging from horoscopes to human anatomy. Rather than abstract geometrical shapes, they show the abstracted or simplified outlines of what an object or phenomenon looks like. These diagrams may be considered what Gormans calls *Funktionsdiagramme*, functional diagrams, intended to elucidate ‘functional principles and relations.’⁹⁷ He connects functional diagrams to early modern epistemic practices of observation and inductive reasoning. They embody the idea that humans are capable of manipulating nature for their own purposes.

This predominance of practically oriented diagrams corroborates a number of observations I made above with respect to conceptual organisation strategies. Firstly, there is a greater focus on conveying practical knowledge than on expressing a religiously motivated approach to knowledge of Creation. Secondly, both the ‘functional diagrams’ and the countable schemes discussed above testify to the idea that humans are capable of getting a grip on nature. Finally, the predominance of functional diagrams attests how visual conventions – such as the use of abstract geometrical shapes – adapted to new needs for visualisations and to shifting ideas on the epistemic functions of images (which will be further discussed in Chapter 3).

2.3 | Visual organisation strategies: Image series and visual cohesion

While diagrammatic visual language structures knowledge within individual images, let us now turn to image series that elucidate structures of knowledge within the book as a whole. Image series use the same visual format throughout a book to represent different subjects. In terms of the structural functions that Charles Kostelnick identifies in the visual rhetoric of documents, image series thus function to ‘establish cohesion among parts.’⁹⁸ Analysing more closely how they do so, I will pay particular attention to series of the seven planets, a subject that was represented in a range of different ways, sometimes even within a single volume. The co-occurrence of multiple series not only underlines the importance of the planets as an organising principle, textually as well as visually; it also shows how series could explicate knowledge structures in different ways.

As I define it, an image series consists of three or more images within a single volume that share a number of formal characteristics such as shape, size, style, and/or setting (e.g. backgrounds, ornamentation) and that represent different

⁹⁷ Gormans 2000, 57.

⁹⁸ See Table 1 in the Introduction and Kostelnick 1996, 25.

instances of an overarching theme. The number and the nature of the shared characteristics varies; some series may exhibit coherence in more respects, or more eye-catching respects, than others. I distinguish image series from image programmes: I consider an image programme to encompass the entire set of images in a particular volume. Theoretically, an image series can be identical to an image programme, when all images in a book follow the same format, but such cases do not occur in the editions I have studied.⁹⁹

Overarching themes visualised in image series may involve delimited groups such as the seven planets or the twelve months, which are often identified explicitly in the text. More implicit themes can also be represented in a series, such as natural substances with medicinal qualities in *Den groten herbarius*. In this herbal, each of the 435 plants and other natural resources is shown in a rectangular, near-square frame and all woodcuts are more or less identical in size, signalling that all of them belong to the same group of *materia medica* (see e.g. Fig. 2.7, Fig. 4.4 on p. 203). As in most early herbals, adherence to the format received priority over showing the relative sizes of different plants: the apple tree and the chamomile are shown equally big.¹⁰⁰ In *Thuys der fortunien*, a sequence of series evinces the concept of fortune. In the book of fortune, the reader passes along multiple series, including the wind directions, the zodiac signs, and the months of the year, to arrive at a wise master who provides life advice (see Figs. 4.13 on p. 216, 4.20 on p. 225, 4.24 on p. 232). As the reader is referred to just one instance in each series, the arrangement in series clearly conveys that there are other possibilities, too. Together the series thus elicit a characteristic of one's fortune in life, namely, its singularity.

Again, as in the diagrams, the cosmos and the human body are central themes of many series. The theme of the cosmos underlies image series of countable schemes such as the seven planets, the labours of the months, the children of the planets, the zodiac signs, and the four elements.¹⁰¹ These countable schemes are usually represented as allegorical images. Medical subjects and the human body are central to series of the four complexions (*Thuys der fortunien*, *Der dieren palleys*, *Der vrouwen natuere*, *Chyromantia*),¹⁰² the ten ages of

99 The *Roseghaert* editions come close: only one image – that of the birth stool – is of a different format than the series of babies in wombs.

100 A similarly rigid format can be observed in the series of plant woodcuts in *Tregement der ghesontheyt* and *Tfundament der medicinen*.

101 On the iconographic tradition of the labours of the months and the zodiac signs: Hourihane 2007; Henish 1999. On the children of the planets: Shamos 2015, 143–157; Blume 2004; Grössinger 2002, 61–67. On the four elements: Shamos 2015, 98–121.

102 The four complexions also appear in *Tregement der ghesontheyt* and *Tscep vol wonders*, but two by two, i.e. in two rather than four woodcuts; according to my definition these are not a series.

man (*Thuys der fortunen*, *Der dieren palleys*), lines in hands (*Chyromantia*), face types (*Chyromantia*), surgical instruments (*Tfundament der medicinen*, *Hantwerck*), readjustment of broken bones (*Hantwerck*), babies in wombs (*Roseghaert*), and urine flasks (*Tfundament der medicinen*). Apart from medical and cosmos-related topics, other subjects visualised in coherent series include plants (*Den groten herbarius*, *Tregement der ghesontheyt*, *Tfundament der medicinen*), animals (*Der dieren palleys*, *Den groten herbarius*), distilling instruments (*Distellacien*), and bust figures of scholars (*Den groten herbarius* of 1532 and 1538, *Hantwerck*, *Chyromantia* among others). When a text was translated, in many cases its accompanying images were copied in series, too.¹⁰³ Once introduced, these series were retained – either as reused blocks or copies – in subsequent Dutch editions, as an inextricable part of the work.

Visual cohesion could be reinforced by the addition of decorative borders to flank woodcut images. This was especially common in editions by Jan van Doesborch and Jan Berntsz. In the editions of *Den groten herbarius* by Van Doesborch (1532) and Berntsz (1538), it is noteworthy that all plant images are flanked by decorative borders, while the small scholar figures inserted in the text are not (see Fig. 2.7). Thus, the decorative borders signal that the plant images belong to a different series, and serve different purposes, than the scholar figures. Even when decorative borders may have been added for pragmatic or aesthetic reasons in the production process, in particular to fill up images to the same width as the text column, their effect on readers may still have been to lend cohesion to such a group of images.

In practice, the cohesion and completeness of a series sometimes posed challenges to book producers: what if a series of woodblocks was not, or no longer, complete? In the 1531 edition of *Thuys der fortunen*, for example, Jan Berntsz reused a number of woodblocks depicting the ‘wise masters’ from Jan van Doesborch’s 1518 edition, but apparently some of the masters were now lacking. In their place, Berntsz inserted other, smaller woodcuts of male figures that were already in his collection, and he extended their size by adding decorative borders around them to match the size of the other master figures. In similar vein, *Chyromantia* contains a series depicting the zodiac signs in roundels, where a deviant, rectangular woodcut is used for Aries because the round version was apparently lacking.¹⁰⁴ In these cases, then, the book producers preferred to break the format of the series in order to keep it complete, rather than entirely leave out a missing image.

103 Strategies of copying are discussed in Chapter 3.

104 Chyro-1536, fol. O4v. Strikingly, the rectangular Aries has been copied in Chyro-1554 (fol. O4v).

The process of establishing cohesion through image series involves additional dynamics when multiple series on the same topic appear within a single volume. To what extent and how were readers guided in these situations to connect different sections of a work? Focusing on a single series of the seven planets, I will analyse two divergent possibilities: in *Tscep vol wonders*, this series appears twice, while in *Thuys der fortunēn*, readers were presented with this same series as well as a vastly different conceptualisation of the planets.

The series under consideration was published for the first time in Thomas van der Noot's *Tscep vol wonders* in 1514. It subsequently reappeared in *Thuys der fortunēn* and various other works.¹⁰⁵ It represents the planets as personifications of the Roman gods whose names they carry: Saturn, Jupiter, Mars, Sol, Venus, Mercury, and Luna. Each of the standing figures is accompanied by symbolic figures of their so-called houses, the zodiac signs that enhance the planet's influence according to medieval astrology (see Fig. 2.17).¹⁰⁶ For example, at the feet of Mars lie a ram (Aries) and a scorpion (Scorpio), and Sol is depicted with a lion (Leo) at his feet. The images are derived from a series of autonomous prints by the German artist Hans Burgkmair the Elder (1473–1531) dating from c. 1510 or, perhaps more likely, from copies of this series that rapidly started to circulate (Fig. 2.16).¹⁰⁷ Van der Noot's introduction of the series in the Low Countries became an instant success, judging from its reuse and copying throughout multiple decades.

In *Tscep vol wonders*, the series appears twice within the same book, which decisively shapes its functioning as a structuring aid.¹⁰⁸ The woodcuts not only establish cohesion between the individual chapters on the planets, but also between the two sections where the same series appear. Their repetition signals that both sections discuss the planets one by one, in the same order.¹⁰⁹ In the first instance, the image series illustrates a group of seven chapters that for each planet describe the character and fortune of people who are born when

¹⁰⁵ The woodblocks of the series were reused as well as copied; see below.

¹⁰⁶ As the text explains in Chapter 28, Sol and Luna each have only one house, while the other planets have two houses (*Tscep*-1514, fol. c2r).

¹⁰⁷ That the images derive from Burgkmair was already noted by Kronenberg 1935. See also Falk 1973, no. 64 and 65; Van de Waal 1952, 140. West 2006 dates Burgkmair's series of the seven planets to c. 1510; I have not been able to consult her full dissertation. Also: West (forthcoming).

¹⁰⁸ In all three editions of *Tscep vol wonders* (1514, 1520, 1535), a single series appears twice. The editions of 1514 and 1520 use the same woodblocks, the 1535 edition has close (but somewhat cruder) copies after these blocks.

¹⁰⁹ In similar vein, and to similar effect, readers of *Chyromantia* encounter no fewer than four image series of the planets. In addition to Van der Noot's series, three different series are included that represent the planets as classical deities seated on chariots.



Fig. 2.16. Personification of Saturn with Aquarius and Capricorn, from a woodcut series of the seven planets, Monogrammist ANDL after Hans Burgkmair the Elder (original series c. 1510). Amsterdam, Rijksmuseum, RP-P-OB-4351.



Fig. 2.17. Personification of Saturn with Aquarius and Capricorn, with hand-colouring. *Tscep vol wonders* (Brussels: Thomas van der Noot, 1520), fol. a1v. Ghent, University Library, BHSL.RES.0400. [Tscep-1520-G03]



Fig. 2.18. Personification of Saturn with Aquarius and Capricorn (same block as Fig. 2.17), with hand-colouring. *Tscep vol wonders* (Brussels: Thomas van der Noot, 1520), fol. b4r. Ghent, University Library, BHSL.RES.0400. [Tscep-1520-G03]



Fig. 2.19. Personification of Saturn with Aquarius and Capricorn (same block as Fig. 2.17). *Thuus der fortun en ende dat huys der doot* (Utrecht: Jan Berntsz, 1531), fol. K3r. The Hague, KB, National Library of the Netherlands, KW 227 E 55. [Thuys-1531-H04]

this planet is in a particular zodiac sign.¹¹⁰ Shortly after these chapters, the series reappears to illustrate chapters that describe the ‘condition’ (i.e. nature and influence) of each planet. Both instances of the series are located so close to each other that even casual readers must have noticed they were identical. This is also suggested by the fact that in some copies the colourists applied identical colours in both instances of the series (Figs. 2.17 and 2.18).¹¹¹

In *Thuys der fortunēn*, Van der Noot’s series after Burgkmair (Fig. 2.19) appears together with an entirely different series of the planets which depicts them as star-shapes and Sol and Luna as a radiant sun and a crescent moon with faces (Fig. 2.20).¹¹² The series from *Tscep vol wonders* is reused here to illustrate a description of the nature of each planet and of those born under it. The series of star-shaped planet images follows immediately, illustrating a text about the houses of each planet and a variety of other characteristics. In this case, the two series could only establish cohesion between the different parts of the book if the audience recognised the various conventions for representing the planets.¹¹³ At the time, both the personifications and the star-shapes were conventional elements in the iconography of the planets, especially in combination, with the star-shape signalling the representation of a planet (as in Fig. 2.16; see also Figs. 2.22 and 2.23). The combination does, indeed, occur elsewhere in *Thuys der fortunēn* itself, in the fold-out sheet of *dat huys der fortunēn* (the house of Fortune; Fig. 2.21). Here, in a schematic arrangement flanking the central figure of Fortune, seven personifications of the planets are each joined vertically to a star (or sun or moon) and an ‘effect’ of that planet in earthly life.¹¹⁴ Mercury, for example, represented as a god and as a star, is coupled to *Sprekentheyt* (eloquence). The use of two different visual conventions emphasises that both text sections on the planets discuss different aspects of the same theme. The direct connection between both kinds of visualisations in the fold-out sheet may have offered readers additional guidance to recognise the conceptual connection between the planet sections.

Iconographic conventions in image series of the planets can be seen to adapt to the fashion of the time, yet the underlying structures of knowledge about

110 For each of the seven planets, the text deals with all twelve zodiac signs.

111 Tscep-1520-G03, Tscep-1520-L79.

112 Van der Noot’s woodblocks of this series were reused in all editions of *Thuys der fortunēn*, in Jan Berntsz’ *Chyromantia* of 1536 and subsequently copied in Jan Roelants’ *Chyromantia* of 1554. Van der Noot’s woodblock of Venus also reappears on the title page of Berntsz’ *Int paradijs van Venus* (c. 1530).

113 This text section merges, for each planet, the two passages from *Tscep vol wonders* on the planet in question.

114 The iconography is evidently copied after Van der Noot’s series that occurs a few pages later, but they are not the same blocks. Van Doesborch had a second series made, then, which was also reused in the subsequent editions of *Thuys der fortunēn*.



Fig. 2.20. Star shapes representing the planets; Sun with a face; scholar figure. *Thuus der fortunenden dat huys der doot* (Utrecht: Jan Berntsz, 1531), fols. M3v-M4r. The Hague, KB, National Library of the Netherlands, KW 227 E 55. [Thuus-1531-Ho4]



Fig. 2.21. Fold-out sheet of the 'House of Fortune,' including personifications of the seven planets (top right: Saturn) copied after the series introduced by Thomas van der Noot (see Fig. 2.17). *Thuus der fortunenden dat huys der doot* (Utrecht: Jan Berntsz, 1531), quire J. The Hague, KB, National Library of the Netherlands, KW 227 E 55. [Thuus-1531-Ho4]

the planets remained unchanged. With the introduction of the series after Burgkmair in the Low Countries, Van der Noot apparently made a deliberate, probably commercially motivated choice of a fashionable, classicizing iconography that quickly became conventional for depicting the planets. Just three years earlier, in *Der scaepherders kalengier* of 1511, Van der Noot had used a more traditional series, based on fifteenth-century iconography, which represented the planets as naked figures whose genitals are covered by the typical star-shape that identifies them as planet personifications (Fig. 2.22).¹¹⁵ Each planet is flanked by the two zodiac signs of its houses in small roundels, joined together in a larger roundel surrounded by clouds. The figures contain little depth and only crude indications of shading. This series of *Der scaepherders kalengier* of 1511 was copied in the edition of c. 1514, printed by Willem Vorsterman.¹¹⁶ Van der Noot, conversely, did not reuse his woodblocks for *Tscep vol wonders* but instead chose to design the new series after Burgkmair.



Fig. 2.22. Personification of Saturn with Capricorn and Aquarius in roundels. *Der scaepherders calengier* (Brussels: Thomas van der Noot, 1511), fol. g1v. Paris, Bibliothèque nationale de France, Res. P V 162. [Scaep-1511-Poi]



Fig. 2.23. Personification of Saturn with Capricorn and Aquarius in roundels. *Der schaepherders Kalengier* (Antwerp: Symon Cock, 1539), fol. E2r. Amsterdam, Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 488. [Scaep-1539-A04]

¹¹⁵ It is likely that Van der Noot's 1511 series derives from a German example. The figures resemble those in printed calendars like the *Iatromathematisches Hausbuch* (Augsburg: Johann Schönsperger, 1487).

¹¹⁶ Subsequently, in *Der scaepherders kalengier* of 1516, Vorsterman reuses these blocks from his edition of c. 1514.

Later editions of *Der scaepherders kalengier* testify that the shift in iconographic conventions was a gradual process: in *Der scaepherders kalengier* of 1539, printed by Symon Cock, the series of the planets combines fashionable Renaissance-style poses and outfits with the traditional roundels and star-shaped attributes (Fig. 2.23). The 1539 edition is a cheap octavo, which indicates that the new convention of classicizing planet personifications by this time also spread among wider audiences in the market for cheap print. At the same time, these fashionable series in Cock's *Scaepherders kalengier* and *Tscep vol wonders* continued to follow earlier conventions with respect to structuring functions as well as information value: like the medieval-style series of Van der Noot (1511) and Vorsterman (c. 1514, 1516), they visually tie together a series of chapters on the planets while marking the start of each chapter, and they still show each planet as a personification accompanied by its two zodiac signs.

2.4 | The searchable book: Images and other structuring paratexts

Within a book's design, images fulfil structuring functions in close interaction with other structuring paratexts and layout elements. However, the role of images as structuring aids is not always straightforward. An approach focusing on the interweaving of multiple rhetorical functions helps to shed a different light on any perceived inconsistencies or impracticalities in the structuring functions of images and paratexts.¹¹⁷ As I will show, two of the rhetorical functions identified by Kostelnick, namely, those of revealing document structure and indicating usability, are closely interwoven.¹¹⁸ This approach demonstrates that the images and other paratexts in medical-astrological books, regardless of their actual effectivity as structuring aids, jointly convey the impression of a 'searchable book.'

With the advent of print, selective reading and the organisation of knowledge took on new forms and a new urgency due to the expanding amount of available material.¹¹⁹ Both printers and readers experimented with the visual conventions of navigational aids such as indexes, headings, and marginal keywords.¹²⁰ It was not so much the search tools that were new, but rather their increasingly wide application and the audiences that encountered them in print. As we will see, conventions for the use of images as navigational aids were in flux, too. Marking

117 Habermann 2001, 132–149 provides a detailed discussion of finding aids in early printed German herbals, including seemingly cumbersome aspects that testify to experimentation.

118 See Introduction and Kostelnick 1996, 24–25, 27; see also Moys 2017, 207.

119 Blair 2010a.

120 Modifications and customisations of navigational aids by readers are discussed in Chapter 5.

the start of a chapter was a common function of images, in early printed books as well as in manuscript culture already earlier.¹²¹ In the medical-astrological books in Dutch, such a function is particularly common for narrative scenes, depicting bloodletting, bathing, eating, breastfeeding, encounters between doctors and patients, and other everyday activities, as well as for image series of countable schemes like the planets – as we saw in the previous section – and the labours of the months.¹²² In *Den groten herbarius*, *Tregement der ghesontheyt*, *Der dieren palleys*, and *Tfundament der medicinen ende chirurgien*, for example, the vast majority of illustrations mark the start of a new chapter. Many images in the Dutch medical-astrological books thus contribute to what Kostelnick considers the rhetorical function of revealing the ‘global structure’ of the book.¹²³

The practical relevance of such a structuring function for images and many other navigational paratexts can be explained from a crucial shift in reading practices that took place in the twelfth and thirteenth centuries. In that period, the layout of books for use in the newly established universities became more oriented towards practices of selective (or discontinuous) rather than continuous reading.¹²⁴ Many medieval works, especially on natural history, were not primarily intended to be read from front to back, as had been a common mode of reading in monastic contexts. Instead, they were equipped with paratextual infrastructures that facilitate selective reading and searching, or ‘random access for specific ends,’ such as chapter numbers, indexes, tables of contents, and folio numbers.¹²⁵ This shift from continuous to selective reading, and the changes in book design it entailed, marks a crucial turn in media history – one that was perhaps even more impactful, according to some scholars, than the invention of printing with movable type some three centuries later.¹²⁶

In the early print era, however, when conventions were in flux and were applied on a new scale, design solutions could arise which to us may seem inconsistent or impractical. Readers of the medical-astrological books encountered quite a few images that do *not* mark the start of a chapter or section and that, as a consequence, do not primarily have a structuring function. The co-occurrence

121 See note 9 above.

122 Scenes of bloodletting appear among others in Tscep-1514 and Tscep-1535, *Thuys der fortunien* (all editions), *Tregement der ghesontheyt*; bathing scenes in *Dat regiment der ghesontheyt*, *Thuys der fortunien*; table scenes in *Dat regiment der ghesontheyt*, *Tregement der ghesontheyt*, *Den sack der consten*; nursing scenes in *Der vrouwen natuere*, Herb-1538.

123 See Introduction, Table 1, and Kostelnick 1996, 24–25.

124 Foundational: Blair 2010a, 33–46; Parkes 1991a; Rouse and Rouse 1982. See also Duncan 2019, 266; Zedelmaier 2007, 236; Stallybrass 2002, 43–47. A nuancing of the widely held dichotomy between monastic and scholastic reading is offered by Weston 2018.

125 Stallybrass 2002, 46. The term ‘paratextual infrastructure’ is coined by Tholen 2019, 13.

126 Kwakkel and Thomson 2018, 5; Saenger 1996, 241, 300.

of differently functioning images raises the question: to what extent did images really provide readers with navigational grip? Instead of neglecting or dismissing such instances that do not conform to our expectations, close scrutiny of their appearance and practical functioning enables us to gain insight into the evolution of visual conventions.

Our common assumptions about images as navigational aids are challenged in the first place by a substantial number of analytical images, including various diagrams and images of medical instruments, that hardly elucidate the book's overall structure: instead, they are placed in the vicinity of a specific text passage they accompany, which may well be in the middle of a chapter.¹²⁷ Secondly, and more curiously, a particular group of narrative images has an ambiguous function within the organisation of the book: in some cases they function as structuring aids and in other cases they do not. This group consists of multifunctional stock images of what I call dialogue figures, as their gestures and the direction of their gaze express dialogue or conversation. They come in different sizes, styles, and appearances – male as well as female, busts as well as full-length figures, individually as well as in pairs, some clearly identifiable as scholars by their outfits and attributes (discussed in Chapter 4), while for others it is less clear who or what they represent.¹²⁸ Separate blocks of stock figures were also combined to represent a couple or a group, thus evoking new situations of dialogue and interaction (Fig. 2.24). In general, they do not have any remarkable or specific attributes or background settings, which is a major reason why they are multifunctional. In the medical-astrological books, they are typically not identified in any way in the text, whereas several of them also appear in prose romances where they always serve to represent specific characters (see Fig. 4.25 on p. 233). The lack of identifications in the medical-astrological works brings the focus primarily to their appearances (e.g. male/female, old/young, learned/lay, rich/poor) rather than on who precisely they are. These figures were reused, copied, and exchanged by several printers, notably Jan van Doesborch, Willem Vorsterman, and Jan Berntsz.

The functional ambiguity of the dialogue figures may have posed interpretive challenges to readers, as the example of *Der vrouwen natuere* illustrates. The various editions of this work contain predominantly narrative images, including many dialogue figures of men and women that are not clearly identified

127 The importance attributed to such spatial proximity between epistemic image and textual reference is discussed in Chapter 3.

128 For example, in *Chyromantia* it is not clear whether five small busts of kings and emperors in the book on physiognomy are meant to illustrate facial types (as Leitch 2020, 642 assumes) or whether they are used as de-individuated dialogue figures like many of the other woodcuts.



Fig. 2.24. Dialogue figures without evident structuring functions, inserted in the midst of a chapter. *Der vrouwen Natuere ende Complexie* (Antwerp: Heyndrick Peetersen van Middelburch, c. 1540), fols. A4v–B1r.

Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 V984 1528. [Vrouw-c1540-B16]

in the text. The images of people engaged in some kind of action, for example showing a man and a woman together in bed, a sick person in bed, and a woman nursing a baby, all mark the start of the (unnumbered) chapters.¹²⁹ In contrast, the dialogue figures are sometimes positioned at the start and sometimes in the midst of a chapter (Fig. 2.24).

Thirdly, that images did not always fulfil a straightforward structuring function becomes apparent from their distribution within specific works. Even a book like *Tscep vol wonders*, where images consistently mark the start of a new chapter, contains many chapters without an illustration. In such cases, images offer only limited grip as structuring and signalling aids. Printers' decisions whether a chapter was to be illustrated seem to have been governed by a combination of conceptual/thematic and strategic/commercial considerations: they

¹²⁹ The chapters in this work are not numbered but they are visually marked by an indented title preceded by a paraph sign.

copied existing image programmes if a text had been published with illustrations earlier, and if they could, they made clever reuse of existing woodblocks with fitting themes. Concerns about an even distribution of images across a book do not seem to have played a significant role in their considerations.¹³⁰

In order to understand the extent to which images were useful – and were expected to be useful – as structuring aids, it is important to approach them in conjunction with other kinds of navigational paratexts that abound in these vernacular books, such as numbered chapters, alphabetical or topical indexes, tables of contents, and white spaces and paraph signs that mark a new part of the text. A closer look at these navigational paratexts reveals that they, too, do not always function as we might expect and, indeed, that they are not always quite as user-friendly as readers might have wished.¹³¹ This is also suggested by the substantial number of annotations and adaptations of printed indexes by early modern readers (discussed in Chapter 5).

Some works have very few structuring paratexts, most notably *Hantwerck*. Most of its pages consist of massive text blocks in two columns, where the main visual anchors on the page are small two-line initials, paraphs, and occasional images. Its layout differs remarkably from its English counterpart, *The handy warke of surgery* (1525), which offers much more structuring guidance through white spaces and large headings, among other things. Even though some of the woodcuts in *Hantwerck* mark the start of a new chapter, they do not function well as structuring aids, simply because there are too few of them. Moreover, most of *Hantwerck*'s images are small dialogue figures of scholars that are inserted in the midst of the text.¹³²

While most of the other works signal their structure more clearly than *Hantwerck*, it is evident that there was no standard format to offer grip to either producers or readers: visual conventions had not yet crystallised, especially not for search tools like indexes.¹³³ Apparently, printers were not always confident that their audiences knew how to use these tools.¹³⁴ The table of contents in *Tfundament der medicinen* is introduced as 'You will find the pieces of this Table

130 Besamusca, Kuiper, and Resoort 1988, 40 have suggested for Willem Vorsterman's edition of the prose romance *Sibilla* (c. 1540) that Vorsterman decided for financial reasons to include fewer woodcuts towards the end of the volume.

131 As has also been noted for other early printed books, see for example Duncan 2019, 271–272; Fissell 2011, 422; Habermann 2001, 140 on the inconsistent ordering of the registers in the *Gart der Gesundheit* and 284–288 on inconsistencies in chapter headings in Otto Brunfels' *Contrafayt Kreüterbüch* (1532).

132 Discussed in Chapter 4.

133 On the development of the index: Duncan 2022; Duncan 2019; Zedelmaier 2007.

134 See also Blair 2010a, 117. Elaborate explanations of indexes and other finding aids can already be found in medieval manuscripts; see for example Wackers 2018, 133–134 on Jacob van Maerlant's explanation in *Der natueren bloeme* (1270) of the book's alphabetical order.

thus, following one after the other,¹³⁵ apparently aiming to ensure that readers understood that the table of contents had been ordered in the same way as the texts in the book.¹³⁵ *Den groten herbarius* contains an index of remedies from head to feet, preceded by an appraisal of its usefulness and an instruction on how to use it which take up nearly a whole page. The text passage, literally translated from the German *Gart der Gesundheit* of 1485, explains that each chapter contains *paragraphos*, which look like this: ¶ [printed paraph symbol], and that the index of remedies refers to the relevant *paragraphus* number which the reader can then count in the chapter.¹³⁶ The passage thus commends how the arrangement of the book facilitates discontinuous reading, although it also contains somewhat of a caveat:

And thus one does not need to read the entire chapter in order to find any power or virtue of the herbs or a cure. And if the paraph number were not always correct, so one should seek near to it or read the entire chapter, and then one will find the cures or medicines that one wants. For one may easily err on the number, but one shall never err on the number or order of the chapters.¹³⁷

A selective reading of *Den groten herbarius* thus involved counting paraps and hoping that no mistakes were made in their numbers in the index.

That the development of conventions for search tools was still in full swing becomes apparent not only from the abundant explanations of some indexes, but also from a puzzling complexity of others, as the case of *Distellacien* shows. In the second edition (1505) of its German source, the *Small Book of Distillation*, Hieronymus Brunschwig admits explicitly to the needless complexity of the indexes in the previous edition: he explains in the preface that the indexes have been changed because in the first edition they were too voluminous and cumbersome, with unnecessary duplications and cross references.¹³⁸ *Distellacien*, the Dutch translation of 1517, follows the revised arrangement in the index of ailments that constitutes Book 2. *Distellacien* also follows the German example in another, quite impractical way, however: Book 3 on herbal waters has retained the semi-alphabetical order of the *German* plant names. Thus, after Chapter 8 on *Acoley watre* follows Chapter 9 on *Endiuuen watre*, which is called *antifien wasser* in

¹³⁵ Tfund-1532, fol. A1v: *Die stucken van deser Tafel suldi aldus deen na den anderen volgende vinden.*

¹³⁶ Transcription and discussion of the German passage in Habermann 2001, 138–140.

¹³⁷ Herb-1514, fol. K2v: *Ende so en darfmen dat geheel capittelle niet ouerlesen om eenige cracht of ducht der cruyden oft curatie te vindene. Ende of dat getal der paragraphen niet altijd gerechtich en ware, soe salmen dat soecken daer bij oft dat capittelle gheheelijc ouerlesen, ende dan salmen die curatien ende medicinen vinden diemen begeert, want aent getal machmen lichtelijc erreren oft dwalen. Maer aen dat ghetal ende ordinancie der capittelen en machmen niet dolen.*

¹³⁸ Taape 2014, 254.

German. And Chapter 67 on *Valeriaen wortel watre* appears among plants starting with a D, because in German it is called *Denmarck wasser*. In the alphabetical table at the beginning of the Dutch edition, *Endiuuen watre* is correctly listed under E and *Valeriaen wortel watre* under V. The alphabetical table is thus even more essential for navigating the book than it was in the German edition.

The caveat of possibly erroneous numbers mentioned by the index of *Den groten herbarius* applied to printed folio numbers and chapter numbers as well. In the Dutch books, printed folio numbers are still relatively rare: they only occur in editions of *Den groten herbarius*, *Fasciculus medicine*, and the 1532 edition of *Tfundament der medicinen*. The traditional, medieval practice of referring to chapter numbers in indexes and tables of contents is more common.¹³⁹ Mistakes were regularly made, both in chapter numbers and folio numbers, and sometimes duly corrected by hand by readers.¹⁴⁰ Quire signatures are the only printed numberings in which mistakes are rare.¹⁴¹

Despite these various instances of what we might perceive as flaws or inconsistencies, the document design of the Dutch medical-astrological books overall deploys visual conventions that identify them as searchable books that facilitate selective reading. Structuring images and paratexts proliferate, organising the works in visually distinct chunks of knowledge. Many of the books, or book parts, follow an ‘item-by-item format’ that Mary Fissell has characterised as one of the key features that suggest early popular medical books were intended for selective rather than continuous reading.¹⁴² Interpreting the illustrations as part of this paratextual infrastructure helps us to look in a different way at visual conventions and reader expectations in early print culture. Sixteenth-century phenomena that differ from our own conventions, such as an apparent lack of agreement between image and text, persistent reuse of images, or semi-alphabetical ordering, are too widespread to be dismissed as testimonies to a lack of care on the part of the illustrators or printers. Instead, it is more fruitful to

139 Zedelmaier 2007, 236–237 states that references to chapter numbers remained common even in the seventeenth century, while from the sixteenth century onward there were also indexes with only folio numbers. On the history of page numbering, see Duncan 2022; Sawyer 2019, 145–148; Saenger 1996, 254–278.

140 For corrections by readers in printed navigational aids, see Chapter 5 and Appendix 4. Multiple errors in printed folio numbers and chapter numbers occur in editions of *Den groten herbarius*. In the table of contents to *Tscep vol wonders* of 1514, *Die condicien van luna* (‘The condition of the Moon’) is listed both as Chapter 23 and Chapter 25, whereas in the text only Chapter 25 deals with this topic.

141 An error in a quire signature in *Der dieren palleys* (1520, fol. P2r), where O is printed instead of P, has been corrected by hand in all copies I have examined, probably already before they left the print shop.

142 Fissell 2011, 422. Other key features that Fissell points out include the presence of finding aids such as chapter numbers, indexes, and folio numbers, as well as ‘a resolutely practical outlook that promises readers potential melioration of their woes.’

approach them as testimonies to conventions in the making. Whether or not the paratexts and layout elements allowed for the kind of efficient navigating we expect a book to facilitate, their sheer presence – and especially their combined presence – offered readers a framework of interpretation, signalling adherence to a genre of practical, searchable instructive books. In terms of rhetorical functions, then, even when the images do not consistently fulfil the function of ‘revealing document structure,’ they do contribute to ‘indicating usability.’¹⁴³

In practice, not all readers will have had equal need for navigation and structuring aids. Although scholarship often considers selective reading as typically spurred by the printing press, there are multiple indications that continuous reading was still a common mode of reading as well. The explanation of the index in *Den groten herbarius* is revealing in this respect: the option of counting paraph signs is presented as a potentially convenient feature, but if it does not work one just reads the entire chapter. *Tscep vol wonders* also seems to take continuous reading into account, in addition to its searchable structure of short, numbered chapters: the text contains several cross references such as *ghelijck bouen verclaert es* (‘as has been explained above’).¹⁴⁴ *Chyromantia* promotes its comprehensibility at the end of the book on chyromancy by stating that ‘the effort is so small, and virtually absent, that you will be able to understand everything once you have read it at least once or twice.’¹⁴⁵ It thus implies that reading an entire book twice is a ‘small effort.’ The preface of *Hantwerck* also seems to advise continuous reading as it urges apprentice barbers and surgeons to carefully read (*aensiet ende ouerleest mit nersticheden*) the book.¹⁴⁶ The title page of its English counterpart *Handy warke* advises the reader even more explicitly to read the book multiple times, thus pointing to a reading strategy aimed at memorising rather than at targeted searching: ‘Item who so desyreth of this science ye playne knowledge *let hym oftentimes rede this boke/ and than he shall gette perfyte vnderstandynge of the noble surgery*’ (my italics).

We may conclude, then, that the visual rhetoric of a ‘searchable book’ intended for selective reading is regularly joined with a textual rhetoric of continuous reading. The books thus accommodate different strategies of reading. And judging from the distribution of annotations across volumes – sometimes spread from cover to cover, sometimes concentrated in a particular section – both

143 See Introduction, Table 1, and Kostelnick 1996, 24, 27.

144 *Tscep*-1520, fol. d1r. Another example in *Tscep*-1520, fol. e2r: *ghelijck ick voren bescreuen hebbe* (as I have written before).

145 *Chyro*-1536, fol. L4r: *Den arbeyt is also cleyn, ende also bij na niet, dat ghi dat alte samen ten minsten eens oft tweemaal ghelesen zijnde, salt moghen verstaen.*

146 *Hantw*-1535, fol. #1v: [...] *ghi ionge beginnende mesters ende knechten der berbieren ende cyrurgijnen aensiet ende ouerleest mit nersticheden dit cleyne boecxken.*

modes of reading indeed seem to have been put into practice, as will be shown in Chapter 5.

2.5 | The visual rhetoric of usefulness: Images as genre indicators

The very presence of navigational paratexts and images could signal a communicative genre, namely, of a searchable book that allowed for use as a work of reference. Such a signalling function of paratexts brings us to the third domain of knowledge organisation where images play a role, again in conjunction with other paratexts: readers' classification of text types. Readers rely on their familiarity with visual conventions in images and book design to assess what kind of work they are dealing with even before they have read a single word.¹⁴⁷ Thus, the rhetorical functions of design elements as Kostelnick identifies them – such as conveying tone, signalling emphasis, and indicating usability – not only guide a reader's attitude towards a book, but they also help the reader to situate the book in his or her conceptualisation of different kinds of text. Understanding more precisely how these mechanisms of classification worked is especially pertinent for medical and astrological text types, as they are by no means clearly separated. Encompassing surgeries, herbals, regimens, almanacs, and much more, they overlap and interact in a multitude of ways. Attention to visual conventions – both in images and paratexts – as signals of genre may deepen our understanding of whether and how early modern readers classified texts within this vast and rather fuzzy category of medicine and astrology.¹⁴⁸

I will argue here that the subject matter of the woodcuts in medical-astrological works may have functioned as genre indication, in a similar way as the presence of navigational aids discussed above. Yves G. Vermeulen has already briefly pointed out, in his study of early printed books in Dutch, that 'there are clear differences between woodcuts showing Christ on the cross, a knight and a lady, or a distillation instrument, which provided readers with an impression of the textual content. The phenomenon of the illustrations thus allows for some vague genre distinctions [...].'¹⁴⁹ Analytical images of instruments, plants, anatomy, or cosmos diagrams undoubtedly worked as genre indications: their presence clearly signals that a book intends to convey

147 See above, note 13.

148 On visual and verbal cues of genre on early modern title pages, see Ratia and Suhr 2017; Pouspin 2017; Sullivan 2007; Franssen 1990, 96–97; Vermeulen 1986, 176–193.

149 Vermeulen 1986, 170, my translation. Pouspin 2017, 2.2.1 makes a similar observation with respect to title page images of French vernacular books.

knowledge of the depicted matters, regardless of how detailed or accurate the images actually are. What is more, narrative images in medical-astrological books may have offered such a kind of interpretive grip as well.

In the Dutch medical-astrological works, the visual rhetoric of many narrative images strengthens the textual and paratextual focus on practical use. The images show everyday situations and activities where knowledge from the text may be applied: eating, bathing, cultivating and processing plants, letting blood, or consulting a doctor. The texts pay much attention to *why* one should need to know about the matters described in the book. For example: the preface of *Der scaepherders calengier* states that one will learn how to age healthily through the so-called ‘natural knowledge’ of shepherds that is contained in the book. *Tscep vol wonders* repeatedly explains to the readers that they need knowledge of the planets and the zodiac because their undertakings may fail if started under the wrong constellation. There are numerous of such instances where the texts clearly state what the reader will learn and why that knowledge is practically useful. The narrative images are not of an instructive nature – quite the contrary: the images of bloodletting doctors, for example, do not inform us in any way on how bloodletting should be done (apart from: inside a room, with the patient safely seated in a chair); in scenes of eating or drinking it is not clear what is on the menu, let alone whether that menu is healthy. In other words: the images are not *required* to understand or use the text, so they do not *enhance* the practical usability of these books. Indeed, several of the printed texts also circulated in unillustrated versions in manuscript or print, and many of the woodcuts are stock images that were also used in other contexts.¹⁵⁰ And yet, these narrative scenes function as what German scholarship calls *Leseleitfiguren*, images that prepare and guide the reader’s attitude towards a text.¹⁵¹ They weave a consistent fabric of knowledge in practice, of putting the content of the book to good use.¹⁵²

The often conventional visual language and the frequent reuse of the woodcuts may in fact have made them particularly suitable to fulfil a function in signalling text type.¹⁵³ Rather than corresponding in detail to a specific passage in

¹⁵⁰ For example, the texts from which *Dat regiment der ghesontheyt, Tregement der ghesontheyt*, and *Der vrouwen natuere* were translated, had circulated in unillustrated volumes for centuries. Furthermore, many herbals were printed without illustrations, too, and there were relatively few herbals with narrative scenes of engagement with natural resources as in *Den groten herbarius*.

¹⁵¹ Meier 2010, 158–159.

¹⁵² Panse 2012, 61, 90 considers such narrative scenes as *exempla*.

¹⁵³ Many early woodcut illustrations broadly indicate the subject of the text rather than its specific details; e.g. Pouspin 2017, 1.2.1; Haberland 2005, 131–132; Chatelain and Pinon 2000, 244. A function as genre indication has furthermore been pointed out for specific image types, such as *magister cum discipulis* images for schoolbooks (Rautenberg 2008, 73; Meier 2010, 160–161; Smith 2000, 87–89).

the text, the narrative scenes of all kinds of action and dialogue evoke everyday situations and types of interaction that readers will have recognised from their own lives – and perhaps from other books. Thus, their presence may have signalled the intention of knowledge transmission just as much as analytical images did, and especially the joint presence of both types of images conveys the accessibility and applicability of practical knowledge.

A number of medical-astrological works seem to defy any straightforward classification as the visual indicators of genre they contain are ambiguous. Scrutiny of the combined signals that images and other paratexts convey suggests that these works served other purposes – notably entertainment – at least as much as practical instruction. Ambiguous signals are notably present in three works that contain mostly narrative stock images: *Dat regiment der ghesontheyt*, *Den sack der consten*, and *Der vrouwen natuere*. On the one hand, these works adhere to the conventions of instructive and didactic books: they follow an item-by-item-format (for example through the use of printed initials and white spaces) that was typical to instructive texts, and their title pages and/or prefaces clearly refer to instructive purposes. On the other hand, compared to the other works I have studied, they contain very few aids for selective reading: neither numbered chapters, tables of contents, nor indexes. These books were likely not primarily classified as works of reference (i.e. for consultation) but rather as works of entertainment. Their woodcuts show many generic scenes of interaction and of everyday activities that also occur in contemporary prose romances as well as in a number of other contemporary works that are difficult to classify and that seem to have served entertaining purposes among others, such as *Int paradijs van Venus* and *Dat bedroch der vrouwen* (Fig. 2.25; see also Fig. 4.25 on p. 233).¹⁵⁴ The former is a dialogue on love-related dilemmas, the latter is a collection of stories about historical and contemporary deceitful women that contains a similar combination of scholar figures and composite scenes of male and female stock figures as *Der vrouwen natuere*. Whereas *Dat regiment der ghesontheyt*, *Den sack der consten*, and *Der vrouwen natuere* are unquestioningly considered as *artes* literature, they underline the problematic nature of Ria Jansen Sieben's still widely followed definition of that genre as works with a primarily instructive aim.¹⁵⁵

A consideration of image features (narrative/analytical) in relation to paratexts also sheds a different light on *Der dieren palleys*, the work with perhaps the most puzzling genre indicators. Many of the animal images in this work are

¹⁵⁴ *Int paradijs van Venus* (Utrecht: Jan Berntsz, c. 1530); *Dat bedroch der vrouwen* (Utrecht: Jan Berntsz, 1532). On entertainment, see Chapter 4. On images reused across genres, see also Van Leerdam 2023a.

¹⁵⁵ Jansen-Sieben 1989, XII.



Fig. 2.25. Page opening from *Int paradys van Venus* with copied and reused woodcuts. Left: composite scene of dialogue figures of a man and a couple (see also Fig. 2.24). Right: bathing couple (see also Fig. 4.21 on p. 227).

Int paradys van Venus (Utrecht: Jan Berntsz, c. 1530), fols. B1v–B2r.

London, British Library, General Reference Collection C.133.b.28.(2.). © British Library Board.

analytical (‘this is a stork’) and narrative at the same time (the stork is feeding its young in a nest on top of a roof; see Fig. 1.10 on p. 68).¹⁵⁶ While *Der dieren palley*s has an item-by-item arrangement as well as a clearly phrased instructive purpose, it has remarkably few finding aids for such a voluminous book. Indeed, a number of finding aids have been left out compared to the *Hortus sanitatis* from which the text was translated. Some chapters in *Der dieren palley*s are numbered while many others are not, making the numbering virtually unsuitable for practical reference. Moreover, the work contains no indexes, whereas the Latin *Hortus sanitatis* has a whole range of *tabula* at the end.¹⁵⁷ A strong presence of narrative features in images, then, may have served to signal that a book

¹⁵⁶ See Chapter 1 on the concepts of narrative and analytical representations.

¹⁵⁷ Houwen 2004, 70 also relates the omission of indexes in the Dutch and English editions to a different function (less oriented towards medical application than to descriptions of wondrous animals) compared to the Latin edition.

was not solely intended for instructive, epistemic purposes but that it could also be read for pleasure. There is another tentative indication that *Dat regiment der ghesontheyt*, *Den sack der consten*, and *Der vrouwen natuere* as well as *Der dieren palleyes* were perceived as different text types than, say, a herbal or a medical compendium: the surviving copies hardly contain any traces of use, in contrast to such reference works as *Den groten herbarius*, *Distellacien*, or even *Tregement der ghesontheyt*.¹⁵⁸

2.5 | Conclusion

This chapter has investigated visual strategies to conceptualise, structure, and classify medical-astrological knowledge. My integrated approach of these three intertwined domains of knowledge organisation – conceptual orders, structures within the book design, and genre indications – has revealed that the organising functions of images are much more versatile and complex than the frequently noted function of signalling the start of a chapter. Indeed, this common structuring function turns out to be less self-evident than we might think. The meanings and functions of images in all three domains crucially depend on the development and recognition – by producers as well as readers – of visual conventions. The new medium of print entailed shifts in these conventions, not just for images, but also for the design of texts and paratexts with which images always function in close cooperation. The visual rhetoric both of images and paratexts signals practical usefulness, completeness and comprehensibility, and it situates the book in a communicative genre aimed at knowledge transmission.

An important finding is that images and texts communicate not only the harmonious order of Creation, but also, and especially, the ability of human beings to comprehend all of its parts and use nature to their benefit. Whereas explicit religious references remain mostly limited to the beginning and end of the books, countable schemes that suggest completeness and manageability are ubiquitous throughout, in texts and image series. The predominantly functional (rather than theoretical, conceptual) diagrams in the medical-astrological books, too, provide a visual argument for the human capacity to manage nature. Many narrative images further reinforce this message by emphasising situations from daily life, and thus useful knowledge. Finally, the very presence of navigational paratexts provides further encouragement to access, manage, and apply all there is to know about Creation.

¹⁵⁸ See Chapter 5.

Book producers drew on organisation strategies and conventions that were specific to the new medium of print, while conceptual orderings that followed medieval or even earlier conventions also remained common. Various title pages conceptualise the printed book as a site or container of knowledge. Commercial interests not only inspired certain book structures, but they could also be a catalyst for shifting visual conventions, as testified by the success of Thomas van der Noot's series of classicizing planet personifications. The printing technique itself, facilitating both reuse and copying, thus contributed to the development and consolidation of visual conventions.

The use of diagrams and diagrammatic visual language further reveals how commercial interests informed the visual organisation of knowledge. Diagrams appear in a wide range of titles, yet the book producers catered to target audiences that were familiar with diagrammatic visual conventions only at an elementary level. Whereas wheels and trees, typical shapes used in medieval scholarly diagrams, do not appear in my corpus, the new convention of using indication lines to connect text labels to parts of an image was adopted widely. Such choices not only show which conventions were considered familiar among target audiences, they also testify to the dynamics of continuity and change that shape these visual conventions.

These dynamics of developing conventions also help us understand inconsistencies that complicate the structuring functions of images and other paratexts. A reader's understanding of a book's structure could be challenged by images that did not signal the start of a chapter, or by paratexts such as cumbersome indexes and erroneous folio numbers. Such cases provide us with snapshots of conventions in the making. These were gradual processes for book producers as well as readers. Allusions in various works suggest that, next to selective reading, continuous reading remained an important reading strategy. At least a number of readers in the early sixteenth century must have had different needs and expectations concerning navigating and searching than we might assume.

Whether the navigational aids functioned in the ways we expect them to or not, images (analytical as well as narrative representations), texts, and paratexts jointly construct a visual rhetoric of a searchable book, intended for practical reference. Thus, the structural and stylistic rhetorical functions of text design that Kostelnick distinguishes are closely interwoven in these books. Through the ways in which the books organise knowledge and visually mark coherence between different parts (i.e. what Kostelnick calls structural functions), they also provide clues as to practical usability (i.e. a stylistic function). Both visual and textual signals will have helped readers classify the book at hand as an instructive work that offered useful knowledge for everyday life.



Detail of Fig. 3.16

CHAPTER 3

Visualising Knowledge



The Perceived Epistemic Significance of Images

Through what capacities, and for which purposes, were images considered to be particularly useful knowledge tools in comparison to the medium of text? This chapter investigates what ideas medical-astrological books reflect – explicitly and implicitly – on how images help to convey knowledge. My analysis focuses on images with mainly analytical features as they are, by their nature, intended to convey certain types of knowledge.¹ As ‘a visual “this is”,’ they imply, or indeed claim, to demonstrate what something looks like, or how it works.² Therefore, they are epistemic images according to the definition of historian of science Christoph Lüthy: they have a ‘general function of helping to “understand” a given theory or truth, irrespective of its “scientific” status.’³ That they have this function of fostering comprehension is also reflected in the texts: analytical images are frequently referred to in the texts, in ways that narrative images are not. As we will see, the verbal rhetoric of these explicit textual references is highly revealing of the perceived epistemic significance of images.

In recent years, early modern visual epistemology – ideas about the roles of images in creating and disseminating knowledge – has become a thoroughly studied theme. Previous scholarship had displayed a predominant interest in the accuracy of historical epistemic images: for a large part of the twentieth century, historians of art and science evaluated epistemic images especially

1 I will refer to ‘analytical images’ when I mean images with predominantly analytical features, even though many of them also contain narrative elements. See Chapter 1 about the definitions I use of narrative and analytical representations.

2 Kress and Van Leeuwen 2006, 91; Kress 2012, 44–45.

3 Lüthy 2018, 228. Lüthy rightly notes that ‘epistemic images’ is a more appropriate term than ‘scientific images.’ On the definition of ‘epistemic images,’ see also Marr 2016, 1005–1008.

in terms of artistic or scientific progress.⁴ Such an approach based on present-day standards has now been largely substituted by an approach based on early modern perceptions, a shift that has taken place in the wake of the disciplinary broadening of history of science into history of knowledge. These recent studies of visual epistemology have identified and interpreted changes in the functioning of images particularly in connection with the increasing importance attributed in the early modern period to observation and the sense of sight.⁵ Historians of knowledge and art are the joint driving force behind this new perspective. The seminal volume *Prints and the Pursuit of Knowledge in Early Modern Europe* (2011), edited by Susan Dackerman, has brought to the fore that prints functioned as ‘tools of persuasion’ in the production of new knowledge as they were inherently part of scientific argumentations and, indeed, of research methods.⁶ The volume demonstrates that images did not need to be realistic or accurate according to our standards in order to perform these persuasive functions.

The broadened approach to history of knowledge encourages a more sustained investigation into images that were not necessarily at the artistic or scientific forefront, including numerous anonymous prints and book illustrations that were repeatedly copied and reprinted. Yet, many case studies of epistemic images still testify to a predilection among researchers for ‘new’ images and ‘new’ knowledge. The ‘new sciences’ of botany and anatomy that gained ground around the 1530s, and particularly the images in the botanical work of Leonhart Fuchs (1501–1566) and the anatomical work of Andreas Vesalius (1514–1564), are among the most intensively studied cases.⁷ The images in these works were designed for a specific publication with close involvement of the author, who explicitly expresses his views on the use of images. Though influential, these cases are atypical as the vast majority of epistemic images in the sixteenth century were not ‘new’ and not even connected to a specific author or artist. Instead, they were copied, reused, or otherwise derived from established iconographic traditions. The ‘epistemology of the copy’ is only beginning to emerge as a field of

4 E.g. Bauer 2003; Beretta 2001; Ackerman 1985; Cohen 1978–1989; Herrlinger 1970. See also Swan 2006, 241 (note 7).

5 Leitch (forthcoming); Egmond 2020 and 2017; Marr 2016, 1008–1009; Jardine and Fay 2014; Kusakawa 2012; Dackerman 2011; Daston 2011; Long 2011, 30–61 (Chapter 2); Melion and Wandel 2010; Kusakawa and Maclean 2006.

6 Dackerman 2011.

7 Margócsy, Somos and Joffe 2018; Gielen and Goyens 2018; Kusakawa 2012 and 2006; Santing 2008; Kemp 1996. The continuing focus on novelty and authorial intentions in studies of epistemic images contrasts with recent approaches of devotional images, where focus has strongly moved from the makers to the users (e.g. Areford 2010; Parshall and Schoch 2005; Schmidt 2002).

interest.⁸ The Dutch medical-astrological books help to shed light on this notion since they are characterised by copied images rather than by new visualisations. The knowledge communities in which these works circulated did not necessarily revolve around inventors or discoverers of ‘new’ knowledge. Instead, these communities had a broad basis in a lay audience that was interested in being informed about traditional as well as recently developed knowledge.

What epistemic functions did the medical-astrological books themselves attribute to images? This chapter takes two approaches to answering this question. First, a close reading of the textual references to images will address how their verbal rhetoric expresses *what* analytical images do, *how* they do it, and how readers were to *use* these knowledge tools in practice. Secondly, this chapter will investigate strategies of copying: book producers’ choices to either retain or adapt certain elements in copied images point implicitly to underlying ideas about the epistemic significance of these images.

3.1 | What analytical images do: Clear and effective visualisation

By far the majority of analytical images in the Dutch medical-astrological books visualise matters that exist in the physical world. They pertain to a relatively limited number of themes: the cosmos, the human body, plants, animals, and instruments. These subjects have in common that they are deemed representable in images even though some of the matters themselves cannot be commonly perceived, such as an overview of the cosmos or the influence of the zodiac signs on human body parts, but also unborn babies, the human skeleton, and exotic plants and animals that would remain equally unseen to most people.⁹ The images provide information about physical appearances, for example those of plants, animals, medical instruments, and frequently also on relative positions within a larger whole: babies in wombs (*Roseghaert*), hand palm lines

8 For this term, see Leitch 2017. See also her joint project (2019–2021) with Lisa Voigt and Elio Brancaforte, *The Epistemology of the Copy in Early Modern Travel Narratives*. Fransen and Reinhart 2019 lay an important foundation for further research. The topic was also recently taken up in the online conference ‘Early Modern Cultures of Copying,’ convened by Jaya Raymond and Michael J. Waters on 10–11 June 2021 (<https://projects.mcah.columbia.edu/early-modern-cultures-of-copying>, accessed 23 April 2023). Other studies that focus on the functioning of copied and anonymous prints include Moran 2017; Carlino 1999.

9 More abstract representations include only the circular diagrams in *Der scaepherders kalendar* and *Tfundament der medicinen* for calculating the golden number and the dominical letter, and the square horoscope diagrams in *Tscep vol wonders, Tfundament der medicinen*, and *Chyromantia*.. Diagrams, specifically, are often said to ‘visualise the invisible’: Krämer and Ljungberg 2016, e.g. 12, 18; Gormans 2000, 53; see also Richards 2017, 86.

(*Chyromantia*), the structure of the cosmos, or human anatomy.¹⁰ More rarely do the images provide information on processes. A concentric cosmos diagram like that in *Der scaepherders kalengier* or *Thuys der fortunien* implies circular movements of the planets, yet it does not use any visual cues to explicate this (see Fig. 0.2 on p. 20).¹¹ A number of images in *Hantwerck* – copied after Hans von Gersdorff's *Feldtbuch der wundtartzney* (1517) – show surgical procedures, but the emphasis is more on the devices needed to perform these procedures than on the successive actions involved (see Fig. 3.4 and Fig. 3.22 on p. 187).¹² Indeed, the images of instruments in the works I have studied only rarely include any human presence or agency to clarify an instrument's application; instead, the instruments are commonly shown in a decontextualised way, against a blank or minimally indicated background (see e.g. Figs. 3.3, 3.7, 3.14).¹³

What epistemic value was attributed to these representations of 'real' objects? What exactly were these images supposed to 'do' in processes of knowledge transmission? Lüthy has drawn attention to the 'almost total absence of reflection on epistemic imagery' in the early modern period:

What [...] continues to defy our full understanding is the way in which epistemic images were expected to function in the first place. [...] why did the authors or craftsmen of epistemic images expect them to possess these capacities [to buttress, clarify, or otherwise illustrate]? Curiously, they do not usually tell us; they simply refer to the images – *haec figura docet* – as if seeing them were sufficient, in a self-explanatory way.¹⁴

While reflection is, indeed, rare in the Dutch corpus, the ways in which the texts refer to images nevertheless provide insight into the functions and the epistemic value that these images were – implicitly – assumed to have. A typical example of a reference to an image in *Der scaepherders kalengier* may

10 See Chapter 2 on spatial relations as an aspect of diagrammatic visual language.

11 A now widespread visual convention for indicating movement, the arrow, did not emerge until the eighteenth century; Finkel 2015.

12 The strategy of 'visual sequencing' (Dackerman 2011, 29, quoting Mario Biagioli), i.e. showing a sequence of different stages of a procedure, does not occur in my corpus. An instance of 'visual sequencing' in Hans von Gersdorff's *Feldtbuch* (1517), where six numbered cross-sections of the brain represent stages of dissection, was modified in *Hantwerck* in such a way that they are no longer recognisable as a sequence: the number labels and explanatory poem were left out in the Dutch edition.

13 In *Distellacien*: distilling instruments and furnaces; in *Roseghaert*: a birthing stool; in *Hantwerck* and *Tfundament der medicinen*: surgical instruments. See also below on the difference in human presence between *Distellacien* and its German source edition of the *Small Book of Distillation*. On decontextualised backgrounds, see also Egmond 2017, 100–104, with reference to Ackerman 1985; Panse 2012, 92.

14 Lüthy 2018, 229–230.

serve to illustrate this.¹⁵ The circular cosmos diagram discussed above in the Introduction (Fig. 0.2) is referred to in the Dutch text – a translation of Sacrobosco's *De sphaera* – as follows:

The sphere, by its substance, is divided into nine spheres, namely: the ninth sphere, Primum mobile, which means the first moved; the eighth sphere of the fixed stars, called firmament; in the seventh sphere [are] the planets, and some [planet spheres] are larger and others smaller, depending on their vicinity to the firmament. And thus among them the sphere of Saturn is the largest, and that of the Moon is the smallest. As becomes apparent in the following figure.¹⁶

The wording 'as becomes apparent in the following figure' (*Ghelijck dat blijft inder figuren hier na*) suggests to the reader that textual description and visual representation overlap, but that they are also complementary. The image makes 'apparent' spatially what words describe in the linear way of running text, namely the relative positioning and the relative sizes of the nine spheres of the cosmos. Indeed, the wording 'as becomes apparent...' suggests that certain characteristics are deemed to be more efficiently and effectively conveyed in an image than in words. For example, the text passage mentions only two of the seven planets – Saturn and the Moon – to explain the principle of the relative sizes, while the diagram shows the spheres of all seven planets. The textual reference thus alludes to a core function of epistemic images, which sets them apart from texts: enhancing understanding through visualisation.¹⁷

This type of reference, implying a complementary relation between text and image and a certain efficiency in visual communication, occurs in many variants in the early printed medical works, and is by no means unique to the Dutch corpus. Indeed, the reference in *De sphaera* – usually with an accompanying image – is an inherent part of the work's transmission, in manuscript (since the mid-thirteenth century) as well as print.¹⁸ As a more recent example, the

15 The image and the text passage appear in all examined editions of *Der scaepherders kalengier*.

16 Scaep-c1514, fol. F1v: *Spera na der substancien es ghedeylt in neghen Speren. Dat es te verstante in die neghende spere Primum mobile dats dierste beruerte. Die achste spere vanden sterren fixien die firmament geheeten es is. Inde seuenste spere die planeten, ende sommige sijn meerder ende zommige minder, alsoe die eene nader es den firmamente. Ghelijck onder hem es die spere van Saturnus es meest ende vander manen es minst. Ghelijck dat blijft inder figuren hier na.*

17 Smith 2010, 35; Bredekamp, Schneider, and Dünkel 2008, 9; Chatelain and Pinon 2000, 253; Carlino 1999, 2.

18 Crowther 2021 notes that this text passage is the only one where Sacrobosco's text refers explicitly to an image, which must be a major reason why most of the manuscripts and printed editions of *De sphaera* include an image here. See also Pantin 2020, 267–270.

references to images in *Distellacien*, too, have been translated literally from its German source edition (Hieronymus Brunschwig's *Small Book of Distillation*, first published 1500). In the Dutch translation, we find, among others, the wordings *ghelijck dese figure bewijst* ('as this figure demonstrates,' e.g. three times on fol. a5v) and *des houens figure es aldus ghelijck hier staet* ('the furnace's figure is thus, as it is here,' fol. c2v). The first part of *Distellacien*, where these images appear, provides instructions on the size, materials, and other properties of the required kettles, ovens and other tools, presupposing readers who might wish to make these themselves. The text constantly refers to the images for information on the exact shape of the instruments. The instruction on the required alembic, for example, merely reads: 'Then you need glass helms with long pipes, called alembic or alembicum, like this figure.'¹⁹ The text thus mentions the material (glass), and one aspect of the shape (long pipes), but it mainly points to the image that supplies information about the shape (Fig. 3.1). Without the image, it would require greater prior knowledge to understand from the text alone what an alembic looks like. Succinct and 'self-explanatory' as such references may be, a close reading of their phrasings uncovers pervasive assumptions regarding the epistemic value of images: they are perceived to convey knowledge of the appearance of things more clearly and more effectively than words.

This conception of images is voiced more explicitly by several sixteenth-century writers. Anatomist Charles Estienne (1504–1564), for example, expressed himself in favour of the use of images: 'What is written uses the language of words; the images, although mute, bring things before the eyes in such a way that they want no further discourse.'²⁰ A similar argument in favour of anatomical images had been expressed in more detail by Leonardo da Vinci (1452–1519):



Fig. 3.1. Alembicum (detail of Fig. 3.14). *Die distellacien ende virtuyten der wateren* (Brussels: Thomas van der Noot, 1517), fols. a6v–b1r. Washington, D.C., Library of Congress, Rosenwald 1139. [Dist-1517-W02]

19 Dist-1517, fol. b1r: *Daerna moetti hebben ghelassen helmen met langhen pipen, ghenaeamt alembic oft alembicum, ghelijck dese figure.*

20 Charles Estienne, *De dissectione* (Paris: Simon de Colines, 1545), cited in Pantin 2013, 18.

‘If you want to show a human figure in all aspects of his parts by words, just forget it: since the more precisely you describe it, the more you confuse the reader’s mind and distance him from understanding the thing described.’²¹ Leonhart Fuchs (1501–1566), one of the ‘German fathers of botany,’ defended the inclusion of tailor-made and highly detailed woodcut illustrations in his landmark herbal *De historia stirpium commentarii insignes* (1542) by presenting his argument as a rhetorical question: ‘Who, I ask, of a healthy mind would condemn a picture which is agreed to express a thing much more clearly than they can be delineated with any words, even of the most eloquent men?’²² Thus, in the brief phrases with which the Dutch books refer to images, more widely circulating contemporary ideas resonate on the effectivity of images versus words as communicators of knowledge. These ideas reflect the importance attached to the sense of sight for the acquisition of knowledge, discussed below.

3.2 | How images communicate effectively: Connections to reality and to text

The references to images as they are commonly phrased (such as *ghelijck dese figure bewijst* and variations) testify to the perceived capacity of images to convey knowledge of shapes and appearances. How were images assumed to convey that knowledge? Two aspects appear to be paramount: a reliable relation between a representation and the thing it represents, and a close spatial and material connection between an image and its textual reference.

Representation and the represented

Images by definition provide a mediated view on reality. The textual references in the works I have studied alternately acknowledge, accentuate, or disregard the mediated character of images, as we will now see. These different constructions of the relation between image and actual object allow for different ways to allude to a trustworthy similarity.

The notion of *mimesis*, the ability of art to mirror nature, was a fundamental one, not only in Renaissance theories of visual arts, but also in explorations

21 Cited in Carlino 1999, 13.

22 Leonhart Fuchs, *De historia stirpium* (Basel: Michael Isengrin, 1542); cited and discussed in Kusukawa 2012, 111–113 (from which I have taken the translation); Kusukawa 1997, 411; and Carlino 1999, 14. Various contemporaries opposed such arguments and fiercely rejected the reliability and validity of images as sources of knowledge, see below.

of natural history, especially from the mid-sixteenth century onwards.²³ The engaged debates over *mimesis* forcefully demonstrate the early modern unity of what we now distinguish as ‘art’ and ‘science.’ These debates were as much about aesthetics and style as they were about epistemology.²⁴ While the botanist Leonhart Fuchs was a fervent advocate of the use of images, in his preface to *De historia stirpium* he emphasises that he has ensured that the involved artists refrained from applying any ‘shadows and other less necessary things with which painters often bring about the glory of their art’ that might impair the ‘natural forms’ of the plants and the truthfulness of the images.²⁵ Fuchs was involved in fierce controversies over the usefulness and trustworthiness of images, and his stance in favour was by no means self-evident. The botanist Hieronymus Bock (c. 1498–1554), for example, refrained from including images of plants in the first edition of his *New Kreütter Buch* of 1539 and instead preferred detailed descriptions.²⁶ Critics of the epistemic value of images frequently drew on Pliny the Elder to sustain their argument. In his *Naturalis historia* (77–79 A. D.), he explains why the inclusion of images in herbals may be attractive but misleading:

But not only is a picture misleading when the colors are so many, particularly as the aim is to copy nature, but besides this, much imperfection arises from the manifold hazards in the accuracy of copyists. In addition, it is not enough for each plant to be painted at one period only of its life, since it alters its appearance with the fourfold changes of the year.²⁷

In other words, the decision to include epistemic images in a printed book was an epistemic stance in itself. At the same time, commercial or other considerations – for example, the presence of images in a previous edition of the same text – could, of course, be at play as well.

23 On *mimesis* and naturalism or lifelikeness in images: Balfe, Woodall, and Zittel 2019; Fransen and Reinhart 2019, 211–214; Egmond 2017, 88–93; Smith and Findlen 2002; Parshall 1993; Ackerman 1985; Gombrich 1984.

24 It has been pointed out that naturalistic representation not only developed as part of the study of nature, but that it also became a ‘fashion’ (Smith and Findlen 2002, 8) and a source of ‘aesthetic enjoyment’ (Carlino 1999, 32).

25 ‘With industry and attention, we have taken care lest with shadows and other less necessary things with which painters often bring about the glory of their art, the natural form of herbs be blotted out, and lest we suffer these masters to follow their whims so that the picture would then correspond less to truth.’ Quoted in Kusukawa 2012, 109. See also Ogilvie 2003, 143; Arber 1912, 183.

26 Hieronymus Bock, *New Kreütter Buch* (Strasbourg: Wendel Rihel, 1539). See Ogilvie 2003, 155–156; Landau and Parshall 1994, 253.

27 Quoted in Kusukawa 2012, 20.

The ideal of lifelikeness as the highest aim of the visual arts is explicitly phrased in the preface by the anonymous translator of *Chyromantia*. In a verbose substantiation of the importance of physiognomy, one of the three main subjects of this work, the translator emphasises that it is crucial for painters to be skilled in physiognomy, to be able to express someone's mood and character through physical appearance:

I would like to add with persuasive proof that the painters owe the principal and major part of their art to Physiognomy. Painting is a silent poetry which evokes the qualities and dispositions of the feelings of man's heart, yes the voice almost, with its consolations, splendours, shadows, joys, exaltations, woes, *in such a way as if there were life in it.*²⁸

The relation between image and reality was a subject of intellectual discussions throughout the sixteenth century. Although other texts in my corpus than *Chyromantia* rarely express themselves as overtly on this subject, their verbal discourse on images persistently suggests that images provide reliable representations of reality.

A similarity between representation and represented is implied in many cases through the term *figuere*, the most commonly used word in the Dutch books to refer to an image. As in its present-day meaning, it could be used for all kinds of visualisations.²⁹ While *figuere* is a general term that in itself seems to reveal little, it is important to note that it has a dual meaning. It can mean image, but also form, shape, or guise. Thus, it can either refer to the appearance of an object in the physical world or to a representation thereof. Indeed, some textual references apparently imply both meanings at the same time, as, for example, the phrasing 'the furnace's figure is thus, as it is here' (*des houens figuere es aldus ghelijck hier staet*) in *Distellacien*.³⁰ The *figuere* in this case seems to refer to the shape of the actual furnace, but it is literally equated to the image through the wording *aldus ghelijck hier staet*.

More rarely, images are indicated through the terms *tafel* and *tabule*. In *Fasciculus medicine*, six of the ten full-page woodcuts are captioned as *tabule* ('the

28 Chyro-1536, fol. B3v (my underlining): *My lust [...] met bewijsselijcke redenen bi brenghen dat die schilders dat Physiognomi dat principael ende meeste deel haers const danck weten [...]. Schilderi is een swigende poesis welcken die qualiteyten ende gesteltenissen der sinnen van des menschen herte, ia de stem by na, mit haer verlichtinghen, schijnselen, schimmen, verhoeginghe, verheffinghe, verdiepinghe also trecken als oft daer leuen in waer.*

29 Lüthy 2018, 230.

30 Dist-1517, fol. c2v.

first *tabule* of letting the veins,’ ‘the fourth *tabule* of surgery’; see Fig. 2.11 on p. 104), both the anatomical diagrams and the narrative scene of a doctor at the bedside of a plague sufferer. The term appears to be used here in the sense of ‘plate,’ or possibly even ‘depiction.’³¹ In *Der scaepherders kalengier*, contrarily, the word *tafel* is used repeatedly in the sense of ‘table,’ i.e. a visual arrangement of textual items in a grid of some kind.³² The two small circular diagrams to find the dominical letter and the golden number for any year are referred to as *figueren oft tafelen* (see Fig. 2.9 on p. 102). This phrasing seems to reflect a perceived ambivalence in the status of these images, as they encompass aspects of both ‘figures’ (some kind of drawn representation, in this case an anthropomorphic sun and moon in the centres of the diagrams) and tables (their spatial arrangement of letters and numbers, respectively, in a circular grid). These images are among the very few in my corpus that are primarily conceptual rather than mimetic, and this may be reflected in their designation as *tafelen*. With the overwhelming majority of images indicated as ‘figures,’ however, the Dutch works display less variety in terminology to refer to woodcut images than historian of science Sachiko Kusakawa has found for mid-sixteenth-century works of natural history in Latin.³³ In addition to *figura* those works contain the terms *icon*, *imago*, *effigies* and *pictura*, for which I have found no Dutch equivalents.

Similar to *figuere*, the verb ‘to make’ can have ambivalent meanings with respect to the mediated character of images, as it potentially refers both to making an image and making an actual object. This is exemplified by a passage in *Tfundament der medicinen* that discusses and depicts the shapes of incisions to be made in the skin to remove excessive fat from the breasts (*mammen*) of a man (sic; Fig. 3.2):

If you want to remove it, *make* an incision at the top of the breast in the shape of a semi-circle, *made thus* [followed by a small woodcut showing two semi-circular lines slightly apart]³⁴

The surgeon is thus to ‘make’ the shape of the woodcut in the patient’s skin. By using the verb ‘making’ both to refer to the actual incision and to the image, the

31 The term *tabula* in the Latin *Fasciculus medicinae* bears these same possible meanings. Perhaps the term even refers to the plates, i.e. woodblocks, from which the images were printed.

32 On the table as a hybrid visual mode between text and image, see Drucker 2014, 86–88; Lemke 1998, 96–99.

33 Kusakawa 2019, 96–97.

34 Tfund-1540, fol. Zzv (my underlinings): *Wildijt af doen, so maect een cleuinge bouen in de borste, inder manieren van eenen haluen cirkele aldus ghemaect.*

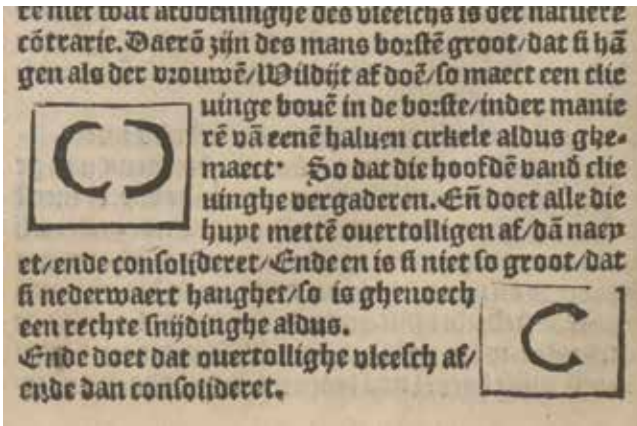


Fig. 3.2. Shapes of incisions to be made in the skin.

Tfundament der Medicinen ende Chyrurgien (Antwerp: Willem Vorsterman, 1540), fol. Zzv.

Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 S985f 1540. [Tfund-1540-B16]

text suggests, intentionally or not, an analogy between the work of the surgeon and the book illustrator.³⁵

Articulating the mediated character of images, the term *geconterfeyt* forges an even more powerful connection between representation and represented object. The verb *conterfeiten* and various derivatives are used twice in *Hantwerck* to qualify images of surgical tools, and in the prefaces to *Der dieren palleys* and *Den groten herbarius*.³⁶ In a profound analysis of the term, art historian Peter Parshall has demonstrated that *contrafactum* or *conterfeyt* implies representation, imitation, or true likeness, but it does not necessarily mean ‘after life.’³⁷ He identifies many instances, mostly in captions to printed images, where the term is used to describe images that were based on other images, which were eventually said or thought to go back to a trustworthy source.

In *Hantwerck*, the term occurs in a description of instruments to extract arrows, bullets, and other sharp objects from a body part. The text describes a type of augers (*terebellen*) used to extract broken pieces of wooden arrows: ‘The second [type] are straight *terebellen* that are sharp at the front as you see

35 The analogy seems ironically reverse, as creating the woodcut entailed cutting away everything from the block’s surface *except* for the shape of the cut that the surgeon had to make. Another instance of ‘making’ in a double sense is present in a section of *Tfundament der medicinen* on the shapes of surgical instruments: each is said to be ‘made in this way’ (*aldus ghemaect*), accompanied by a woodcut that shows the instrument; Tfund-1540, fol. V4v.

36 The term *geconterfeyt* also occurs several times in the translator’s preface to *Chyromantia*, though not as a qualification of the images in the book but in an argument on the importance of physiognomy. The translator refers to rhetoricians who ‘counterfeit’ (i.e. convincingly express) emotions (fol. B3r) and to artists who create lifelike renditions of emotions, character traits, and natural phenomena (fol. B4r-v).

37 Parshall 1993. On the term *contrafacta*, see also Carlino 1999, 81–88.

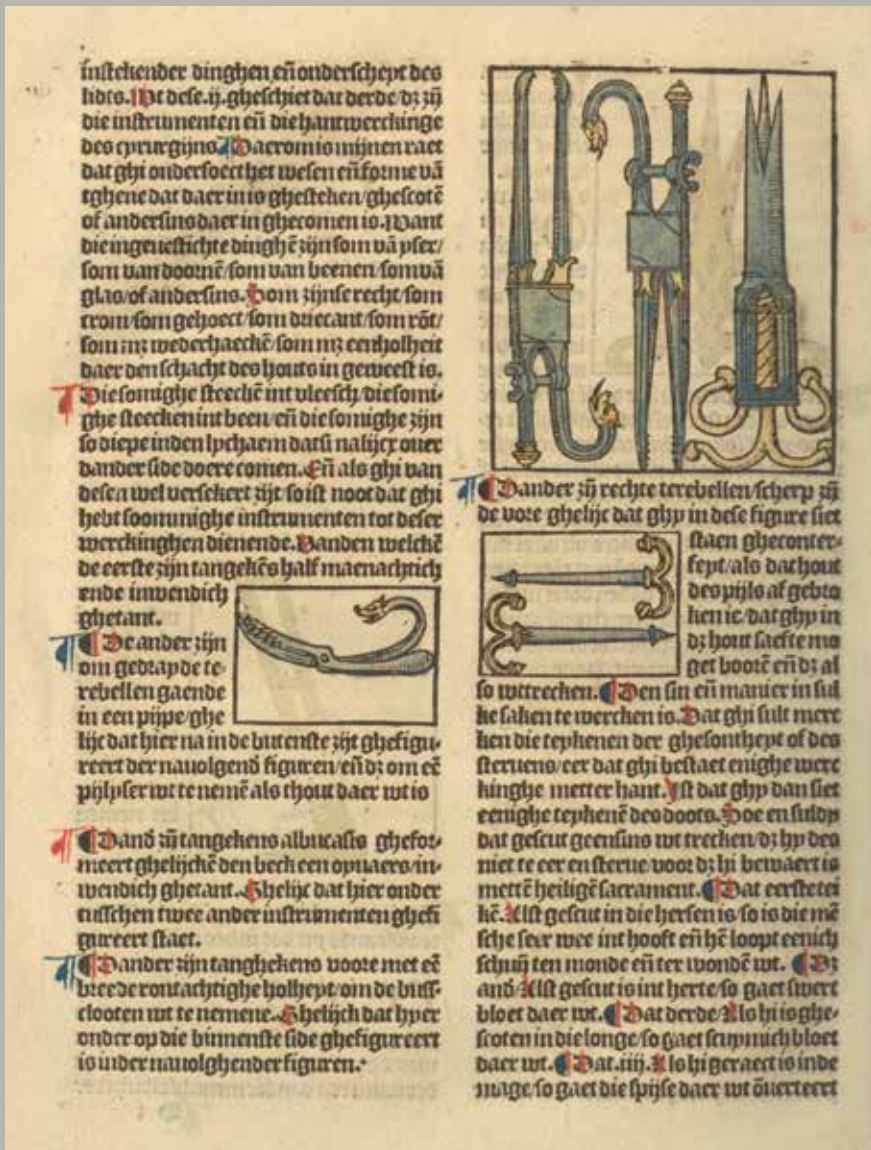


Fig. 3.3. Surgical instruments copied after Hans von Gersdorff, *Feldtbuch der wundtartzney* (1517).

Dits dat hantwerck der cirurgien (Utrecht: Jan Berntsz, 1535), fol. D2v.
 Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 I38Du 1536.
 [Hantw-1535-B16b]

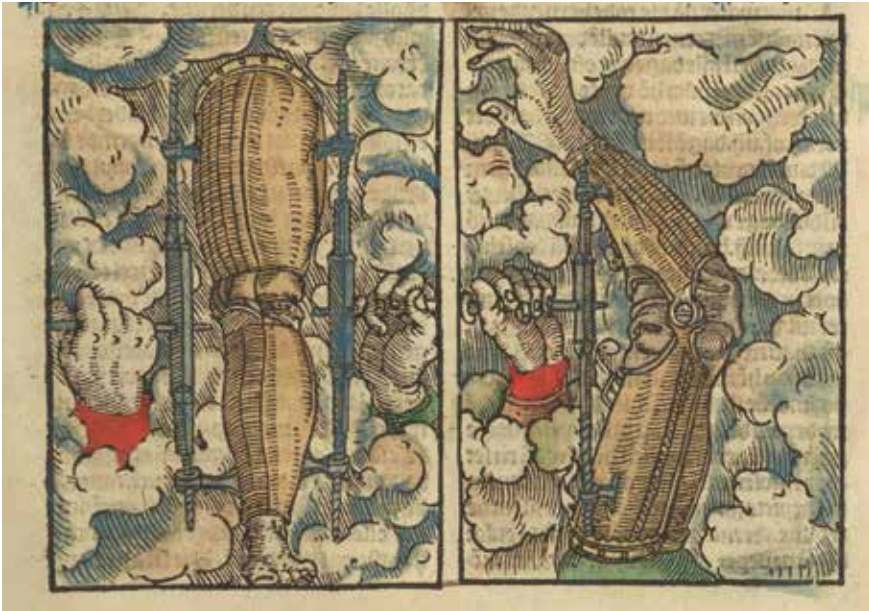


Fig. 3.4. Instruments to stretch stiff limbs, copied after Hans von Gersdorff, *Feldtbuch der wundtartzney* (1517).
Dits dat hantwerck der chirurgien (Utrecht: Jan Berntsz, 1535), fol. Q2r.
 Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 I38Du 1536.
 [Hantw-1535-B16b]

gheconterfeyt in this figure.³⁸ The small woodcut shows two of these instruments with a pointed end and m-shaped handles at the other end (Fig. 3.3). The second instance in *Hantwerck* instructs to ‘take any of the following *gheconterfeyten* instruments’ to stretch stiff limbs.³⁹ The images show a disembodied leg and arm, respectively, surrounded by clouds, fixed in a mechanical construction to stretch the limb (Fig. 3.4).⁴⁰ The surgical constructions are being operated by bodiless hands that emerge from the clouds, a visual rhetoric that draws a parallel between the hand of the surgeon and the hand of God.⁴¹ In both instances of ‘counterfeited’ instruments, though the images are very different in size and style, the references clearly imply that the images provide trustworthy

38 Hantw-1535, fol. D1v: *Dander zijn rechte terebellen scherp zijnde vore ghelijc dat ghy in dese figure siet staen gheconterfeyt.*

39 Hantw-1535, fol. Q1v: *Daerna neemt eenich van den navolgenden gheconterfeyten instrumenten dat gene dat ter seluer iunctueren geuoelijcst is.*

40 For a detailed description of these constructions, see Panse 2012, 118–119.

41 Panse 2012, 118; Dackerman 2011, 60.

information about what the required instruments look like. These instances underline Parshall's point that the qualification *geconterfeyt* is not dependent on a particular style or a particular visual language. Moreover, they demonstrate that the term was not only applied for representations of living creatures but also of objects. The appearance of the term in *Hantwerck* in just two rather inconspicuous places in the running text also suggests that *geconterfeyt* did not necessarily have as strong a persuasive connotation as Parshall's examples suggest. For some images it was apparently a self-evident choice of wording.

In *Den groten herbarius* and *Der dieren palleys*, the term *geconterfeyt* seems to function more overtly as a legitimising claim about the nature of the images, even though its interpretation is not straightforward. In *Den groten herbarius*, the preface explicitly promotes lifelike images (*beworpinge ende conterfeytinge der cruden*, 'drawings and counterfeits of the herbs') as a hallmark as well as an essential precondition of the book's quality.⁴² The preface, translated from the German *Gart der Gesundheit*, recounts extensively how the illustrations were devised. The author of the preface – commonly identified as Bernhard von Breydenbach (c.1440–1497), who is assumed to have commissioned the *Gart* – explains how he took along an accomplished painter (commonly identified as Erhard Reuwich of Utrecht) on a pilgrimage to the Holy Land, in order to have him draw exotic plants after nature that did not grow in the German lands.⁴³ All Dutch editions of *Den groten herbarius* retain this claim of lifelike images, even though their images derive from the *Hortus sanitatis* (first printed 1491) instead of the *Gart der Gesundheit*.⁴⁴ These woodcuts do not just depict plants, but also people engaged in processing natural resources, and a few animals. The combination of text from the *Gart der Gesundheit* and images from the *Hortus sanitatis* had already appeared in *In disem buch ist der herbary: oder krüuterbuch: genant der gart der gesuntheit*, published by Johann Prüss in Strasbourg in 1507 (henceforth: *Herbary*), which was probably the direct source for *Den groten herbarius*.⁴⁵ Thus, unlike the cases discussed by Parshall, *Den groten herbarius* does not involve indirect copies that may eventually derive from a living model, but copies after entirely different examples than those to which the claim of *conterfeytinge* originally pertained. Although Parshall's analysis helps us to understand how the term conceptualises the relation between an image and its

42 See also Van Leerdam 2021, 369–370.

43 The preface of the *Gart der Gesundheit* is translated in English in Arber 1912, 19–22; see also Sinclair Rohde 1922, 67–69. On the involvement of Bernhard von Breydenbach and Erhard Reuwich: Bakker 2018.

44 First Latin edition: *Hortus sanitatis* (Mainz: Jacob Meydenbach, 23 June 1491).

45 As noted by Habermann 2001, 246. In *disem buch ist der herbary* (Strasbourg: Johann Prüss, 1507). Habermann does not link the *Herbary* to *Den groten herbarius*. See also Van Leerdam 2021, 361–362.

eventual model, the example of *Den groten herbarius* illustrates that this relation can be less linear than Parshall suggests.

The use of *geconterfeyte* in *Der dieren palley*s underlines an important point that Parshall makes: the issue is not whether ‘counterfeited’ images actually *are* life-like, but that an emphasis on this quality was used as a claim to legitimacy.⁴⁶ The preface to *Der dieren palley*s explains the presence of illustrations in the volume:

and of what nature they [i.e. the animals] are, and how their bodies are shaped, you will find all of that here in writing and in counterfeited figures (*geconterfeyte figuren*).⁴⁷

Again, then, it is claimed that text and images complement each other and that images provide information about the appearance, in this case of animals. However, although each of the nearly four hundred chapters in *Der dieren palley*s indeed has a woodcut illustration of the animal in question, it is in many cases difficult for us to appreciate these images as likenesses. This applies not only to the numerous mythological or legendary animals like *draconcopedes* (a serpent with the head of a woman; see Fig. 4.2 on p. 201) or *zidrach* (an evil-looking yet innocent sea monster; Fig. 3.5), but also to some of the more familiar animals, like ants, which are equally difficult to recognise in the woodcuts (Fig. 3.6).⁴⁸

Yet, ‘counterfeited’ should not be dismissed as a hollow claim in these cases. Parshall concludes that the term *contrafacta* denoted images that were intended as ‘bearers of facts.’ It was ‘a class of representation that came to be determined by function’ rather than by pictorial style, degree of naturalism or any other formal characteristics.⁴⁹ This interpretation as ‘bearers of facts’ seems valid for the book illustrations I discussed, too. In addition, the instances of ‘counterfeited’ in my corpus, especially in *Der dieren palley*s, suggest that the term may have had yet another meaning than referring to an eyewitness account or a faithful imitation of another image.⁵⁰ The fantastic images in *Der dieren palley*s will certainly not have been drawn ‘from life,’ but they can be understood as an invitation to the beholder to imagine these beasts *as if* they

46 Parshall 1993, 560–561, 564. Chatelain and Pinon 2000, 253 make a similar observation with respect to the *Gart der Gesundheit* of 1485: even when images in early printed books do not present accurate details, the books express an ambition of lifelikeness which reflects new ideas on the functions of images.

47 Dier-1520, fol. A2r: *ende van wat natueren si sijn ende hoe si van lichame ghestelt sijn, dat suldi al hier in scriftueren ende in geconterfeyte figuren vinden.*

48 Jaritz 2015, 44–46 points out that some early modern readers already criticised the veracity of some of the animal images from the *Hortus sanitatis*.

49 Parshall 1993, 556.

50 These are the two main meanings distinguished by Parshall 1993; see also Carlino 1999, 85.



Fig. 3.5. The sea animals zedrosus, zidrach, ciphius.
Der dieren palley (Antwerp: Jan van Doesborch, 1520), fol. Hh2r.
 The Hague, KB, National Library of the Netherlands, KW 226 A 19. [Dier-1520-Ho4]



Fig. 3.6. Ants.
Der dieren palley (Antwerp: Jan van Doesborch, 1520), fol. G2r.
 The Hague, KB, National Library of the Netherlands, KW 226 A 19. [Dier-1520-Ho4]

were alive. Indeed, the narrative elements in many of these images, showing the animals in action (flying, mating, attacking, etc.), may have been quite helpful in this respect. In this sense, *geconterfeyt* is related to the phrase *ad vivum*, which, in the early modern period, had similar connotations as its range of meanings encompassed not just ‘from life’ (referring to an encounter with a living model), but also ‘to life’ (the image ‘realises (or aspires to) a condition of faithful lifelikeness⁵¹) and ‘lively’ (apparently animate).⁵²

The concept of ‘images as bearers of facts’ is further underlined in *Den groten herbarius* through an emphasis on their accuracy, in the announcement of the preface: ‘Here begins a prologue by the author of the great and proper Herbarius and of the medicines *with all their proper figures*.⁵³ This caption was not copied from the German source edition (neither the *Herbarij* nor the *Gart der gesundheit*) but apparently added in the first edition in Dutch of 1514 by Claes de

51 Balfe and Woodall 2019, 9.

52 On the term *ad vivum*: Egmond 2020; Balfe, Woodall, and Zittel 2019; Kusukawa 2019; Kusukawa 2014. In the later sixteenth and seventeenth centuries, *ad vivum* was regularly used in combination with *contrafacta* (*gheconterfeyt nae 't leven*); Swan 1995.

53 Herb-1514, fol. a1r (*met alle hare rechte figuren*). My italics. See also Van Leerdam 2021, 370.

Grave, and retained in all subsequent editions in Dutch. Thus, the trustworthiness imparted to the ‘proper’ images, elaborated upon in the preface, is implicitly extended to the entire book.

In addition to ambivalent allusions to the mediality of images (*figuere, maken*) and explicit references (*geconterfeyt*), the medical-astrological books also contain a variety of instances where mediality is not indicated at all and where representation and represented are equalled outright. These instances forcefully propose that the images are ‘bearers of facts’ and ‘a visual “this is”,’ as is exemplified by a number of text passages on the shapes of instruments. In addition to the examples discussed above of the ambivalent references to *des houens figuere* in *Distellacien* and the instruments and incisions that were *gemaect aldus* in *Tfundament der medicinen*, the equalling of image and object is even more strongly present in *Hantwerck*, in an overview of what are called the ‘capital instruments.’ The passage, containing nine small woodcuts of surgical instruments copied after the 1507 Dutch edition of Guy de Chauliac’s *Cyurgie*, covers the final page of a quire (Fig. 3.7).⁵⁴ While the text initially refers to the images with common phrasings such as *also hier staet* and *ghelijc hyer gefigureert staet* (‘as is shown here’), the references become even more concise towards the bottom of the page, as the compositor apparently realised it would be a challenge to fit everything on this final page of the quire. More and more words have been abbreviated and the references to the images simply become *als hier* (‘as here’), probably the shortest possible way of equating image and object. Finally, the text even does not provide any information at all about the appearance of the last instrument:

The sixth is the hammer to hit behind the lenticular [i.e. another instrument]. It has to be made of lead, which weighs heavily in a small amount and which sounds duller than iron. As here.⁵⁵

The text limits itself here to describing sensory experiences of touch and sound that cannot be captured in an image, while the sensory experience of sight *als hier* is conveyed solely through the image. In order to fit the text on a single page, the compositor thus aptly drew upon the assumption that images are better capable of clarifying visual characteristics than words as well as the assumption that images provide reliable representations of objects from the real world.

⁵⁴ Hantw-1535, fol. G4v. Chauliac, *Die Cyurgie* (Antwerp: Henrick Eckert van Homberch, 1507).

⁵⁵ Hantw-1535, fol. G4v: *Ten .vi. is den hamer om te slaen achter dat lenticulaer, ende sal wesen van loode, dat in een cleijn grootheit swaer wege ende sal douer luyden dan yser, als hier.*

Daerō staet gade die tehenē iut. xxvij. cap.
vande inner des becheneels. Do sijnt hē
die iuyt op en siet of dat becheneel gebro-
lic is. Na dat gewohe so weret na d. xxij.
capit. Daer na signiert die wonde m; un-
g. wnti sūstū oft met unguentiū apostoli-
ci en unguentiū sūstū elcy eue vele. Of m;
mel rosariū oleū rosariū eper boder; elcy e-
ne. i vele onsd deen hand genengt en een
salue daer af ghy maect. Daer na vreesche
die wonde m; unguentiū aureū sūstū mē-
sine en die saluen op herpie gestreke en in
die wonde ghelept; en ouer die wonde sal
mō leggen die groen wonde plaester dat
ic iude anty dotario sētē sal.

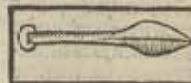
Die capitale instrumentē sū. vi. en
moet vā elcher soune wesen daer
hede groot; clein; en middelbaer. Erst sū
der r. ap. anē welch sū om gaethē te ma-
hē s die lichinge en ophessinge des becs
en sū vā dūersche manere. Salien m;
maectse op die manere vā eenē terebelle
of spindelbore met eē onwidinghe wat wt
schijnde bore dat scerpe eijde d; int tere-
bel is. op dat doerborde m; en valle op dū-
ran marren. Also hier staet.



De vā parijs
schouwende de
menpchte s; ga-
ten en soune die

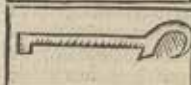
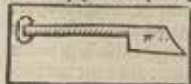
wesen moet na de dichheit des becs ma-
hē in die plaesse vā dier wilschinninge doer
gheboerde r. ap. anē op die scherph; en be-
cōmē die int eend caulle doer de gaten
die veranderen
de nae dpe dich-
heyt des becs
also hier staet.

Die vā bononiē madense op de manie-
re vā in eend kare wāt d; scerp deel mach
ingaren en dat breede vā d; d; het scherp



teghen den wil-
le m; en ghae-
ghelijchper ge-
figureert staet.

Daer sū. ij. separatoria of scheidningen
om te scheidē vā d; een gat torde and erē/
en sū vā. ij. for-
mē de eerste gal-
lica oft walsche
also hier staet.



Die and vā die
vā bononiē ge-
lijc dese die hier
staet.

Van dat epide hier af machmen ma-
ken een eleuatorium of eenē ophesser.

Te derde; sūnd eleuatoria of ophessers/
om d; gerapa-
nerde of glice
dē beē op te hef-
sen also hier.



Te viij. sūnd rignē om te vā d; de
sijdinghe; ala
sū rignē of sū
nē der tū wies-
liede; also hier.

Te v. sūnd lenticulaer en is eē instru-
mēt seer gepreken vā gaheno wāt het es-
sent seer. En sicheit die scherphede d; re-
scheidungē sū met stonich; met de lenticula-
re wilschinninge dper int hooft herē; en is
in die manere
vā eē pēnnes
mē eē lenticule
m; sū scherph;
also hier.



Te vi. is dē hamer om re-
staet achē d; lenticulaer; en sal wesen vā loo-
de d; in eē cleij
grooth; swaer
wege en sal do-
uer luyde dan
pfer; also hier.



Fig. 3.7. 'Capital instruments' of surgery, copied after the 1507 Dutch edition of Guy de Chauliac's *Cyurgie*.

Dits dat hantwerck der cirurgien (Utrecht: Jan Berntsz, 1535), fol. G4v.

Washington, D.C., Library of Congress, Rosenwald 1108. [Hantw-1535-W02]

By contrast, another passage in *Hantwerck* acknowledges more overtly than any other in the books I have studied that images represent only a limited part of reality. In the preface, Hieronymus Brunschwig refers to the full-page anatomy diagram of a skeleton (see Fig. 3.20 on p. 184) as follows:

[...] as it is necessary to examine and study anatomy, which may also be done in two ways. The first is through my brief writings, and the other through the sight of this present figure. However, the skin, flesh, veins etc. that cannot be revealed by the figure, may be perceived in observing dead bodies by means of cutting, boiling, or biting in burnt lime etc.⁵⁶

This phrasing implies that the figure only shows a selection, a specific perspective on the human body parts. Significantly, it also implies that the image conveys a different kind of knowledge from that which may be acquired through the actual dissection of a corpse. The image and the text are presented here as the first source of knowledge to turn to, while examining real bodies is presented rather as a follow-up.⁵⁷

As this section has demonstrated, even in the most generic or concise phrases referring to images, ideas resonate on how images were capable of contributing to knowledge transmission. Verbal discourse persistently affirms the epistemic status of images as reliable representations of ‘real’ things, regardless of the style, level of detail, size, or origins of an image. The medical-astrological books show that establishing such reliability was foundational to a visual culture in which images functioned as knowledge tools both for expert and lay audiences.

The spatial arrangement on the page: Images near texts

Textual references to images not only reflect the perceived epistemic value of images, but also uncover implicit notions of how page layout affected the ways in which readers processed combinations of text and images. The references testify to a particular attention on the part of the book producers to positioning image and text in relation to each other. In addition to the connection of

56 Hantw-1535, fol. A1r: *gelijc dat noot is den anathomia te besiene ende tondersoeckene, dwelck oock geschien mach bi twee wegen oft manieren. Den eenen doer mijn cort gheschrifte, ende den anderen doer dat gesichte van dese teghenwoordige figure. Mer die huyt, vleesch, ende aderen etc. die doer die figure niet geopenbaert en mogen worden, worden gesien int aenscouwen der doder lychamen, doer snijdinge, oft sieden, oft bijten in ongeblusten oft leuende calck etc.*

57 On sixteenth-century ideas about the extent to which images could function as substitutes for actual objects, see the discussion below on the use of images for purposes of identifying.

images to reality, then, their connection to the text was another key factor that was deemed to contribute to their effective use as knowledge tools.

The *mise-en-page* of analytical images and their textual references clearly reveals that a close proximity of these images and texts was assumed to facilitate the reading process. Although theoretical reflection on the effects of layout on the reading process had not yet developed in the early sixteenth century, layout conventions do point to implicit assumptions.⁵⁸ For example, in Chapter 2, we have already seen that images were frequently deployed as structuring aids, which testifies to an awareness of their capacity to function as visual anchors on the page. In present-day empirical studies as well as theories of document design and image-text relations, the spatial proximity of an image to its accompanying text passage has come to the fore as an important factor in effective design.⁵⁹ The practical experience of sixteenth-century printers in this respect, albeit without theoretical substantiation, is thus in line with present-day findings on effective communication through design.

As an unwritten rule, the images in the medical-astrological books are positioned as closely as possible to their textual reference. A typical example is provided in *Roseghaert*. The woodcuts in the first part of the book depict various possible positions of a baby in the womb, explaining for each situation how the baby should be delivered. The references to the figures have been translated literally from the German original. For example, the text on unnatural births discusses the position where the baby is feet down with his arms along his body as follows:

[...] when the child comes out of his mother's body with the feet first, having his arms and hands along his side and his legs stretched, as is shown in this figure [...] ⁶⁰

58 Reflection on design principles did not become systematic until the 1920s, according to Drucker 2014, 33–34. The earliest printing manual is Joseph Moxon's *Mechanick Exercises [...] Applied to the Art of Printing* (London: Joseph Moxon, 1683–1684); see Gaskell, Barber, and Warrilow 1968, 13–14. It pays attention to typography and composition, among many other aspects, primarily from a technical and aesthetical perspective.

59 Schnotz 2014, 89, 94; Mayer and Fiorella 2014, 300–304; Schriver 1997, 412. Various theoretical explanations have been proposed to explain this observation. These theories share the foundational assumption that the working memory in the human brain, where visual and verbal information is processed initially, has a very limited capacity. It is therefore important that in the reading process, switching between verbal and visual modes requires minimal cognitive effort, in order to leave as much of the limited working memory available for processing (i.e. selecting, organising, and integrating) the information. This assumption leads to the recommendation to position related text and images as close to each other as possible, in order to minimise cognitive load.

60 Rose-1516, fol. b1r: [...] *als dat kint wt sijnder moeder lichaem comt ten eersten metten voeten, sijn armen ende handen hebbende neuen sijn side op de beenen ghestrect gelijck in dese figure beteeckent staet.*

The woodcut is placed right next to the text passage it illustrates, which makes it easier for readers to recognise and to visualise what the text describes. A similar layout, in which the images are positioned as closely as possible to the related text, is consistently applied throughout the illustrated part of *Roseghaert*, even when four or even six images had to be crammed on a single page spread (Fig. 3.8).⁶¹

In cases where text and image could not be placed in each other's immediate vicinity, for example because of the size of an image, the texts usually indicate to the reader where to look. In *Tfundament der medicinen*, for example, the full-page skeleton diagram is announced as follows on the preceding page: 'Here follows the description of the human bones, of which the figure follows on the next page.'⁶² In the production of a printed book, such directions require close attention from the typesetter, who had to make sure that the references were



Fig. 3.8. 'Unnatural' positions of a baby in the womb.

Den roseghaert vanden beuruchten vrouwen (Antwerp: Willem Vorsterman, for sale at Leiden, Bartholomeus Jacobsz, 1530), fols. C4v–D1r.

Amsterdam, Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 103. [Rose-1530-Ao4]

61 E.g. Rose-1516: four images on fols. c4v–d1r; Rose-1530: six images on fols. C4v–D1r.

62 *Tfund-1530*, fol. T3r: *Hier volcht de discriptie der beenderen des menschen waer af die figure in dese naeste side volcht*. The skeleton is on fol. T3v.

correct and who may have had to deviate from a source edition that was being copied. Apparently, the typesetter of *Der scaepherders kalengier* of c. 1514 was this attentive: the text on the cosmos diagram correctly points to ‘the following figure,’ with the figure following after the text.⁶³ This is a deviation from the edition of 1511, which has the diagram positioned above the text and a correct textual reference to ‘the figure above.’⁶⁴

Hantwerck also contains an example where an adaptation was executed with care, both in image and in text. It is the only case I have found where the text refers to specific parts of an image. The page with the *gheconterfeyte* figure of two augers discussed above also contains a woodcut showing three tweezer-like instruments for removing arrows (see Fig. 3.3). They are positioned next to each other within a single framing border. The text describes the three instruments as follows:

The others are reversed augers within a pipe *as figured hereafter on the outer side of the following figure* [...] The others are tweezers [called] *albuscas* shaped like a stork’s beak, with teeth on the inside, *as is figured below between two other instruments*. The others are tweezers with a tip with a wide, rotund cavity to take out bullets, *as is figured here below on the inner side in the following figure*.⁶⁵

The figure follows immediately after this text passage. While the instruments are copied after Gersdorff’s *Feldtbuch der wundtartzney* (1517), they are arranged differently: in the *Feldtbuch* they are not joined in a single woodcut, but interspersed among a larger range of instrument depictions (see Fig. 3.18 on p. 182).⁶⁶ The references to the location within the figure in the Dutch edition, then, are not translated from the *Feldtbuch* but must be a result of the translation and adaptation process into Dutch.⁶⁷

⁶³ Scaep-c1514, reference on fol. f1v, image on fol. f2r.

⁶⁴ Scaep-1511 fol. e2r: *inder figueren hier bouen*.

⁶⁵ My italics and underlinings. Hantw-1535, fol. D1v: *De ander zijn om gedrayde terebellen gaende in een pijsse ghelijc dat hier na in de butenste zijt ghefigureert der nauolgende figuren* [...] *Dander zijn tangekens albuscas gheformeert ghelijcken den beck een oyuers inwendich ghetant. Ghelijc dat hier onder tusschen twee ander instrumenten ghefigureert staet. Dander zijn tanghekens voore met een breede rontachtige holheyt om de busslooten wt te nemene. Ghelijc dat hyer onder op die binnenste side ghefigureert is inder nauolghender figuren*. The instrument on the ‘outer side’ is on the right, closest to the inner margin of the page; the instrument on the ‘inner side’ is on the left, closest to the centre margin between the two text columns.

⁶⁶ *Feldtbuch der Wundtartzney* (1517), fol. g3v and g5v. See also below.

⁶⁷ A similar arrangement as in Hantw-1535, with a woodcut showing three instruments and the same specific textual references to these instruments, also occurs in the English translation *The handy warke of surgeri* (London: Peter Treveris 1525; fol. D3v). This edition was likely translated from a lost edition in Dutch by Jan van Doesborch, and the adapted

Such adjustments did not always go well, however, as we can see in *Chyromantia*. One of the woodcuts showing lines in a hand, in the book on palmistry, is referred to in the Dutch text as [...] *dese teikenen hebben wy hyer onder aen geteykent* ('we have drawn these signs here below').⁶⁸ The image, however, is not below but above the text. In this case the translator and/or typesetter followed the Latin source, which reads [...] *eas subscripsimus*, and indeed has the image below the text.⁶⁹ Such mistakes testify to the care required in preparing a translated edition.

In sum, in an overwhelming number of cases, the textual references and the spatial arrangement of image-text combinations offer clear guidance to readers where to look. They indicate that texts and images were seen as closely interwoven, complementary modalities in the process of knowledge transmission.

3.3 | How to use images as knowledge tools

From the references to images we have now gained insight into *what* images were supposed to do in terms of knowledge transmission, and *how* they were supposed to do it. But how exactly were readers supposed to make use of these knowledge tools in practice? The Dutch medical-astrological texts rarely elaborate on the usefulness of images specifically. We can make inferences, however, by relating prefatory claims on the usefulness of the book as a whole to the predominant types of images. Such an analysis reveals that analytical images were considered particularly apt aids in the acquisition of practical skills.

Two texts indicate a number of specific situations in which to use images: *Tfundament der medicinen* and *Distellacien*. As *Tfundament der medicinen* offers a cross-section of the medical knowledge available around 1530, aimed explicitly at novice surgeons and apothecaries, this case offers valuable insight into the roles that various kinds of medical images were intended to play for these practitioners. Moreover, as we saw in Chapter 1, *Tfundament der medicinen* is a rare case in the Dutch corpus where the contemporary author identifies himself by name, Petrus Sylvius of Antwerp. It is plausible that Sylvius had a say in the choice of images, as his text so often refers explicitly to the images, and that he had certain intentions with the inclusion of images in the first place.⁷⁰ Further

woodcut and text passage were therefore probably initiated in Van Doesborch's workshop. See also Franssen 1990, 75 and below, Appendix 1.

68 Chyro-1536, fol. L1v. Also, without correction, in Chyro-1554, fol. L1v.

69 Indagine, *Introductiones apotelesmaticae* (Strasbourg: Johann Schott, 1522), fol. e2v.

70 As discussed in Chapter 1, little is known about who decided on the selection of images in books like these. While *Tfundament der medicinen* includes numerous woodcuts that were

contemporary sources provide a broader base for interpreting the intended practical uses of analytical images. Based on these sources within and outside of my corpus, I will discuss four epistemic functions of images that are commonly mentioned: understanding, memorising, constructing, and identifying.

Intended use: Analytical images for practical skills

As we have seen in various chapters so far, the ratio between analytical and narrative features of images varies among the Dutch medical-astrological works (see also Table 3). To understand how book producers tailored their choices of images to specific audiences or types of use, this section will analyse how the intended use of a book can be related to the predominance of a certain type of image.

All of the books studied here provide statements, some more specific than others, about the contents and the usefulness of the work, and how readers may benefit from it (see also Chapter 1). Although these statements are phrased differently in each work, several topics recur in multiple works. Table 4 relates these topics to the predominant type of images in each of the texts in my corpus. Two topics suggest that a book can be read for pleasure: the promise of descriptions of wondrous or new things, and the promise of bringing delight and amusement. In some cases, this purpose is explicitly connected to the aim of staying healthy, as joyfulness was considered a crucial remedy against melancholy.⁷¹ For example, in the preface of *Distellacien*, Hieronymus Brunschwig lists several intentions he has with this book, including ‘to shun the phantasy of bad thoughts called melancholy.’⁷² *Der dieren palley*s promises to ‘delight the mind in new things,’ drawing on Aristotle to emphasise that all people have a natural curiosity to know about ‘all things created.’⁷³

Even more pervasive than the topics of wonder and delight is the prospect that a book provides the reader with a better knowledge or understanding of certain matters – of the natural world, the human body, the nature of women, the influence of the planets, etc. *Der scaepherders kalengier*, for example, promises

copied or reused from other works, that may or may not have been selected in consultation with Petrus Sylvius, it seems likely that he was involved in the production or selection of the images to which his text refers.

71 Cavallo and Storey 2013, 194–196; Ridder 1999, 398–399; Klibansky, Panofsky and Saxl 1964, 85. A sixteenth-century annotator of *Tregement der ghesontheyt* (Trege-1514-H04) noted on fol. c5v that being ‘joyful of heart’ is the best remedy against *terinck* (consumption), as *droefheit doet die menschen comen in sware melancolien ende daer comt die teringhe* of (sadness brings people into heavy melancholy, which causes consumption).

72 Dist-1517, fol. a2r: *om te scuene de fantasie der onnutter gedinkenessen melancolie ghenoeft.*

73 Dier-1520, fol. A2r: *die natuerlijcke meester Arestotiles seyt Dat alle menschen wter naturen begeren te weten ende kinnisse te hebben der gescapen dingen ende die dinghen die daeraf voort gegereert sijn; [...] die sinnen [...] verblijden in nieuwen dinghen.*

to convey the ‘natural knowledge’ of the shepherds on how to live long. *Der vrouwen natuere* is aimed explicitly at men, promising that ‘through this [book] men will learn to know women and to please them’; the ambiguous and sexually connoted meaning of ‘pleasing’ (*doen haer gherief*) is clearly intended, and perhaps that of ‘knowing’ (*kennen*, which could mean ‘having a sexual relationship with someone’), too.⁷⁴ The topics of wonder, delight, and understanding are not clearly related to a specific type of image; they occur both in works with mostly narrative and mostly analytical images.

Table 4. References to target audiences and intended use per text, sorted by predominant image type

	specific target groups	keep health	help the diseased	for learning a craft	to know/ understand	wondrous, strange, new	against melancholy, pleasant
Mostly narrative images:							
<i>Dat regiment der ghesontheyt</i>		x					
<i>Der scaepherders kalengier</i>		x			x		
<i>Tscep vol wonders</i>						x	x
<i>Thuys der fortune</i>		x			x		x
<i>Den sack der consten</i>	youth				x	x	x
<i>Der vrouwen natuere</i>	men				x	x	
Mostly analytical images:							
<i>Fasciculus medicine</i>	surgeons and other people	x	x	x	x		
<i>Den groten herbarius</i>	the learned and the unlearned, people in villages and castles far away from the masters (1538)	x	x		x	x	
<i>Roseghaert</i>	pregnant women, midwives (c. 1528 and later)	x	x	x (c. 1528 and later)	x		
<i>Distellacien</i>	those who want to learn the art of distilling		x	x			x
<i>Der dieren palleys</i>					x	x	x
Substantial presence of both:							
<i>Tregement der ghesontheyt</i>		x					
<i>Tfundament der medicinen</i>	physicians, surgeons, apothecaries	x	x	x	x		
<i>Hantwerck</i>	novice barbers and surgeons			x	x		
<i>Chyromantia</i>	all sensible persons, those who want to practise the art of medicine	x		x	x		x

74 *Vrouw-1531, fol. A1v: Duer dit mach die man leren kennen die vrouwe ende doen haer gherief.*

There is a striking correlation, however, between the presence of analytical images and the topic of learning practical skills for specific professions. As we have seen, it is precisely this kind of image that is often referred to explicitly in the texts. Thus, analytical images seem to be closely associated with the education of medical practitioners. Of the works with a substantial or indeed predominant presence of analytical images, *Hantwerck* and *Tfundament der medicinen* and *Fasciculus medicine* all target surgeons, *Roseghaert* targets midwives, and *Distellacien* aims to facilitate the work of ‘those who desire to learn the ways and the art of distilling.’⁷⁵

As might be expected of medical books, keeping one’s health (i.e. preventive medicine) and helping the sick (curative medicine) are also recurrent topics. Taking care of one’s own health is referred to in a variety of books, both with analytical and narrative images. Conversely, helping others who are ill is mentioned especially in works with mostly analytical images, and not as a primary concern in any of the works with mostly narrative images. It seems that an emphasis on keeping one’s own health was used as a motivation for a wide audience – after all, both medical professionals and ‘ordinary’ people would have been interested in staying healthy. Narrative images seem to have been used especially in those cases where non-professional audiences were targeted.

While it may not surprise us that the topic of helping the diseased sometimes overlaps with the topic of learning a craft, such an overlap is strikingly absent from *Hantwerck*. Addressing apprentice barbers and surgeons in the preface, Hieronymus Brunschwig shows much more concern with professional reputation than with the actual healing of the infirm or the injured. He warns surgeons-to-be that a lack of knowledge easily damages their reputation. For this reason he urges them not only to read his book diligently, but also never to be ashamed to ask for help from a more experienced master. Discord amongst surgeons in the presence of a patient should be avoided at all times, however, in order not to harm their professional credibility.

Books that explicitly address a professional readership, then, mostly contain analytical images. This underlines the envisioned functioning of these images as knowledge tools. The analytical images indeed draw on a specialist visual register, for example by displaying diagrams, allegories, and medical instruments and schematic representations of plants against blank backgrounds. Thus, the books implicitly promise the reader a body of expertly authorised and reliable knowledge, regardless of the level of detail or accuracy of the particular

75 *Dist-1517, fol. a2r: die daer begheren te leerene de maniere ende const der distillacien.*

images.⁷⁶ The images thus function not only as indicators of communicative genre, as we saw in Chapter 2, but also as marks of authority.

In addition to professional readers, a wider, non-specialist audience would also have engaged with the analytical images in practical how-to books. An interesting case is *Roseghaert*, the obstetrics manual that is aimed at pregnant women as well as midwives. Its woodcuts depicting foetuses in different positions in the womb are primarily analytical: they illustrate a range of possible positions in accompaniment of text passages that describe how to deal with each of these situations (Fig. 3.8). At the same time, these images have a narrative aspect as well: the babies appear to be looking at each other (especially when multiple images appear on a single page spread) or at the beholder, and they appear to be laughing, floating, or even dancing inside the bulb-shaped wombs. Thus, their overall appearance is friendly and cheerful, whereas a major part of the text deals with problematic and even gruesome deliveries. Admittedly, the professional target audience of midwives in all likelihood relied much more on their own sensory experience than on images (or indeed texts) such as these in successfully practicing their profession. However, to the other target audience of this book, the pregnant women, the images may have offered a helpful, yet not too upsetting impression of what would be going on inside their bodies. Thus, the book may have served as an aid for conversations between a midwife and her patient in anticipation and preparation of labour.⁷⁷ We will now see in more detail how images were deemed to stimulate comprehension.

Understanding

In many cases, the purpose of ‘knowing’ and ‘understanding’ may not only have been envisioned for the book as a whole, but also specifically for the woodcuts. The focus of epistemic images on representing ‘real’ things, as well as the phrasings of their textual references discussed above, imply that these images were meant to help readers conceptualise the represented in order to enhance their understanding of it. Such a purpose is clearly indicated in the reference to the image of a vein man in *Der scaepherders kalengier* (see Fig. 5.11 on p. 276):

76 That the use of a scientific visual register (especially diagrams) could function as a means of authorising medical knowledge, regardless of the accuracy of the images, is also discussed in Strådal 2013; Ferrell 2010, 114–115; and Jones 2006, 11.

77 On the role of books in medical encounters, see also Pleij 1988, 204 (on the *Roseghaert*); Slack 1979, 260; Leong 2014, 578.

One may observe (*mercken*) and understand (*kennen*) in this previous figure the number of veins in the human body and the locations where they are to be found for letting blood.⁷⁸

The verb *merken* means to examine closely, to observe with attention; *kennen* may mean knowing or recognising, but also understanding, gaining insight into something.⁷⁹ Both verbs thus invite the reader here to attentive observation that will lead to comprehension.

Theoretical substantiation of this function of images in fostering mental conceptualisations and understanding had already been developed in Antiquity and was regularly referred to in the sixteenth century. Aristotle famously stated that humans cannot think without creating images in our minds. These images may be formed by our imagination, he writes, but physical images are equally capable of stimulating mental images.⁸⁰ According to Aristotle, and quoted for example by Gregor Reisch in *Margarita philosophica* (1503), sight is the most important of the senses because we gain most knowledge through the eyes (more than through sound or smell, for example).⁸¹ Horace shared a similar view, which was echoed by, among others, Leonhart Fuchs: ‘Those things which are presented and depicted to the eyes on paper and panels adhere to the mind more deeply than those described by bare words.’⁸²

Understanding could obviously be required for practical purposes, like educating medical practitioners, or enabling pregnant women to discuss their situation with a midwife as in the case of *Roseghaert* discussed above. In the case of instruments (surgical instruments, distilling instruments), images and their accompanying textual explanations help to imagine how and in what situations the instruments should be used, even when the application itself is usually not shown in the images. In *Distellacien*, Hieronymus Brunschwig seems to envisage a particular usefulness of such images for readers with little prior experience:

78 Scaep-c1514, fol. d4v: *Men mach mercken ende kennen in dese voergaende figure dat getal der aderen in smenscen lichaem ende die plaetsen daermen die vinden sal om te bloet laten.*

79 MNW, ‘merken,’ ‘kennen.’

80 Aristotle, *On the Soul* 3.7 col. 431a and 3.8, col. 432a (transl. J.A. Smith); *On Memory* 1, col. 450a (transl. J.I. Beare), in Aristotle/Barnes 1995. See also Carruthers 2008, 63–65.

81 Aristotle, *Metaphysics* 1(A).1, col. 980a (transl. W.D. Ross), in Aristotle/Barnes 1995. *Margarita philosophica*, Book 10 Treatise 2, Chapters 6 and 15, transl. Cunningham and Kusukawa 2010, 173 and 193. Crowther and Barker 2013, 435–437; Clark 2009, 9–13. On early modern ideas about visual perception, see e.g. Reid 2019, 23–61 (Chapter 1); De Hemptinne et al. 2013; Melion and Wandel 2010; Clark 2009; Wimböck, Leonhard, and Friedrich 2007.

82 Fuchs, *De historia stirpium* (1542), quoted in Kusukawa 2012, 112–113. Horace, *Ars poetica*, line 180–182, in Horace/Fairclough 1929: ‘Less vividly is the mind stirred by what finds entrance through the ears than by what is brought before the trusty eyes, and what the spectator can see for himself.’ See also Swan 2006, 248.

Thus it is necessary to explain briefly (as far as that is possible) what instruments one needs to have in order to fulfil the work of distilling. For that reason I will show some of them in figures, even though they are well known to the learned and expert craftsmen in alchemy.⁸³

This somewhat apologetic remark about the presence of illustrations implies that expert readers did not need images because they already possess the understanding that is fostered by these images.⁸⁴

In addition to practical purposes, a striving for understanding could also be driven by an intrinsic curiosity about all aspects of Creation, as the preface to *Der dieren palley*s points out with reference to Aristotle. Recent studies have identified a love for knowledge as a key characteristic of the sixteenth-century vernacular knowledge communities in the Low Countries.⁸⁵ This intrinsic curiosity traditionally also had a religious-moralistic dimension. Throughout the Middle Ages, and still in the sixteenth century, the highest aim of knowledge acquisition was to come closer to God, and therefore to become a better person, through a better understanding of Creation. In a study of early modern anatomical fugitive sheets, Andrea Carlino shows how strongly anatomical imagery was interwoven with the adages of *nosce te ipsum* (knowing and seeing oneself as part of Creation) and *memento mori* (being aware of one's mortality) that appear in many prefaces to anatomical works and in inscriptions to anatomical images.⁸⁶ Carlino also identifies a distinct aesthetic dimension to the appreciation of Creation: anatomical images like those in Charles Estienne's *De dissectione partium corporis humani* (1545) 'are the means by which the reader can bring together the intellectual pleasure of knowledge and aesthetic enjoyment.'⁸⁷ In the light of such motivations, images are not just useful tools for practitioners, they also meet the needs and interests of a lay audience.

83 Dist-1517, fol. a6r, preceding the first image of a distillation instrument: *Soe eest noot met cortten woerden te verclarene (so verre alst mogelijk es) de instrumenten diemen hebben moet, op dat dit werc der distillacien volbracht mach worden. Daerom sal ick hier de somighe openbaren ende in figueren stellen, al eest dat die den gheleerden ende experten constenaers der alkemien wel bekint sijn.*

84 The idea that images are especially useful to lay readers is still current in present-day theories of multimedia learning. Under certain circumstances, images are considered to cause unnecessary distraction to readers/learners who are already experts on the subject in question. Schnotz 2014, 88–89; Mayer and Gallini 1990.

85 Van Dixhoorn 2014; Vandommele 2011, 143–160. See also Chapter 1.

86 Carlino 1999, 88–90, 107, 113. See also Karr Schmidt 2017, 110; Pantin 2013, 11–12; Cook 2006, 415. In my corpus, this interwovenness comes to the fore for example in *Tfundament der medicinen*, which includes a half figure with a scroll that reads *Neemt V seluen waer* ('Observe thyself'; Tfund-1530, fol. D6r) and an anatomical image of a skeleton with a coffin and an hourglass at his feet (see Fig. 2.10 on p. 103).

87 Carlino 1999, 23–26, quote on p. 23.

Memorising

The images' function of fostering understanding is traditionally also closely intertwined with the function of memorising. Desiderius Erasmus writes that 'memory largely consists in having thoroughly understood something.'⁸⁸ That images can support memory, as Erasmus also acknowledges, was a commonplace that had been drawn on for centuries to point out their use and justify their presence. A central concept in medieval mnemonics (the art of memorisation) were *imagines agentes*, imagined or physical images that activate the memory.⁸⁹ Andreas Vesalius states that it is impossible to try to know medicinal plants or body parts on the basis of images alone, but that images do help to 'fix the memory of things.'⁹⁰

The texts in my corpus do not mention the function of memorising anywhere in relation to images.⁹¹ Certain images do seem envisaged as mnemonic aids, however, such as the spatial arrangement of the ten ages of man coupled to ten animals with brief verse texts that facilitate memorisation (included in *Thuis der fortune* and *Der dieren palley*s, see Fig. 2.8 on p. 100). A text passage in *Tfundament der medicinen* hints implicitly at the application of an image for remembering or referencing. The diagram of a naked vein man (Fig. 3.9), with indication lines labelled 1 to 53, is referred to in the text as follows:

You will find the veins in the living human body in this previous figure, as well as the number of the veins, very conveniently arranged [*zeer bequamelijc geordineert*] for those who need to look them up due to any necessity [*door eenige nootsaken*].

The text thus emphasises the practical convenience of the image and the added value of the number labels, and anticipates a situation where someone *door eenige nootsaken* will want to find specific veins. What exactly these *nootsaken* may entail is not specified. Was it common medical practice for a novice to use an

88 Erasmus, *On the Method of Study* (transl. Brian McGregor), in Erasmus/Thompson 1978, 671.

89 Foundational: Carruthers 2008. See also Pantin 2013, 20; Vandommele 2011, 213; Driver 2004, 19–21; Enenkel 2006; Chatelain and Pinon 2000, 238–240.

90 Cited in Pantin 2013, 18.

91 A memorising function is only mentioned in *Chyromantia* with respect to a verse text. A Latin verse to memorise the twelve houses of the planets, accompanied by a translation in Dutch, is introduced as follows (Chyro-1536, fol. R2v): *Daer zijn twalef huysen, welken die Astrology aldus langhe myt ghemeen verskens hebben beteykent. Ende wy en schamens ons oock niet de selfde hier by te scrijuen, want si schijnen wat die memori te helpen, welcke zijn dese.* ('There are twelve houses, which astrologers have since long indicated by common verses. And we are not ashamed to add those here, as they are thought to aid the memory. And they are as follows.')

Die aderen in den leuendē.



der maer. Ter stontvintichster / Pol. Ter achtichster
 Venus. Ter negentichster / marcurius. Ter vintich-
 rickster / luna. Ter een en twintichster / Saturnus.
 Ter twee en twintichster / Jupiter. Ter drie ende

Wanden hien des regiments.

twintichster / maer. Ter vierentwintichster / Pol.
 Es vordacht ter eerste vier regneret de
 Venus. Ter tweestster vier / marcurius. Ter
 derde / luna. Ter vierde / Saturnus. Ter
 vijfster / Jupiter. Ter seker / maer. Ter sesen-
 der / Pol. Ter achtster / Venus. Ter negentster / marcuri-
 us. Ter tienster / luna. Ter elfster / Saturnus. Ter
 twelfster / Jupiter. Ter dertichster / maer. Ter vier-
 tichster / Pol. Ter vyftichster / Venus. Ter sechsten-
 der / maer. Ter seuentichster / luna. Ter achtichster / Sa-
 turnus. Ter negentichster / Jupiter. Ter tienich-
 ster / maer. Ter een en twintichster / Pol. Ter twee en
 twintichster / Venus. Ter drie en twintichster / mar-
 curius. Ter vier en twintichster / luna.

Es haer edaer / ter eerste vier regneret
 Saturnus. Ter tweester / Jupiter. Ter derde
 maer. Ter vierde / Pol. Ter vijfter / Venus.
 Ter seker / marcurius. Ter seker / luna. Ter acht-
 ster / Saturnus. Ter negentster / Jupiter. Ter tien-
 ster / maer. Ter elfster / Pol. Ter twelfster / Venus.
 Ter dertichster / marcurius. Ter vierentichster / luna
 Ter vyftichster / Saturnus. Ter sechster / Jupiter
 In der leuendiche maer. Ter achtichster / Pol. Ter
 negentichster / Venus. Ter vintichster / marcurius
 In die eenentwintichster / luna. In die tweeentwintich-
 ster / Saturnus. In die drie en twintichster / Jupiter
 In die vier ende twintichster / maer.
 Waer ende vocht / Saturnus siet tot die milt.
 Wout ende woche / Jupiter siet tot die leuer.
 Deet ende drooghe. Mars siet tot die longher.
 Deet en drooghe. Pol siet tot die maeg en heren.
 Wout ende drooghe. Venus siet tot die woeren.
 Wout by haer / maer by maer / Marcurius
 siet tot die leuer ende die longher.
 Wout en vocht. Luna siet hoest by die milt.

Die aderen in den leuendē mensche sijn
 om in dese vooigende figuren in oer tgeal ter seker-
 uer aderen zeer begaauwiche grooten en de ghe-
 uendiche sal moeten soeken voor eenige nootdaken.

Way ter aderen te laten.

En mach menich oer in desen uelgrubeff
 pueren tgeal der aderen in sinichste lichaem
 In de plaatsen daer men die wonden sal om
 thloet te laten. En tot gheender adere plaatsen sal
 men thloet laten. Alwaer ghet laten of al omwaert
 men maer volle maer of spartere van der maer.
 In die middele want van hoest is een adere die
 men laten sal reghen de sechden en vijftien des hoofes
 En te ghenen coeken en sekeren. Al Achter die
 ooren bouen staen twee aderen diens laten sal om
 goet verstant te erigen om waer hooren reghen den
 sinichden aderen en wout laten. In die sta-
 pen van den hoofde / sin twee aderen maer laten sal
 om die groete oer en loocheyde bloere dar in de
 heylken in weck den hoofde en de ooge oer letten
 mocht. En in oer goet erigen in der accouit die dit
 hoofde comen. In onder die coemt in twee adere
 ren diens laten sal te ge een seker gheer. Pythracium
 en te geen apothem en gheleken der heylken te geen die
 soquamaer deuiche heere men haer leten te seken
 mochte souder seker laten. In die hals ijsen
 twee aderen diens waert ongenade wout in de ghe-
 len loop des bloers te hebbe dat sinichste lichaem erge-
 ret en bedoer thloet / staer men en mach daer in
 gheven thloet laten souder der wonden in seker laten

Fig. 3.9. Vein man. *Tfundament der Medicinen ende Chyrurgien* (Antwerp: Willem Vorsterman, 1530), fol. B5v. The Hague, KB, National Library of the Netherlands, KW 228 A 10. [Tfund-1530-Ho4]

image of a vein man as a kind of map to find the right spot whenever a patient needed to be let? Is the image intended to help a barber or surgeon in case of a failing memory? The practical usability of the image is complicated by the fact that the numbers in the image are not explained in the text.⁹² Nevertheless, the description of the image clearly envisions a practical use as a reference work, for targeted searching as *part* of medical practice, rather than – or in addition to – studying and memorising all of the indicated body parts in *preparation* of medical practice. It is conceivable that other anatomical images in the Dutch books may have functioned in a similar way, initially for learning and forming mental constructions, and subsequently for reference as a memory aid.

A lively illustration of how images like some of those in my corpus may have been used to memorise is provided by Erasmus. In *De pueris instituendis* (first published 1529), he elaborately discusses the didactic use of images of plants and animals in the education of children:

[Children] learn their stories and fables with greater enthusiasm and remember them more easily if the contents are displayed before their eyes by means of skillful illustration, and if every story is presented through pictures. This works equally well when you are teaching children about trees, plants, and animals and their names and characteristics, especially when you are speaking about animals that are very rare, like the rhinoceros, the horse-stag, the pelican, the Indian ass, or the elephant. For instance, one illustration might show an elephant trapped in a snake's stranglehold, its forefeet entwined by the other's tail. This picture arouses the interest of the pupils – so what does the teacher do? He teaches his students [many facts about the names of elephants and snakes in Greek and Latin, about their physical appearance and habitat, and about the 'ruthless warfare' between both species]. If there is a boy who happens to be an especially ambitious scholar, he may learn other facts as well about elephants and snakes.⁹³

We may well imagine that *Der dieren palleys*, with its emphasis in the preface on man's natural curiosity about Creation, was used in a similar way – and perhaps not just for children.⁹⁴ Here we see another situation, then, in which illustrated

92 In all three editions of *Tfundament der medicinen*, the text explains the veins by means of labels, but confusingly, these labels are not the numbers from the vein man image but the letters from the skeleton image on the facing page; see also Fig. 2.10 on p. 103.

93 Erasmus, *A Declamation on the Subject of Early Liberal Education for Children* (transl. Beert C. Verstraete), in Erasmus/Sowards 1985, 337.

94 Sherman 2018, 32 states that such didactic strategies as Erasmus describes were not just applied for children.

books could be used as conversation aids, recalling the case of the *Roseghaert* discussed above. *Der dieren palleys* abounds with what Erasmus calls ‘very rare animals,’ illustrated with woodcuts that capture the imagination and that may have offered grip in remembering details about the animals’ living environment, behaviour, and their benefit to humans. For the type of use that Erasmus describes, it would not be problematic if the veracity of the *geconterfeyte* images of mythical and fable animals cannot be assessed; the illustrations are suitable didactic tools, anyway, with which to learn and memorise the myths or claimed facts about the animals.⁹⁵

Constructing

While many of the mimetic images in the Dutch books stimulate the construction of *mental* images that enable understanding and memorising, some of the more abstract images are specifically intended to construct or generate a very *concrete* result.⁹⁶ A good example are the circle diagrams for the dominical letter and the golden number in *Der scaepherders kalengier* (see Fig. 2.9 on p. 102). The reader is instructed to count along the letters or numbers in the circle to end up at the relevant one for the present year. These diagrams thus function as tools to find the letter or number that is required, respectively, for calculating the day of the week for each date and the dates of the moveable feasts. In a similar vein, the square horoscope diagrams in *Chyromantia* and *Tfundament der medicinen* serve as analytical tools or even calculation aids to draw up the horoscope for someone born under a particular constellation (see Fig. 2.6 on p. 97). From the combinations of planets and zodiac signs in each of the twelve celestial ‘houses’ in a particular period, one may deduce the character and fortune of someone who is born in that period. As *Chyromantia* suggests, the distribution of the zodiac signs across the houses may be ‘easily calculated on the fingers or from the figure established here.’⁹⁷ *Tfundament der medicinen* indicates

95 In one copy of *Der dieren palleys* (Dier-1520-Bo2b), the crude drawings copied after woodcuts seem to reflect the fascination of a reader, who may well have been a child. See Chapter 5.

96 On printed images as instruments that enabled readers to generate, calculate, or create concrete objects or outcomes, see Karr Schmidt 2017, 205–273; Karr Schmidt 2011, 73–91; Dackerman 2011, 266–315.

97 Chyro-1536, fol. R4v: *Na den horoscoop salmen de hoecken doersien van welken wy gheseyt hebben wat teyken dat een yeghelijck in heeft. Ende dat is lichtelicken terstont te rekenen op die vingheren oft wt die opgherechte figuer.* The position of the zodiac signs in all of the twelve houses (or, rather, at the intersections between the houses) always follows from the ascendant (i.e. the zodiac sign emerging on the horizon), the beginning of the first house; LexMA-O, ‘Horoskop.’ See also Chapter 2.

explicitly that these figures may be used by anyone to establish their own birth horoscope.⁹⁸ Although the work is targeted at apprentice surgeons and apothecaries, practical applications by lay users were clearly foreseen.

One particular woodcut, in *Distellacien*, goes a step beyond the facilitation of mental or calculatory constructions, as it is intended as a material basis for constructing an actual object. Thus, it presents an especially intricate overlap between image, mediality and reality. Extending across an entire page opening, the woodcut provides a template for a brick mould for building a round distillation furnace (Fig. 3.10).⁹⁹ Brunschwig announces that he will specify the

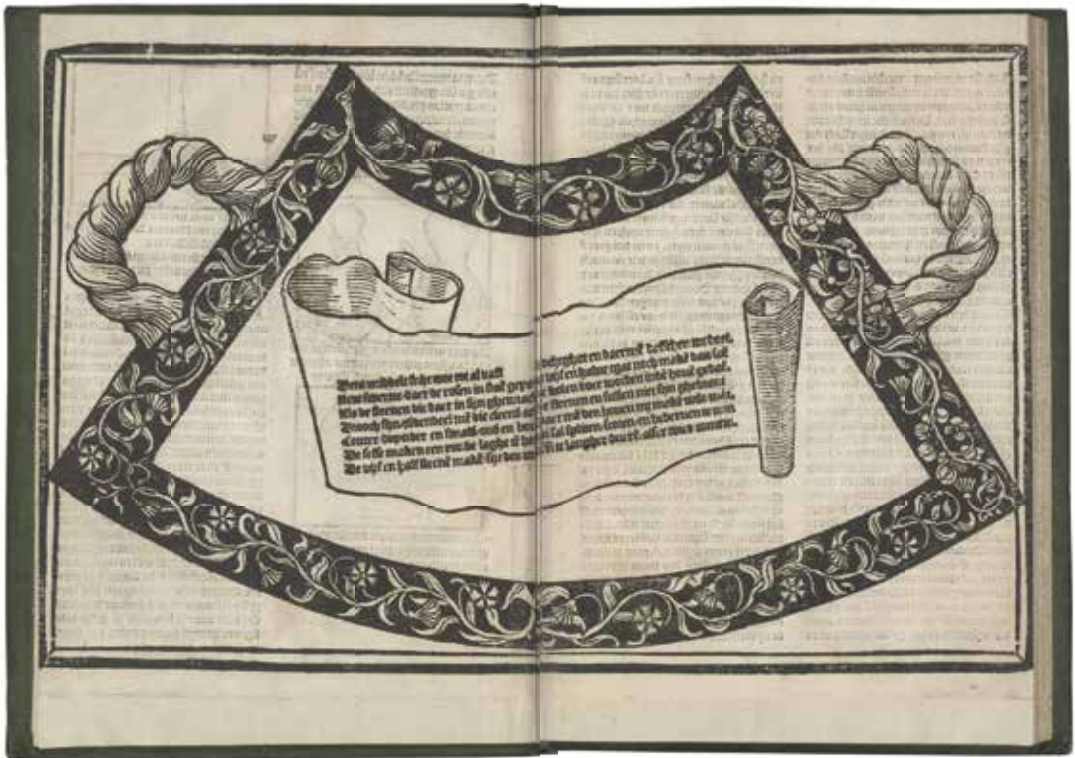


Fig. 3.10. Actual-size outline for a brick mould to build a round distillation furnace. *Die distellacien ende virtuyten der wateren* (Brussels: Thomas van der Noot, 1517), fols. b1v–b2r. Washington, D.C., Library of Congress, Rosenwald 1139. [Dist-1517-Wo2]

98 Tfund-1530, fol. C5r: *Hier eyndt die verclaringhe der voorghenoemder figuren, waer inne ghi vinden muecht die ghebuerten der menschen die binnen den geheelen iare gheboren mueghen worden soo dat wel genoech verclaert is, ghelijc blijft, ende een yegelijc zijns sefls [sic] complexie ende fortune soekende, beuinden sal.*

99 On this mould template, see also Van Dixhoorn 2014, 116–117; Taape 2014, 252–253.

mould or instrument of wood or iron that you need to have in order to shape your bricks with which you will make your furnace [...] And the mould is as shown by this figure on the next page.¹⁰⁰

On the next double page, the outline of the mould is presented in actual size as a curved trapezium with handgrips on the right and left sides. Its broad black edge is decorated with a floral pattern. Inside the form, a typeset text in verse – seven lines on the left page, seven on the right – explains how the form is to be used, and how six bricks of this shape are required for one layer of the furnace. The verses make clear that the outline is meant to be cut out and that the decorative band of roses has a practical function:

*Dees middele snijt wte tot al vast
Aent swertte, daer de rosen in staen gepast*

(Cut out this middle part up to the black part in which the roses are fitted)¹⁰¹

The running text on the subsequent page specifies that the height of the mould should be a quarter of an ell – information that is not conveyed by the two-dimensional outline. The handgrips shown in the woodcut instruct that the eventual wooden or iron mould should also have handgrips. In this case, then, the image is not just a representation but, in fact, the opposite: the image is needed to construct something in the real world that looks just like it. More immediately than any of the other images in the medical-astrological books, this woodcut establishes a physical link between the instructions in the book and the actual operations of readers outside of the book.

It is difficult to assess whether any readers did, indeed, use this woodcut to make a mould themselves. None of the copies of *Distellacien* I examined (or those of the German and English editions) contains any traces of use in the woodcut.¹⁰² It is understandable that the instruction to cut out the shape was

¹⁰⁰ Dist-1517, fol. b1r: *de vorme oft instrument, van houtte oft van ysere, dat ghi hebben moet om v steenen te formerene daer ghi v houenen met maken sult [...] Ende de vorme es gelijc dese figure bewijst die op dander side staet.*

¹⁰¹ Dist-1517, fols. b1v–b2r.

¹⁰² I have examined seven copies in German: Darmstadt, Universitäts- und Landesbibliothek, Inc. IV 206 (ed. 1500, consulted online 28 July 2021); Copenhagen, Royal Library of Denmark, 20 Farmaci (Braunschweig) (ed. 1505); London, Wellcome Library, EPB/D/1112 (ed. 1505, consulted online 15 April 2019); Munich, Bavarian State Library, Rar 2128 (ed. 1505, consulted online 22 February 2019); London, Wellcome Library, EPB/D/1113 (ed. 1509, consulted online, 28 July 2021); Munich, Bavarian State Library, Res/2 M.med. 35 (ed. 1509, consulted online 22 February 2019); Munich, Bavarian State Library, Rar. 2127 (ed. 1515, consulted online 1 March 2019).

not taken literally: as cutting out the woodcut would have damaged the running text on the reverse of both pages, it seems more likely that readers would make a tracing of the shape.

Although the epistemic function of ‘constructing’ – where an image serves as a tool to make or establish something outside of the image, in the physical world – can be attributed to a limited number of images in the Dutch medical-astrological books, the very presence of these images testifies to the intensive ways in which readers were presumed to interact with illustrated books. The images clearly indicate that reading and looking at images were not just perceived as an intellectual activity, but were part of a broader range of physical and social practices of acquiring knowledge. Such engagement with images in epistemic practices is also vividly evoked through the function of ‘identifying.’

Identifying

Images were not only considered useful tools to recall mental images stored in the memory, but also to recognise or identify actual objects and phenomena. Such an application seems to have been conceived, for example, for the images of hands and face types in *Chyromantia*. The simplified diagrams of lines in hands allow for identifying the shapes of the lines in real hands with the help of the images. While the text of *Chyromantia* does not explicate the function of the images, a section in *Tfundament der medicinen* on uroscopy makes explicit reference to the use of images as diagnostic tools. This section is therefore worth a closer look. After a general discussion of what urine is and what signs it provides regarding health or disease, the text proceeds to discuss different colours of urine, each illustrated with a woodcut of a matula (urine flask) that was to be coloured manually.

A passage at the end of this uroscopy treatise indicates that the images were not just to be studied, but, indeed, to be used as a visual tool for establishing diagnoses based on urine.¹⁰³ All the woodcuts of matulas are repeated at the end of the illustrated treatise, as a way of visual summary or even visual index (again to be coloured by hand) without text (Fig. 3.11; see also Figs. 5.25, 5.26 on p. 298–299).

I have examined three copies in English (*Vertuose boke*, 1527): London, British Library, General Reference Collection 448.g.1 (consulted online 28 July 2021); St. Louis, Missouri Botanical Garden, Peter H. Raven Library, RS81.B813 1527 [#601] (consulted online 28 July 2021); Washington, D. C., Folger Shakespeare Library, HH123/17.

Unlike in the German and Dutch editions, the text inside the mould figure in the English *The vertuose boke of distyllacyon* (1527) is not printed in two columns but continuously, running across the paper fold. In some copies (e.g. Folger Shakespeare Library), the double page is mounted on a bound-in paper strip so that the text does not disappear in the binding.

¹⁰³ On images of matulas as diagnostic tools, see also Stolberg 2015a, 33–39; Dackerman 2011, 56–57.

Die kennisse vander Urine.

ende die koude is inden huse: si beduyt oock den loop ende dan so die luttel / want die urine gaet voo: den camere ghanch wech maect heeft hi besinghe: so is si luttel vā herte: die de sicte inden huse wert voght. Die urine wort somwilen loot achrich van die longhe te seu daghen dat gheschiet somwilen vande vloet deo hoofte, die op die longhe vale dat si daer af veruuyt oft veel te voght is. Dat suldo also behemmen dat die urine bouen schijnom achrich is. ende hi heeft inde sincher yde weedom. Comer dat hē vander leuere: soo is die urine loot achrich en dieke / en heeft in die eckere side weedom. So si loot achrich vande darmē soo heeft hi onder denaet weedom en is amachrich / en heymt sine. d. i. is die urine droue en root: Som wilen comet vanden mēstern dan en mach hi niet wel te soel ghaen: Somwilen is si loot achrich ende beduue de doot / en dan en sal die urine bouē met sijn uer rijn en al droue. Maer sal die mensche gemeten soo sal die urine bouē sijn uer vanden: Somwilen is si loot achrich. Maer een vromme haer te vele oft te vromich heeft: so sal daer veel dinc optē bodē sijn.

Die kennisse vander Urine.



Van die melckewighe Urine.



—
—
—

Is die urine melckewich in een sicte: dat beduyt vandoort sonnets als maniere hi niet en slaep / en zyn sijn niet en heeft en de adem onzachre uycht / en ralsch slaep hi oft wel en bi sine sijn: en ademt laerij: dat en b. duyt niet den doot want het is een toericht te gheuen. So die urine melckewich en dieke en veel, anders inden gronde is dat beduyt de Recu. Maer is die urine also ghebaen en gheuen zant inden bodem dat beduyt een herte / die Colica heer / dat is een sicte inden ondersten darm. Dat is eenich gheuere. Dat suldo also behemmen het is gheswol len: Maer comet vanden stern: soo enist niet zee ge swollen en die urine doet hem wec: Somtijt is die urine melckewich van die putgaris soo is si luttel / ende droue: So die urine blaech en melckewich en bo uer loot achrich ende veel vanden dier in vliet dat beduue een ewerichte inden huse ende oock sonnets dat water te laden. **¶** So salich hier sonninghe veruoyt der vanden met daren ipostasis: marrie / ende ghebaen na stellen waer af hier vort: ne lau ghebaer ghanoech ghesete is / En die urine lichtelijc te kinnen onderseken: ende daer af te kenē een optē vromich ende oordeel te gheuen so suldo die urine waer af hier die vinalen metten ge baeren volghen contempheren ende aenken tegen en bi die urine die v voren comen mach / en doende dat inder maniere: soo dat gheuere hi begrip der eckeren inder vanden claerlich ghesete is om die vanden te onderseken: ende daer ut dyc sicte te kenē: en die complexen der siechen daer na dyc re medien: en en medicinē bequamelich omdieren.

¶ Hier eynde dat Boeck vander Urine wt Pocras / Galienus / Auicenna / Theophilus / en meer andere schrijvers der medicinē en urine.
*

Fig. 3.11. Overview of hand-coloured urine flasks, the colours described in the text. *Tfundament der Medicinen ende Chyrurgien* (Antwerp: Willem Vorsterman, 1530), fol. D5r. The Hague, KB, National Library of the Netherlands, KW 228 A 10. [Tfund-1530-H04]

This overview of eighteen flasks is preceded by the following explanation:

Hereafter I will put some colours of the urines with their sediment, matter, and form [*ypostasis, materie, ende ghedaente*], of which has been spoken sufficiently extensively above. In order to distinguish these urines easily, and to deduce from them a well-founded judgement, you shall examine the urines of which the flasks with their forms follow here, and *consider them against the urine that may be presented to you*. And [you will be] doing that in the way that has been taught sufficiently and clearly in the part on the signs in the urines, in order to distinguish the urines and know [*kennen*] from them the diseases, as well as the complexions of the sick, and then appropriately prescribe the remedies, cures, and medicines.¹⁰⁴

This intended use of the images as diagnostic tools is also mentioned earlier in the volume, where the images of urine flasks are introduced as ‘a recourse for those aspiring to the aforementioned honourable art [of medicine].’¹⁰⁵ Comparable to the brick mould in *Distellacien*, we may wonder to what extent readers used the images in the intended way, in this case for comparing actual samples of urine to hand-coloured images. Based on preserved copies of the works in my corpus with uroscopic images, *Tfundament der medicinen* and *Fasciculus medicine*, it seems that not all readers required coloured images (see Chapter 5).¹⁰⁶ Whether the images were actually used or not, the text suggests they were intended to help assess actual samples of urine, a purpose for which the visual, textless overview at the end of the uroscopy treatise was tailored in particular.

Somewhat more ambiguous, and a subject of debate in recent literature, is whether botanical images, too, were intended for identification. It has been suggested that images in herbals were necessary to aid in the unequivocal identification of plant species in a context of corrupted text passages and inconsistent nomenclature.¹⁰⁷ Various scholars have questioned such a function, however, as

104 Italics and underlinings mine. Tfund-1530, fol. D5r: *Nv sal ick hier sommige verwen der vrinen met hueren ypostasis, materie ende ghedaente na stellen, waer af hier voren int langhe breet ghenoech gheset is. Om dye selue vrinen lichtelijck te kunnen onderscheyden ende daer af te kennen een oprecht vonnisse ende oordeel te geuen, so suldy die vrinen waer af hier die vrialen metten gedaenten volghen, contempleren ende aensien tegen ende by die Vrinen die y voren comen mach, ende doende dat inder manieren soo dat ghenoech int begriyp der teekenen inder Vrinen claerlijck gheleert is om dye Vrinen te onderscheyden ende daer wt dye siecten te kennen ende die complexien der siecken, daer na dye remedien, curen ende medicinen bequamelijck ordineren.*

105 Tfund-1530, fol. D3r: *een toevlucht [...] den aencomenden totter voorseyder eerweerdiger conste.*

106 On textual references that anticipated the manual addition of colours in botanical and zoological works: Chatelain and Pinon 2000, 259–261.

107 Egmond 2017, 75; Bauer 2003, 15–16; Landau and Parshall 1994, 257. This issue is also discussed in Swan 2011, 187. Ogilvie 2006, 154, 162 posits that images were ‘much more

they have pointed out the intermingling of naturalistic and schematic features in the images and the heavy influence of iconographic traditions and practices of copying and reusing woodcuts.¹⁰⁸ Hieronymus Brunschwig already warned readers of his *Small Book of Distillation* not to rely on the herbal images alone for identification, as he found that for some plants the wrong image had been used ‘by those [in the printing shop] who had not recognised them’ and, moreover, because the text provides details on characteristics of each plant ‘that cannot be shown in figures to those who do not already know them.’¹⁰⁹ In 1538, Vesalius, too, while acknowledging the mnemonic function of images, asserted that we cannot learn about plants or body parts from images alone.¹¹⁰ Along similar lines, art historians David Landau and Peter Parshall consider printed herbals as ‘stores of remedies for apothecaries who already knew how to identify the plants.’¹¹¹ In a discussion of the illustrated herbal manuscript MS Egerton 747 of around 1300, Jean A. Givens observes that the function of illustrations in herbals for locating plants in the field is ‘not at all obvious,’ as the majority of medieval herbals were *not* illustrated, and big, expensive volumes such as Egerton 747 were unlikely to be taken out in the field.¹¹² The latter argument seems valid for the substantial folio volumes of *Den groten herbarius* and *Tfundament der medicinen*, too.

A passage in *Tfundament der medicinen* hints at the intended use of plant images, in the introductory passage to the section on the figures of herbs (*Dye figueren der cruyden*; Fig. 3.12). Here the images seem to be presented as a substitute rather than as a visual aid for comparison to real plants. Somewhat similar to the arrangement of the uroscopy treatise, this part of *Tfundament der medicinen* provides a kind of visual summary. Images constitute its main content, in contrast to an unillustrated section ‘On the [medicinal] powers of herbs’ (*Vanden crachten der cruyden*) earlier in the book. Each woodcut is accompanied by a brief text that mentions noteworthy aspects of the plant’s appearance (for example, the multiple variants of a plant) and sometimes repeats brief information about its effectiveness.¹¹³ This section on *Dye figueren der cruyden* is introduced as follows:

precise’ than texts at the time when Fuchs published his herbal (1540s), whereas the relation reversed during the second half of the sixteenth century.

108 Moran 2017; Olariu 2014, 42–49; Swan 2011, esp. 190–191; Swan 2006; Lechtreck 2000, 223–228; Landau and Parshall 1994, 245–259; Jones 1987, 115–116.

109 *Small Book of Distillation* (1500), fol. OO4v. The passage, where Brunschwig elaborates on corrections and proofreading his work, is not included in the Dutch translation.

110 Vesalius, *Tabulae anatomicae sex* (Venice 1538), cited in Pantin 2013, 18.

111 Landau and Parshall 1994, 245.

112 Givens 2006, 117.

113 Rather inconveniently, *Tfundament der medicinen* contains multiple sections on the medicinal qualities of plants, each arranged alphabetically. Some plants appear in multiple sections and some of the information – for example, on the plants’ qualities (hot/cold, wet/dry) – appears in multiple places.



Die figuren der cryden.
Stenta mente oft munte.



Quanta mente plantacium / stenta is menighe-
 ley. Deene tammis ofte doets oft gemeyne oft cun-
 dighde / en dert peccorins en sreec. En andere ten
 wichte die menschen heet. En andere die langer en
 si haerpe bladesen drest / en dese heet stonsche oft
 Seraccensche mente. En andere die water mente
 heet. en men heetse Sibinban oft Galamita. En
 andere niet cuerlich en dat is Calomenta. Van. ca.
 en munte. Mente is heet en drooge inden .iiij. Die
 same is der medicijn bequamen geuen en drooge. Te
 ghel bi sickenide mit en tanules en cand met a-
 pin gecooet. en de mont gewasde. tis woz gecooet.

Melilacum mallate.



Melilacum mallate. Die Melilacum is heet en drooge
 inden eerden. Saet heet des getijche / en mit ten
 koume van eruen halven eerichet harte. drest doe ho-
 nime croone. Saet metten schellen doorn in de me-
 dicinen. en een laec houdment. woz de oochtwere-
 verco flower des gemeyche flower des heere floweren.

Die figuren der cryden.
Matericaria mater moeder crant.



Mater matericaria moeder crant oft linoor. Van
 spadre daer is wozen of gelect. Matericaria mater
 en is in die selue cracht dat linoor is. En en hinc
 te ontfanc. En wort na die figureninghe der moeder
 poeder van mater. van Melissen wozen schueringhe
 van ysaac d'incet clamen met wozen. Doch tedu-
 culos. Sacticaria. datu helen hullelino. in wozen ge-
 loeden en op die moeder gelyclacert. oft den tacht
 daer of den den ontfanc totten seluen.

Maliciana magelera.



Maliciana magelera
 en heet oech Samfuer
 heet en drooge inden
 der den de blonnen en
 bladeren jin der wech
 einen bequamen / Dae
 om linnen in den sa-
 mor metten bloemen
 vergader in een scha-
 duachtige plaetche
 ghae. en en tae hou-
 mens. Sol. viij. am.
 ca. van linciluro. Sijne
 van linciluro. Sijne
 drooghet en wech
 inde oerden graet. Se
 respou. In den melilac
 schinen met hare op
 op die wozen des van
 de vrees sreec. niet sse
 roch. en daer s sreec
 mentse op die linciluro
 en op gepantse linciluro.
 hinc. En men sijn wech chnoet daer sijn de den meli-
 cotihen ende de wozen ches ghan linciluro en wechog-
 te herlincum opreuz. Daecd helpe doe Epulente en
 parajina. daer de mensche jin harts ac linciluro
 in necht. en die andere partisse. en treching de den
 mentse en enigrance. waz het reet hie quade vech-
 ticheden wozen herlinc. en de olve is tate. Sijne ghet

Fig. 3.12. A page from the section 'Figures of herbs.'
Tfundament der Medicinen ende Chyrurgien (Antwerp: Willem Vorsterman, 1540), fol. K1r.
 Washington, D.C., Library of Congress, Rosenwald 1159. [Tfund-1540-Woz]

Here I will put the herbs – in a clear way with their figures, as they grow in reality (*int wesen*) in fields, meadows, forests, gardens, and other places – so that you will know here the appearances, constitutions and powers of the herbs without any herbal (*Herbarius*) or other similar books, from that which has been said about the herbs in great length and which follows here as well, by the will of God.¹¹⁴

The passage suggests that the images are helpful in order to *kennen* the qualities of the herbs – yet, the meaning of *kennen* is ambiguous and might refer to various cognitive processes including ‘to recognise,’ ‘to distinguish,’ ‘to know,’ ‘to comprehend,’ and ‘to judge.’¹¹⁵ Even more intriguing is the reference to *eenighen Herbarius oft andere des ghelijcke boecken*. Was the author Petrus Sylvius thinking of a particular *Herbarius*, such as *Den groten herbarius* or *Den herbarius in dyetsche*?¹¹⁶ And what kinds of ‘similar books’ did he have in mind? He evidently did not consider *Tfundament der medicinen* itself as one of these ‘similar books.’ It is unclear whether the remark should be understood as legitimation or even praise of his own work, or as a fundamental epistemic criticism of contemporary herbals. If any criticism is implied, it certainly does not pertain to the use of illustrated books in itself for acquiring knowledge of plants. Indeed, the passage in *Tfundament der medicinen* seems to position the images as a substitute for the actual plants: the reader will learn *here* (i.e. in the book) about the plants because they are visualised as they grow *int wesen*.¹¹⁷

Tfundament der medicinen thus takes a stance – albeit rather implicitly – on a debated issue. In the sixteenth century, opinions differed about the question to what extent epistemic images – especially those related to botany and anatomy – could serve as substitutes for actual objects. Substitution takes the idea that images could function as an aid for identification (expressed in the

114 Tfund-1530, fol. H2r: *So sal ick hier die cruyden, merckelijck met hueren figueren, so si int wesen in velden, beemden, bosschen, houen, ende andere plaetsen staen ende wassen, stellen, so dat ghi hier die ghedaenten, gesteltenissen, crachten der cruyden kennen muecht sonder eenighen Herbarius oft andere des ghelijcke boecken, wt tghene dat van den cruyden int langhe gheset is ende hier oock volcht ende volghen sal, Door Godt.*

115 MNW, ‘kennen’; WNT, ‘kennen.’

116 The woodcuts of plants in *Tfundament der medicinen* were reused from the *Herbarius in dyetsche* that was likewise printed by Willem Vorsterman, around 1511; Gysel 1991, NK 1050. They are copied (indirectly) after the German *Gart der Gesundheit* and, again then, certainly not drawn after living plants *int wesen*.

117 The suggestion that the book itself suffices for the acquisition of knowledge about the medicinal powers of plants strengthens the presumption that the substantial folio volume of *Tfundament* was not intended to be taken out into the fields or the garden.

passage about the urine flasks) one step further. Petrus Sylvius in *Tfundament der medicinen* expresses a different opinion about the issue of substitution than, for example, Vesalius. While Vesalius was a fervent advocate of the use of images in teaching anatomy, he did not consider them substitutes for actual dissection but, on the contrary, as an exhortation to examine real bodies.¹¹⁸ He was vexed by a pirated edition of his work in which it was suggested that anatomical images are clearer than an actual dissection.¹¹⁹ Sixteenth-century criticism of anatomical illustrations echoed the stance that the surgeon Guy de Chauliac (c. 1300–1368) had taken in the fourteenth century.¹²⁰ He expressed his disdain for the use of images in anatomy classes by Henri de Mondeville (c. 1260–c. 1320). Chauliac pointed out that Galen himself had acquired knowledge of anatomy through dissection rather than through images. A similar argument was made in relation to botanical images. The humanist and translator of classical medical works Janus Cornarius (1500–1558) argued in his commentary on Dioscorides's *De materia medica* that Dioscorides himself had urged to observe the appearance of plants as it changed with the seasons. According to Cornarius, images could not be useful when people had not yet seen the live plants: 'from live plants one can often recognize their pictures, but from pictured plants one can never acquire knowledge of live plants.'¹²¹ Conversely, *ad vivum* images of natural objects were considered in the second half of the sixteenth century to have a clear 'substitutional value,' as art historian Claudia Swan shows: in collections of naturalia such as those of the Italian naturalist Ulisse Aldrovandi (1522–1605) or the university of Leiden (established 1575), images functioned as substitutes when real specimens were not available.¹²² Although the Dutch medical-astrological works from the first half of the sixteenth century do not engage actively in contemporary polemics on the value of images in relation to real objects, they take an implicit stance through their visual and textual discourse. Compilations, translations, and reprints like those in my corpus indeed reveal how concerns from scholarly discussions resonated in works aimed at a wider audience.

118 Long 2011, 58–59; Chatelain and Pinon 2000, 238; Carlino 1999, 30.

119 Carlino 1999, 47. See also Carlino 1999, 12–19 on different stances on the use of images as substitutes for real bodies.

120 Discussed in Pantin 2013, 16.

121 Discussed and cited in Kusakawa 1997, 423–424. Kusakawa points out that Cornarius did not include images in his *Pedacii Dioscoridae Anazarbensis de materia medica libri V* (Basel, 1557).

122 Swan 1995, 359–360, 365–371.

3.4 | Copied images, changing contexts

As has become clear, virtually all of the images with analytical features in the Dutch books have been copied from other sources – often, but not by necessity, from the same source from which the text was translated. Some copies are more faithful than others. A comparison between copied epistemic images and their sources sheds light on how book producers perceived the functioning of epistemic images. Such a comparison is particularly insightful when looking at translated works where the images were transmitted along with the text. In my corpus this concerns *Fasciculus medicine*, *Den groten herbarius*, *Roseghaert*, *Distellacien*, *Der dieren palley*s, *Hantwerck*, and *Chyromantia* (see also Appendix 1). The copied woodcuts in these translations show which visual elements were deemed essential to retain in a copy. Moreover, adaptations reveal differences in accents that point to shifting functions. Therefore, rather than dismissing such copies as inferior derivatives of an ‘original’ work, we need to reconsider their impact in processes of knowledge transmission. After all, copies, translations and adaptations constituted a significant part of the early print market and provided an important means through which visual innovations could spread and visual conventions could evolve.

From the following comparison between copied epistemic images and their sources, three strategies of adaptation emerge: reduction and simplification, attention to image-text cohesion, and the addition of narrative elements. All three seem intended to increase the books’ accessibility to a wider audience. We have already seen how the book producers took into account readers’ limited familiarity with diagrammatic conventions; the following analysis reveals that the book producers were not just concerned with comprehensibility, but also with other aspects of accessibility, as they established changes in tone, emphasis, and financial affordability.

Reduction and simplification occur in a variety of forms, and reduction in images (in size, number, or amount of detail) often co-occurs with reductions in the text. Different types of reduction can be discerned in *Distellacien* compared to its source, the 1509 or the 1515 edition of Hieronymus Brunschwig’s *Small Book of Distillation*.¹²³ Firstly, Thomas van der Noot’s Dutch version has been drastically shortened: the substantive *Das buch des lebens* by Marsilio Ficino (a translation of *De vita libri tres*, 1489), which publisher Johann Grüninger included in the 1509 and 1515 editions of the *Small Book of Distillation*, is absent from the Dutch edition.¹²⁴ Moreover, the more than two hundred images of plants were

¹²³ On the source edition for *Distellacien*, see Appendix 1.

¹²⁴ A similarly drastic type of reduction can be observed in *Der dieren palley*s, which includes

not included in the third book, i.e. the alphabetically organised section with chapters on medicinal herbs. The choice to leave out these images is significant: the English translation *The vertuose boke of Distyllacyon* (1527) does include plant images.¹²⁵ The Dutch *Distellacien* further contains many textual reductions at the micro-level of sentences. For example, Brunschwig's rather abundant announcements of what will follow were left out or shortened in many instances in the Dutch text.¹²⁶ It seems significant in itself that in 1517 Thomas van der Noot chose to print a translation of Brunschwig's *Small Book of Distillation*, which had been printed since 1500, rather than his more recent and more elaborate *Large Book of Distillation* of 1512. Van der Noot may have preferred the *Small Book of Distillation* in order to provide a more accessible book, both in terms of content and of price, which could appeal to a larger audience including less specialised readers.

A subtle yet ubiquitous kind of reduction is visible in *Distellacien's* images of distilling instruments. All of the 23 images from the German editions (both 1509 and 1515) are copied in the Dutch edition – nineteen different instruments of which four are repeated. In the German editions, eight different instruments are situated in interiors with arches and columns, windows looking out on hilly landscapes, and decorative tile floors (Fig. 3.13).¹²⁷ In the Netherlandish copies of these woodcuts, by contrast, the vessels are situated in featureless spaces where the ground is indicated merely with a horizontal line or a simple tile pattern without any decorative motifs. (Fig. 3.14).¹²⁸ As a result, readers of the German editions encounter interior settings in half of the images (eight different woodcuts of instruments and four repetitions out of a total of 23), while readers of the Dutch edition encounter none. Although the simplification does not affect the instructive value of the images – the instruments are depicted in the same way – it does achieve a shift in emphasis, and, therefore, in the rhetorical functioning of the images.¹²⁹ By situating the instruments in a spatial context, the German woodcuts encourage more awareness of the *activity* of distillation as it takes place in a specific environment with the use of specific pans

only the chapters on animals from the *Hortus sanitatis* (1491). No integral translation of the *Hortus sanitatis* was produced in the Low Countries.

125 See Appendix 1.

126 Further research is required to establish the precise nature of the textual reductions and Van der Noot's possible motivations for them.

127 This count includes the printed brick mould template.

128 In the German editions, apart from instruments in interior settings, eight instruments have a nondescript background or no background at all. These are copied without alterations in the Dutch edition.

129 Kostelnick identifies 'signalling emphasis' as one of the rhetorical functions of text design; see Introduction; Kostelnick and Hassett 2003, 101; Kostelnick 1996, 27.

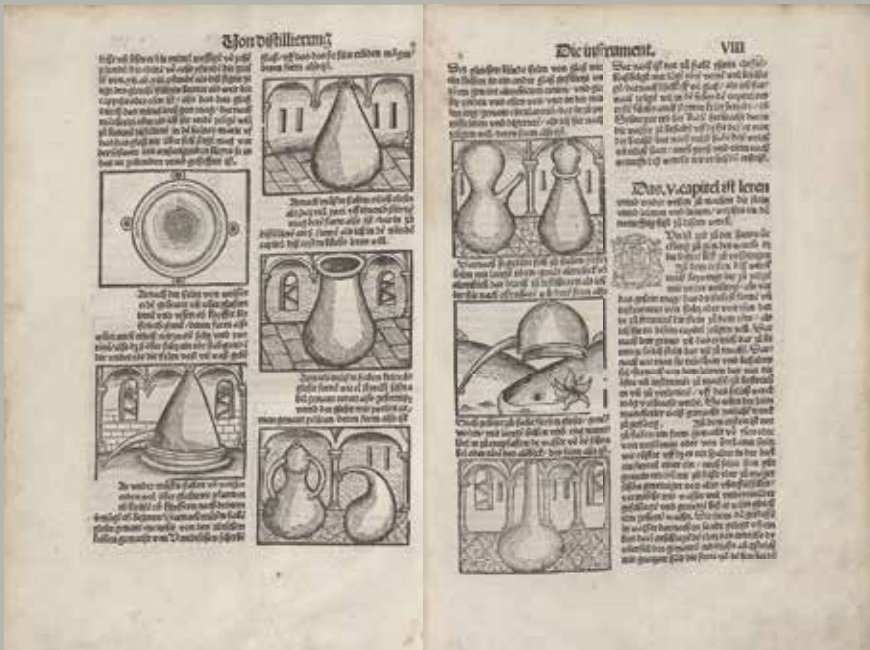


Fig. 3-13. Distillation instruments. Hieronymus Brunschwig, *Small Book of Distillation* (Strasbourg: Johann Grüninger, 1509), fols. A7v–A8r. Munich, Bavarian State Library, Res/2 M.med. 35.

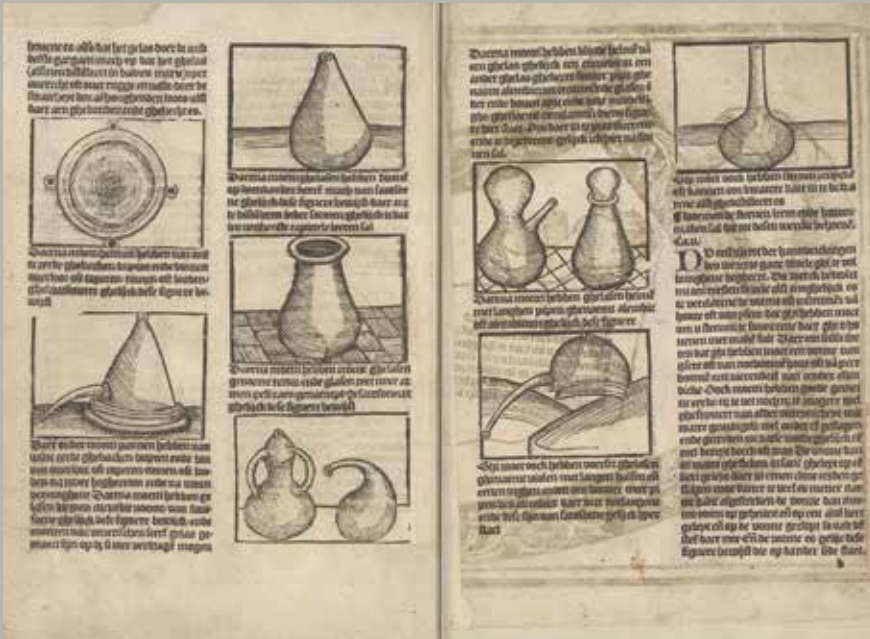


Fig. 3-14. Distillation instruments. *Die distellacien ende virtuyten der wateren* (Brussels: Thomas van der Noot, 1517), fols. a6v–b1r. Washington, D.C., Library of Congress, Rosenwald 1139. [Dist-1517-Wo2]



Fig. 3.15. Title page of Hieronymus Brunschwig, *Small Book of Distillation* (Strasbourg: Johann Grüninger, 1509), fol. A1r. Munich, Bavarian State Library, Res/2 M.med. 35.

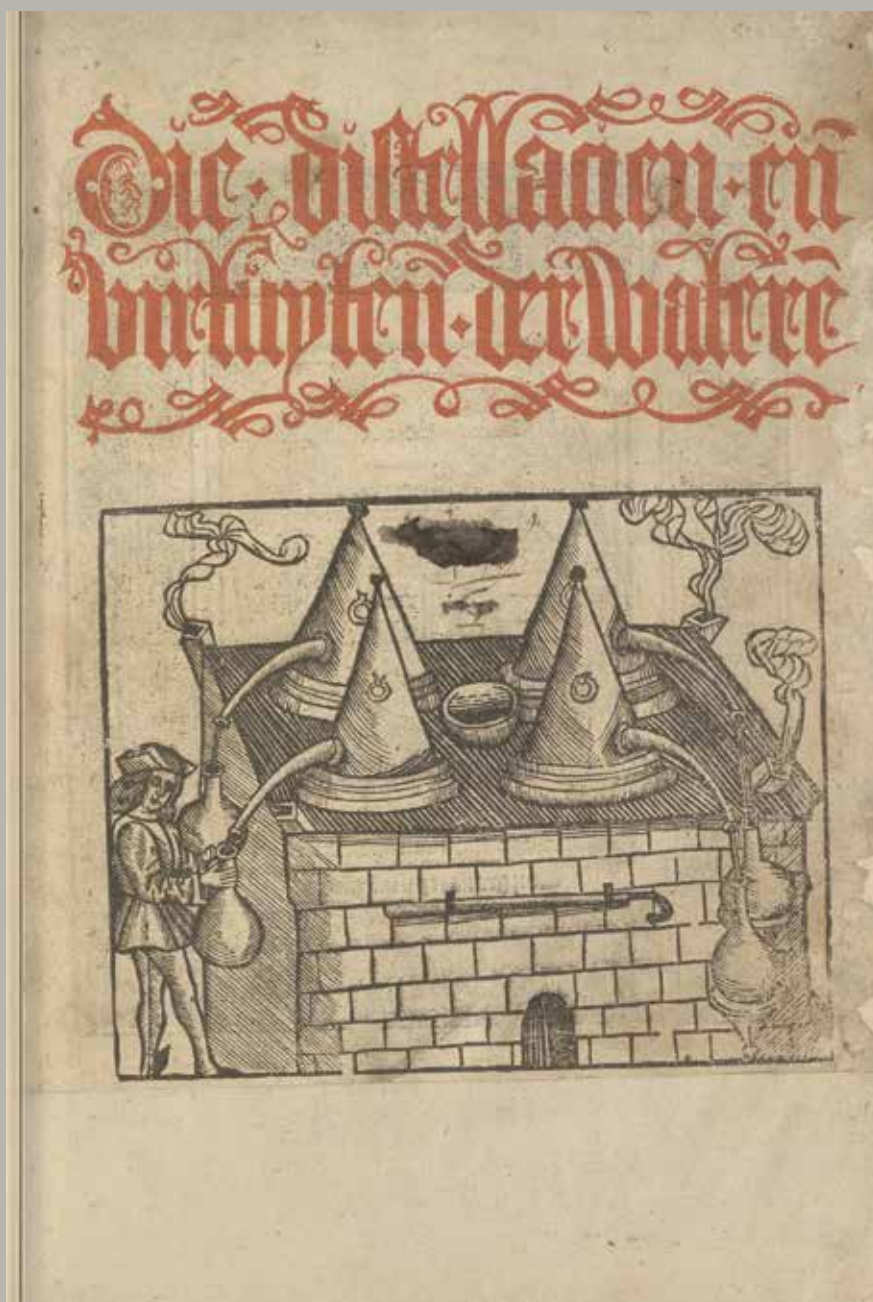


Fig. 3.16. Title page of *Distellacien*, with crossed-out mark (of ownership?) and year 1630 (or 1530?).

Die distellacien ende virtuyten der wateren (Brussels: Thomas van der Noot, 1517), fol. a1r.
Washington, D.C., Library of Congress, Rosenwald 1139. [Dist-1517-Wo2]

or flasks. The Netherlandish images, by showing nothing but the instruments, place all emphasis on the objects and their universal appearance.

In *Distellacien*, the simplification of analytical images (the instruments) goes together with a different choice of title page image which reinforces the difference in emphasis on actions versus objects. The German title page woodcut of the *Small Book of Distillation* shows people engaged in picking plants and stoking up the fire in a distillation furnace (Fig. 3.15).¹³⁰ The woodcut on the Dutch title page of *Distellacien* shows nothing but a large distillation furnace with a man who is filling flasks with distilled water that is flowing from the four cone-shaped still-heads on top (Fig. 3.16). This woodcut also appears inside the book and was apparently deemed representative, or attractive, enough to serve as the introductory image. It is the only image in the series of instruments that includes a human figure, yet even he is not shown engaged in the activity of *making* the water, as he is merely *collecting* it. While the German title page image thus stresses the processing of ingredients, the Netherlandish image places more emphasis on objects: the instruments and the end product of the distilled water.

The difference is further strengthened by the book titles. The German title *Liber de arte distulandi Simplicia et Composita. Das niiv buch der rechten kunst zu distillieren [...]* highlights the *art* of distilling, even calling it the ‘proper art’ (*rechten Kunst*).¹³¹ The Dutch title *Die distellacien ende virtuyten der wateren* points to the end product by referring explicitly to the *virtues* of the waters. We see, then, that the German title page underscores – both visually and textually – Brunshwig’s emphasis on what historian of science Alisha Rankin describes as ‘the *labor* of making medicines as an important path to medical knowledge.’¹³² The Dutch title page is less engaged in bringing this action-oriented perspective to the fore and seems more concerned with persuading the audience of the usefulness of distilled waters as a substance.

Reduction is also part of a complex, multifarious strategy of adaptation in the images of *Hantwerck*, the other translated work of Hieronymus Brunshwig (a translation of his *Cirurgia* of 1497).¹³³ *Hantwerck*’s image programme combines and adapts images from a variety of sources, most importantly from Hans von Gersdorff’s *Feldtbuch der wundtartzney* (Strasbourg: Johann Schott, 1517, with woodcuts attributed to Hans Wechtlin), henceforth *Feldtbuch*.¹³⁴ While sixteen

130 This woodcut is used on the title page of the 1509 as well as the 1515 edition of the *Small Book of Distillation*.

131 Title of the 1509 edition. The 1515 title page also refers to the *rechten kunst zu Distillieren*.

132 Rankin 2014, 121; her italics.

133 Brunshwig’s *Cirurgia* was first printed in 1497 by Johann Grüninger in Strasbourg. According to Franssen 1990, 75, *Hantwerck* is a translation of the 1513 edition; see Appendix 1.

134 Franssen 1990, 75; Vervliet 1978, 202. See also hereafter and Appendix 1.

woodcuts in *Hantwerck* were copied after the *Feldtbuch*, just two images derive from Brunschwig's *Cirurgia*, the source from which the text was translated.¹³⁵ All copies in *Hantwerck* after the *Feldtbuch* are substantially reduced in size, which is an important aspect of their visual rhetoric, as we will see.

Compared to the *Cirurgia*, the images copied in the Dutch *Hantwerck* place a greater accent on the practical usability of the presented knowledge. Among the images copied after the *Feldtbuch* are eight striking depictions of surgical constructions to reset broken or disjointed bones in the skull, arms, shoulders, and legs (see Figs. 3.4 and 3.22).¹³⁶ These images show the essence of the mechanical constructions and how to apply them. Furthermore, two diagrams of the internal organs and the skeleton, respectively, have been copied after the *Feldtbuch*, as well as a set of eight surgical instruments (divided over five woodcuts, three of which are shown in Fig. 3.3). All of these images are much more analytical in nature than those in the *Cirurgia*. In the *Cirurgia*, the main series of illustrations consists of nearly full-page images that depict a wounded patient seated in a chair or lying in a bed, with a surgeon and/or other bystanders apparently discussing his condition or providing medical care (Fig. 3.17).¹³⁷ The emphasis is not on *how* certain wounds should be treated, but rather on the acts and the potential of medical diagnosis and treatment in a general sense.¹³⁸ These narrative images function as structuring aids, marking the start of a new chapter, and perhaps, in terms of the epistemic purposes discussed above, as mnemonic aids. By contrast, the analytical images copied after the *Feldtbuch* are more practically useful for understanding and mentally visualising the required surgical actions (and perhaps even for constructing the actual tools). The decision to illustrate *Hantwerck* with copies after the *Feldtbuch* rather than with the series of patients-and-bystanders that is such a defining feature of the German *Cirurgia*, suggests that the Netherlandish book producers intended to make the Dutch translation more practically applicable.

135 One of the sixteen images copied in *Hantwerck* after the *Feldtbuch* is repeated on the title page.

136 In addition to the resetting of broken bones, the *Feldtbuch* also illustrates a number of other surgical interventions, including bloodletting, the amputation of a leg, and the removal of an arrow from a patient's chest, but these images were not copied in the Dutch edition.

137 Many of the scenes are composed of two rectangular woodblocks set side by side. By combining the blocks in different ways, a variety of scenes was created from a relatively limited set of blocks. Some of the blocks were modified by drilling out a part and replacing it with another, to display wounds on different body parts. See Taape 2021, 27; Moran 2017, 397.

138 Pantin 2013, 26 qualifies this image series as 'more picturesque than informative.' Taape 2021, in a meticulous unravelling of the visual rhetoric of Brunschwig's series, makes a powerful case for 'a comparative reading of printed images that appear purely decorative as a layer of commentary on society and the role of print in the politics of knowledge' (p. 51).



Fig. 3.17. Composite woodcut of a patient and three healers.
Hieronymus Brunschwig, *Das buch der wund Artzeny. Handwirkung der Cirurgia* (Strasbourg: Johann Grüninger, 1513), fol. H4r.
Munich, Bavarian State Library, Rar. 1457#Beibd.1.

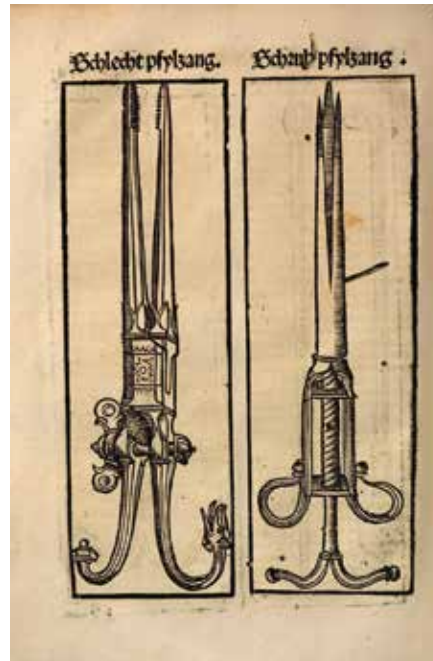


Fig. 3.18. Two instruments for removing arrows from body parts.
Hans von Gersdorff, *Feldtbuch der wundartzney* (Strasbourg: Johann Schott, 1517), fol. g3v.
Augsburg, Staats- und Stadtbibliothek, 2 Med 82#(Beibd.

The reduced size of these copies is a significant adaptation of the source images of the *Feldtbuch*.¹³⁹ Most of the representations of surgical constructions and instruments in the *Feldtbuch* are nearly full-page height, requiring readers to turn the book in the case of horizontal compositions (Fig. 3.18). The diagrams of the internal organs and the skeleton with labelled bones surpass all other images in size with their full-folio format (i.e. each taking up a page opening in the book) (Fig. 3.19). They were produced and distributed as broadsheets and added only to some of the copies of the *Feldtbuch*, perhaps as an optional addition.¹⁴⁰ The images' monumental size contributes to the author Hans von

¹³⁹ The *Feldtbuch* images were also reduced in other respects in *Hantwerck*: moralising and mnemonic verse inscriptions were left out, and only a selection of images from the *Feldtbuch* was included (see below).

¹⁴⁰ They were drawn by Hans Wechtlin, as is indicated in the verse text on the print of the internal organs; Panse 2012, 35; Kusakawa 2012, 9–13; Dackerman 2011, 60; Carlino 1999, 82–88.

Gersdorff's endeavour to lend authority to practical knowledge. Arguably, Gersdorff (1455–1529) was an even fiercer advocate of hands-on experience as a legitimate source of knowledge than Hieronymus Brunschwig.¹⁴¹ In *Hantwerck*, the copied images of instruments take up less than half a page and in several cases even less than the width of a single text column (see Figs. 3.3 and 3.4 on p. 144–145). The two full-folio diagrams have been reduced to a single page each, printed on both sides of the same leaf (Fig. 3.20). The copies, then, retain the same information but not the monumental scale. While financial or practical motifs may underlie this downscaling, there are implications for the visual rhetoric, too. The smaller images in *Hantwerck* are, first and foremost, tailored to practical instruction, and seem less concerned with using monumentality to reinforce Gersdorff's – or indeed Brunschwig's – epistemic agenda.

Reduction in size not only occurs for copied images, but in some cases also for a book as a whole. The Dutch *Fasciculus medicine*, for example, is a much smaller folio size than the Latin *editio princeps* of 1491 after which it was translated. Subsequent editions of some of the Dutch works tend to become smaller, too, with fewer illustrations. *Der vrouwen natuere*, *Roseghaert*, and *Der scaepherders kalengier* go from quarto to octavo. *Tfundament der medicinen* goes from folio in the sixteenth-century editions to quarto in 1622. A smaller book means that less paper is required and therefore that the book can be produced and sold more cheaply. A reduction of the book size can therefore also be considered a means of enhancing accessibility to a larger audience.

As we saw for *Distellacien*, certain images and/or text parts from the source editions were not included in the Dutch translations at all. Such a reduction in content pertains in several cases to subject matter that may have been perceived as controversial or too complicated. The Dutch *Roseghaert* editions leave out the large woodcut from the German *Rosegarten* (1513) that shows a woman in labour sitting on a birthing stool with a midwife sitting next to her who is lifting the woman's dress to examine her.¹⁴² While a separate image of the birthing stool, which is described and depicted a few pages later, was copied in the Dutch translation, the narrative scene of the woman in labour was perhaps considered too susceptible to other interests than the physiological processes of childbirth. Such a concern about unchaste motivations for reading the *Roseghaert* is

¹⁴¹ Panse 2012, 130.

¹⁴² An apparently chastised rendition of this birth scene appears only in Rose-c1555a. The title page woodcut, freely copied after the birth scene of the German 1513 edition, shows a pregnant woman sitting in a chair surrounded by five women who support her, as they hold her arms and place a hand on her thigh. The act of lifting her dress or examining her is not shown.

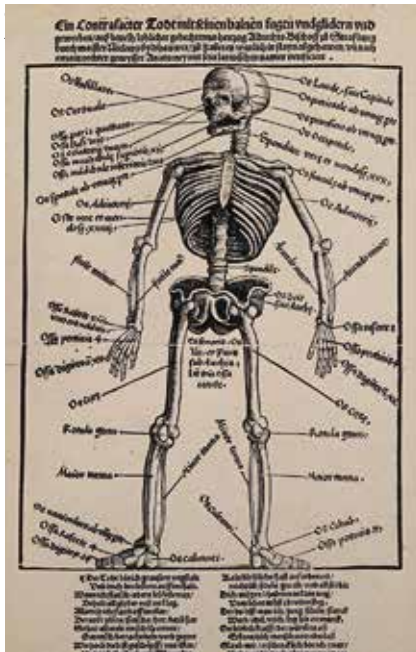


Fig. 3.19. Broadsheet with a skeleton diagram, designed by Hans Wechtlin, bound in some copies of Hans von Gersdorff, *Feldtbuch der wundtartzney* (Strasbourg: Johann Schott, 1517). Photo: London, Wellcome Collection, 26751i.

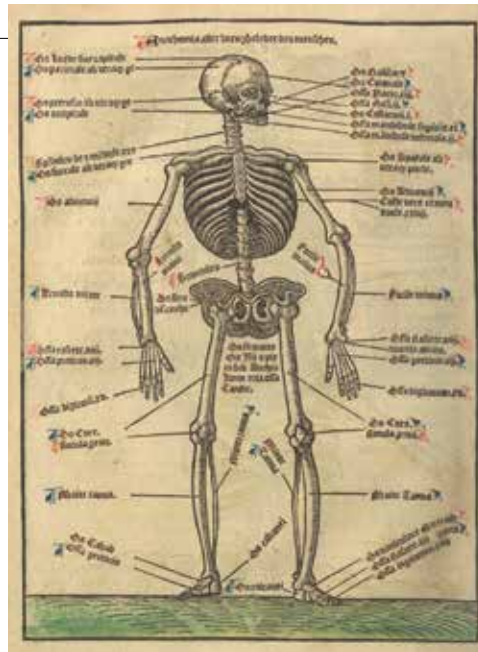


Fig. 3.20. Skeleton diagram, copied after Wechtlin's design. *Dits dat hantwerck der chirurgien* (Utrecht: Jan Berntsz, 1535), fol. #4v. Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 B899cDu 1535. [Hantw-1535-B16]

also expressed in its colophon.¹⁴³ Another potentially controversial subject was the dissection scene in the Italian *Fasciculo de medicina* (1493/1494), which is not included in the Dutch editions.¹⁴⁴ The Italian woodcut shows a corpse on a table in the foreground, about to be cut open by a surgeon surrounded by bystanders, while a physician is lecturing behind a raised lectern. Instead, the anatomy treatise by master Mondino de' Liuzzi (c. 1275–1326) is preceded in the Dutch editions by a diagram of a skeleton captioned 'The anatomy of the human species' (*Die Anothomie van dat menshelijc geslachte*; Fig. 3.21). It was possibly also with an eye to a potentially wide audience that *Hantwerck* includes only a selection of images from the *Feldtbuch*. Among the subjects that were left out are various

143 See Chapter 1. See also Newman 2018 on 'indecent readers' of gynaecological works. It was perhaps for similar reasons that Van der Noot's *Tregement der ghesontheit* (1514) leaves out various passages from Magninus Mediolanensis' *Regimen sanitatis* related to intercourse and genitals; Van Dam 2008, 54; Pleij 1982, 28–29; Elaut 1963–1964, 85–86.

144 Coppens 2009a, 43. Coppens shows that the Italian rather than the Latin (1491) edition served as a model for the Dutch woodcuts, see also Appendix 1.

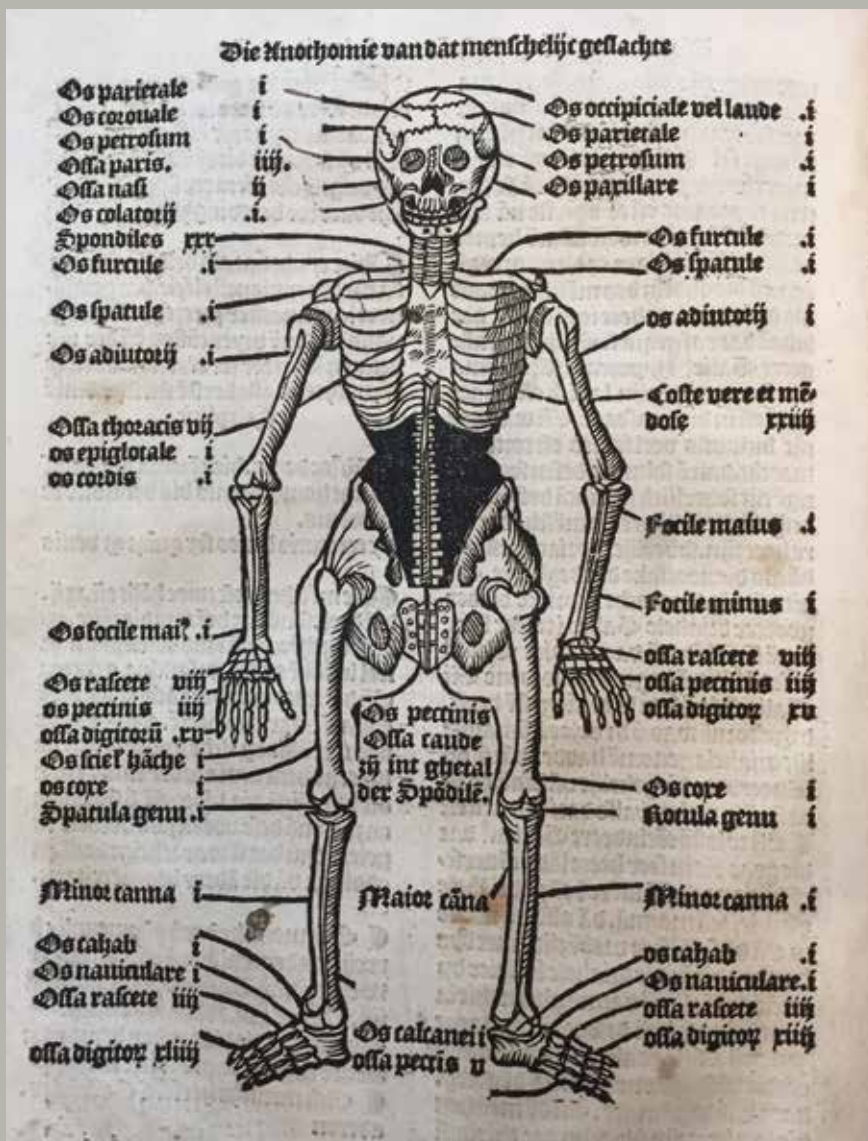


Fig. 3.21. Skeleton diagram, with two indication lines (on the left of the head) elongated by a reader.

Fasciculus medicine (Antwerp: Claes de Grave, 1512), fol. liv.

Copenhagen, The Royal Danish Library, 40 Med. 50850 (barcode: 20002341). [Fasc-1512-Ko7a]

surgical interventions including the amputation of a leg and the removal of an arrow from a patient's chest. Perhaps they were considered too confrontational or too specialist for a lay audience or, again, too prone to prying eyes – in this case of readers keen on horror. *Feldtbuch's* religiously themed woodcuts of Job, Saints Cosmas and Damian, and Saint Anthony were not copied either.¹⁴⁵ We do not know whether they were left out of *Hantwerck* because they do not contribute any practical information or because the saints were considered controversial, too, in the Reformation context of the 1530s.¹⁴⁶

Whereas types of reduction or simplification thus characterise many adaptations, both in texts and images, we should take care not to interpret them unquestioningly as a reduction in quality or relevance. An important characteristic of the copied images is that they retain the instructive value of the source images: when details are left out or images are resized, this may affect their visual rhetoric in terms of emphasis or tone (losing for example the meaning of monumentality), but not the medical-astrological information they convey. Even when stylistic quality may be compromised in the process of copying, as scholars frequently note, this does not necessarily affect the usability of the images.

Indeed, a persistent concern with usability comes to the fore from a second strategy in the process of translation: the Dutch translations show that care was taken to maintain a clear connection between text and image. As we have seen above, spatial proximity of image and text was considered an important stimulus to practical usability. This is reflected in a particular way in images selected for copying: whenever the source text refers to an image, the translation also contains this image, even when other images may have been changed. *Distellacien* provides a case in point: while the title page images of the German and the Dutch editions differ, the images of distilling instruments, all of which are discussed in the text, were copied. In a similar vein, in *Roseghaert* the narrative scene of the woman in labour could easily be omitted without compromising instructive value and without necessitating textual adaptations, while the analytical images of babies in the womb were all copied with stunningly little changes in all subsequent editions.

In *Hantwerck*, the attention paid to image-text cohesion is reflected in the ways in which images based on Gersdorff's *Feldtbuch* were integrated into Brunshwig's text. Text passages were added that refer explicitly to the images, yet these passages offer much more concise descriptions than the *Feldtbuch*. For example, an image of a device for resetting a dislocated shoulder is inserted in

145 On these woodcuts, see Panse 2012, 93–95 and 100–107.

146 See also Chapter 2.

a text passage where the German *Cirurgia* does not have any illustrations (Fig. 3.22). The *Feldtbuch* describes the procedure for using the device in detail.¹⁴⁷ In *Hantwerck*, by contrast, the text translated from *Cirurgia* is extended with a phrase that basically lets the image speak for itself:

The fifth way is done with the instrument that is shown below, and in such a way as you can see in the same figure.¹⁴⁸

The reference does not provide any of the textual details from the *Feldtbuch*, but it does point to two types of information that were to be gained from the image, namely, about the instrument's appearance and about the way it is to be used. The Dutch *Hantwerck*, then, testifies to an effort to establish close links between images and texts, but in an efficient way that kept the effort to a minimum.



Fig. 3.22. Surgical device for resetting a dislocated shoulder.
Dits dat hantwerck der chirurgien (Utrecht: Jan Berntsz, 1535), fol. P3v.
 Washington, D.C., Library of Congress, Rosenwald 1108. [Hantw-1535-Wo2]

¹⁴⁷ *Feldtbuch*, fol. h4r. A misinterpretation in the copied image suggests that *Hantwerck*'s illustrator was not intimately familiar with the *Feldtbuch*'s text; see Appendix 1.

¹⁴⁸ Hantw-1535, fol. P3v: *Die v. maniere geschiet metten instrumente dat hier onder gefigureert staet. ende dat in alder manieren ghelijc ghi dat sien moeget in die selue figure.*

A further sign of the importance attached to image-text integration is that the Dutch *Hantwerck* retained images in places where the source text of the *Cirurgia* explicitly refers to them. Two tiny images are the only ones that were copied after the *Cirurgia* woodcuts. One depicts a sickle-shaped surgical instrument, the other is a schematic representation of three teeth with a piece of string meandering around them, illustrating a description of how to fix a broken jawbone (Figs. 3.23a–b and 3.24a–b).¹⁴⁹ They were likely copied in the Dutch edition precisely because of their inextricable connection to the text, in contrast to the large narrative scenes from the German *Cirurgia*, which were left out as readers did not need them to understand the text. The *Cirurgia* further includes explicit references to nine images of surgical instruments in a passage taken from Guy de Chauliac's *Chirurgia magna* (1363). In *Hantwerck*, these so-called 'capital instruments' (*capitaele instrumenten*; see Fig. 3.7 on p. 150) were copied not after Brunschwig's *Cirurgia* but after the Dutch Chauliac edition that had been published by Henrick Eckert van Homberch in 1507. For the



Fig. 3.23a–b. Two tiny woodcuts copied after the German *Cirurgia*: a surgical instrument and a construction to reset a broken jawbone.

Dits dat hantwerck der cirurgien (Utrecht: Jan Berntsz, 1535), fols. L3v and N2r.
Washington, D.C., Library of Congress, Rosenwald 1108. [Hantw-1535-Wo2]

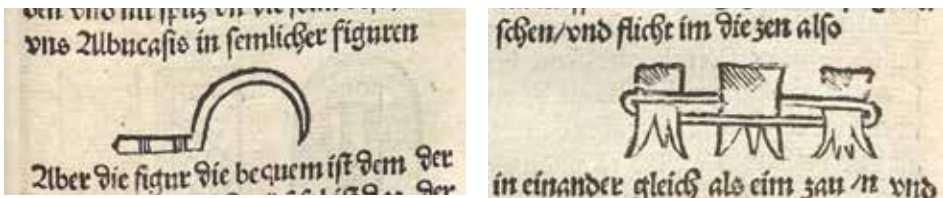


Fig. 3.24a–b. A surgical instrument and a construction to reset a broken jawbone.

Hieronymus Brunschwig, *Das buch der wund Artzeny. Handwirkung der Cirurgia* (Strasbourg: Johann Grüninger, 1513), fols. O4r and R5v.
Munich, Bavarian State Library, Rar. 1457#Beibd.1.

¹⁴⁹ Surgical instrument: *Cirurgia* 1513 fol. O4r, Hantw-1535 fol. L3v. Teeth: *Cirurgia* 1513 fol. R5v, Hantw-1535 fol. N2r.

Netherlandish book producers, it was apparently easier to draw on the text and images from the already available Chauliac edition, rather than to translate anew from Brunschwig's text. The *Hantwerck* case suggests that printers had a clear sense of different kinds of images and their functions within the text when making decisions about copying images.

Such deliberate choices regarding when and how to copy epistemic images also become apparent from a third strategy of adaptation in image programmes: the addition of narrative images. The Netherlandish printers seem to have considered narrative elements as a means to make editions with a substantial amount of analytical depictions more accessible and more appealing. In Chapter 2 we already saw that diagrams in the Dutch works are persistently surrounded by more narrative representations; that narrative elements were, indeed, *added* to an existing image programme comes to the fore most strongly in *Chyromantia*. The printer Jan Berntsz extended the image programme from the 1522 Latin *editio princeps* considerably. This programme includes images of hands, face types, horoscope diagrams, and personifications of the planets, all of which are closely related to the text. Berntsz added dozens of scholars and other figures engaged in conversation, two series of planet personifications, two series of the zodiac signs, four astronomers' busts, personifications of the four complexions, five small portrait busts of kings and emperors, and numerous decorative borders (Fig. 3.25, see also Fig. 1.1 on p. 59, Fig. 2.5 on p. 96).¹⁵⁰ Many of these are stock images that were not intended to clarify the text in any way – indeed, the Latin *Chyromantia* demonstrates that the text can very well be presented without these illustrations (see Figs. 4.5 and 4.6 on p. 205). However, they perform distinct rhetorical functions as they lighten the overall tone of the work, inviting also non-specialist readers to engage with the knowledge presented in the book. Chapter 4 will demonstrate how the images of scholars and of women and couples in particular stimulated readers' trust and engagement.

In *Den groten herbarius*, the addition of narrative elements has been cleverly combined with a strategy of reduction. As noted above, *Den groten herbarius* was probably translated from the *Herbary* (1507), which combines the text of the *Gart der Gesundheit* (first printed 1485) with woodcuts deriving from the *Hortus sanitatis* (first printed 1491). These images in the *Herbary* include some thirty narrative scenes of people engaged in processing or extracting natural resources.

¹⁵⁰ Jaski 2011 has qualified the additions by Berntsz as 'all sorts of unnecessary images,' which make the book look 'more frivolous and also rather botched' in comparison to the Latin edition. Images of scholars (that can be qualified as narrative images) were also added in substantial numbers to *Der dieren palley*s and *Hantwerck*; these images will be discussed in Chapter 4.



Fig. 3.25. Hand diagram copied after the Latin source edition, with added planet personification, a man and a woman, and author portrait.

Chyromantia Ioannis Indagine (Utrecht: Jan Berntsz, 1536), fols. L3v–L4r.
Utrecht, University Library, Rariora R fol. 456. [Chyro-1536-U01]

Apparently, De Grave preferred the arrangement of texts and images from the German *Herbary* over copying another illustrated Dutch herbal, *Den herbarius in dijetsche*, which had been published only three years before *Den groten herbarius*, in 1511, and which contained only plant images and no narrative images.¹⁵¹ At the same time, De Grave's decisions on the illustration programme also entailed a pictorial reduction compared to the German source edition of the *Herbary*. In *Den groten herbarius*, various narrative images used for the chapters on stones, metals and other substances appear multiple times within the volume (Fig. 3.26). In this respect, they clearly contrast with the analytical images of plants, which were not reused within the volume and which thus present each plant as truly different from the others. Indeed, *Den groten herbarius* contains many more instances of reuse of such narrative images than the *Herbary* (Fig. 3.27). This is another example, then, of an intervention that made production more efficient without losing any information. Although the narrative scenes do not

¹⁵¹ *Den herbarius in dijetsche* (Antwerp: Govaert Bac, 1511).

provide information on the appearance of the substances, or on how to process them, they add a liveliness that seems to have suited the printer Claes de Grave's endeavour to appeal with *Den groten herbarius* both to the 'learned and the unlearned.'¹⁵²

3.5 | Conclusion

This chapter has shown that our understanding of early modern visual epistemology can be advanced by scrutinising two undervalued types of sources: the textual discourse of common references to images, on the one hand, and strategies of copying epistemic images on the other hand.

Textual references to images prove an insightful source even when they are highly concise and even when they do not seem to have any programmatic or polemic intentions. Common phrasings such as *ghelijck dese figure bewijst* or *als hier ghefigureert* consistently position images as reliable and efficient visualisations of reality, in some cases even equating the representation and the represented. Through such apparently inconspicuous image references, the medical-astrological works take a stance – albeit implicitly – on debated issues among contemporary naturalists and medical practitioners, such as the reliability of images and their capacity to act as substitutes for actual objects.

The conception of images as reliable visualisations lies at the basis of how the practical use of epistemic images was envisioned and what kinds of knowledge they were deemed to convey. The strong link I have found between the presence of analytical features in images and explicitly phrased aims of teaching practical skills shows that these images were clearly meant to perform an instructive role. Four epistemic functions emerged in particular: understanding, memorising, constructing, and identifying. While understanding and memorising have a strong intellectual, cognitive component, the roles attributed to images in producing constructions and calculations, and in identifying and distinguishing between objects, show how strongly the use of images was also embedded in other – social, material – epistemic practices.

Apart from truthful representation, the discourse on images reveals that effective communication of knowledge through images was also thought to lie in close spatial proximity of an image to its related text – an idea that is being substantiated theoretically by current scholarship of multimedia communication. Even though sixteenth-century books do not express this assumption directly, book producers time and again took care to achieve such proximity

152 Van Leerdam 2021, 361–364.

...u wine in geblust wordt is goet regē
 pinē en gebrekē d' miltē ¶ En ghe
 gout i wijn of spise genomē is goet regē
 die melaetsh; of lalarie en teghē die
 machrich; d' hertē m; d; beekē os de
 di cerui en m; water vā borago of
 nargiedmēgt ¶ Sec is sijn geuyl; goet
 goet genomē in wijn of in spise oft ghe
 mēgt m; eēlectuariū genaēt anacard
 nū of ier alogodiō tegē de vallēde suche



Siluerē
Dat. xxxix. capittel

Argentū latine. gre. fide Felch I sedhe
 Serapio libro aggregator ca. fide
 S. i. argentū seet d; siluerē vā natu
 is cout en droge maekēde ¶ Siluerē
 frauē of goudē en m; olie nā w; g; hē

...men sweringhen en
 ¶ Se siluerē heeft die natuere in hē dat
 die wonden te samē trecht also dat mēse
 niet napen en derf ¶ Dye waerdighe
 meester Ruicenna in sinen boec de viri
 bus cordis seet dat siluerē dat hert ver
 starct en dat goet bloet maecht



Quicksiluerē Dat. xl. ca
 Argentum viuum latine. pdragicus
 grece. Albachest Arabice

Platearius in sinē boec inden ca
 pitel Argentum viuum seet dat
 quicksiluerē van natueren heet en vuch
 rich is inden vierden graet Ende doer
 sijn operatie mach mē wel bekennē dat
 heet is want het dissolueert / inscideert
 ende penitreeert / dat is dat seet / sijn en
 doergaet Seck spreect Platearius dat
 sommighe segghen dat coutē en vuch
 rich is inden vierde graet ¶ Serapio
 libro aggregatoris ca. Albachest

Fig. 3.26. Identical woodblock used to illustrate the chapters silver and quicksilver (and gold, not shown here), coloured differently by a sixteenth-century (professional?) colourist.

Den groten herbarius (Antwerp: Claes de Grave, 1514), fols. d5v-d6r.

Leiden, Rijksmuseum Boerhaave, BOERH g 3301. [Herb-1514-LRB]

in the layout of books in order to facilitate the reading process. Their efforts entailed copying any images from source editions if the text referred explicitly to them, whereas other images were more easily left out or replaced in the copying process.

The adaptations made in copied image series reveal a general concern, on the one hand, for rendering translated works more accessible, both in terms of content and costs, and, on the other hand, for increasing practical usability. Reductions may have lowered production costs – when entire parts of a book were omitted, when images were substantially reduced in size or frequently reused – but, at the same time, the printers took care to preserve the information that the images conveyed, and the close connection between images and textual references. Strategies of reduction, then, should not be interpreted merely in terms of production costs, but as part of more comprehensive and diverse strategies of popularisation, including through shifts in tone and emphasis. Thus, rather than dismissing copied images as devaluations from their source edition, we need to reconsider them as catalysts of knowledge transmission that were deployed to render knowledge accessible to a larger group of readers.



Fig. 3.27. Three different woodcuts used to illustrate the chapters on gold, silver, and quicksilver. *In diesem Buch ist der Herbarij: oder Krüterbuch* (Strasbourg: Johann Prüss, 1507), fols. e3v-e4r. London, Wellcome Collection, EPB/D/3322.



Detail of Fig. 4.22

Reliable Knowledge



Invoking Trust through Authority and Playfulness

In order for a book to fulfil its instructive or didactic purposes, readers must be persuaded that the book's content and its producer are reliable. Readers need to trust that the content is accurate and relevant and that its producer (author, compiler, printer, and/or publisher) has the authority to write or publish on the subject matter.¹ These persuasive efforts are enacted as much through visual as they are through verbal means. As Charles Kostelnick observes, elements of document design – including the visual language of images – play ‘a key role in establishing credibility – or lack of it.’² Thus, he identifies establishing credibility, or ‘ethos,’ as one of the rhetorical functions of document design. Adrian Johns offers an important historical perspective on such a function: ‘Printed texts were not intrinsically trustworthy. When they were in fact trusted, it was only as a result of hard work.’³ Reliability was an important issue for early printed books on medical and astrological knowledge, for various reasons discussed in the previous chapters: because of discussions or even controversies about certain aspects of this knowledge, such as the epistemic value of images or the extent to which astrology can predict specific events; because of the competition among a multitude of different kinds of practitioners; and because of the new technology of print, which made it necessary for printers to build a reputation of reliability in order to survive as commercial entrepreneurs.

The present chapter's two sections focus on authority construction and playfulness, respectively, as mechanisms that influence reliability in particular

1 On trust as an essential basis for the production of valued knowledge, see Shapin 1994, esp. 16–36.

2 Kostelnick 1996, 26–27 (quote on 26). See also Kostelnick and Hassett 2003, 100–102 and above, Introduction.

3 Johns 1998, 36.

and that are manifest in many images in the Dutch medical-astrological books. Together, these mechanisms illuminate how images could help to establish credibility for a book and/or its producers in different and sometimes unexpected ways. Authority is constructed to a great extent through visual strategies, as I will show in an analysis of small images of scholars that pervade several of the examined texts. Playfulness, too, could function as a rhetorical instrument to gain readers' trust. This is a crucial issue if we want to understand how the images in medical-astrological books functioned. At first sight, playful scenes of women and couples that appear in many of the studied works might seem to undermine the authority of serious medical-astrological knowledge. Such sexually and morally connoted scenes appear – and reappear – so often, however, that we need to address their impact on reliability more precisely. They are the focus of the chapter's second part.

4.1 | Visualising authority

Authority and visual rhetoric

In order to be considered trustworthy, a work must convey a certain authority. Historians of philosophy Jan Opsomer and Angela Ulacco define epistemic authority as 'the property with which someone or something becomes invested and which is supposed to make that person or thing a source of reliable information (to varying degrees).'⁴ Epistemic authority is therefore an essential precondition for effective knowledge transmission. Opsomer and Ulacco's definition crucially points out that authority can be invested in persons as well as in things. This insight has come to the fore in studies of premodern authority construction and legitimisation of knowledge conducted in various fields, including history of knowledge, literary history, book history, and communication studies. In medieval intellectual culture, as literary historian A.J. Minnis has foundationally shown, *auctoritas* was a quality that could not only be attributed to the person of an author (*auctor*), but also to a text itself.⁵ Authority, both of authors and texts, was primarily shaped by 'age, authenticity, and conformity with truth,' as Jocelyn Wogan-Browne et al. have observed in an influential survey of Middle English literary theory.⁶ Common references in medieval texts

4 Opsomer and Ulacco 2016, 23. They distinguish 'epistemic authority' from 'executive authority, which can be legal, political and/or moral' (p. 22).

5 Minnis 1988, 10–12. See also Wimböck 2004, 12–13; Long 2001, 9; Parkes 1991a, 36.

6 Wogan-Browne et al. 1999, 6; also quoted in Finkelstein and McCleery 2005, 69. See also Minnis 1988, 10–12.

to authorities such as Ovid or Augustine allude to their texts rather than to the author as an individual.⁷ As we will see, references to authorities abound in the Dutch medical-astrological books, too.

The construction of authority was not just a textual mechanism, but also had a strong visual and material component. Recent studies have identified a multitude of strategies through which the material form of a text contributed to the legitimisation of knowledge.⁸ One such strategy, already present in medieval manuscripts, is that references to authorities were sometimes visually highlighted, for example by writing them in red ink as part of the manuscript's rubrication.⁹ Ruth Carroll et al. explain how this practice functions as part of what they coin 'pragmatics on the page': 'With frequent reference to *auctoritates*, the writer signals his own confidence in the subject matter, while simultaneously deferring to inherited authority and reputation.'¹⁰ As we will see next, the Netherlandish printers used images of scholars for a similar purpose, to give visual salience to authoritative sources. Decisions on visual means to establish authority and reliability were, indeed, made by printers rather than by authors, as most of the works examined here are translations and compilations. The medical-astrological books thus shed light on what printers considered (whether intentionally or not) effective for gaining readers' trust – at least enough of their trust to potentially retain them as future clients.

Some of the ways in which printed images contributed to authority construction were highly medium-specific.¹¹ This is notably the case for printers' marks, which could act as a mark of quality and thus functioned as means of authorisation for the print shop.¹² Thomas van der Noot, Jan van Doesborch, Willem Vorsterman, Jacob van Liesvelt, and Jan Berntsz included conspicuous, even full-page printer's marks in several editions (see Fig. 5.35 on p. 314).¹³

7 Wogan-Browne et al. 1999, 5; Finkelstein and McCleery 2005, 69.

8 Signore, Dlabáčová and Abram 2016; Wackers 2016; Bromilow 2013; Brusati, Enenkel and Melion 2012; Smith and Wilson 2011; Mak 2011; Enenkel and Neuber 2005; Stolberg 2003; Johns 1998.

9 Parkes 1991a, 36.

10 Carroll et al. 2013, 64. On persuading readers with references to authorities, see also Marttila 2011, 148–151.

11 Pouspin 2017, 1.2.2 discusses the 'weight' of iconographic tradition in printed illustrations. See on the relation between repetition and authority also Wimböck 2004, 29–32. Wimböck's study discusses various visual strategies and visual genres that communicated assertions of authority (e.g. images as visual evidence, as truthful representations, as part of rituals). Macgregor 1999 proposes that printed images had authority 'as an agent of pictorial knowledge.'

12 Van Leerdam 2019a, 15–17; Wolkenhauer and Scholtz 2018; Hoftijzer 2005, 72. The editions in my corpus by Claes de Grave and Jan Roelants do not have any printer's marks.

13 E.g. Regi-c1510, Scaep-1511, Tscep-1514, Dist-1517, Thuys-1522, Sack-1528, Tfund-1530, Thuys-1531, Herb-1538.

Printing privileges, too, stated through the phrase *cum gratia et privilegio*, are regularly emphasised through a large woodcut of the coat of arms of the Habsburg rulers at the beginning of the book (see Fig. 5.30 on p. 304).¹⁴ Such a visual reference to a worldly authority, implying their approval and protection, imparted authority and trustworthiness to the content of a book and its producers, even though the earliest privileges in the Low Countries (1511–1521) were not granted as marks of approval for a book's content but merely as permission to a printer to publish new material during a certain period.¹⁵

Paradoxically, even lists of errata could 'serve to establish authorial authority through the acknowledgement of error.'¹⁶ In the editions of *Den groten herbarius* of 1514 and 1532, single errata related to misplaced woodcuts in have a similar effect.¹⁷ In the 1514 edition, Chapter 11 on *aristologia longa* starts with a printed remark that the images of *aristologia* (Chapter 10) and *aristologia longa* are swapped; the mistake was apparently already noticed during the printing process.¹⁸ At the end of the 1532 edition, a substitute image is presented for the erroneous image in Chapter 96 on *ridderspooren* or *consolida*.¹⁹ These occasional corrections suggest to readers that the works (and their images) were produced and proofed with care, without substantial errors apart from those noted.

A particularly well-studied type of images that functioned to reinforce authority are author portraits.²⁰ In order to fulfil this function, they did not need to represent any individual likeness. On the contrary, the medium of print allowed for the reuse of generic 'portraits' across different books, as we see, for example, in *Tscep vol wonders* (1514) and *Distellacien* (1517) where the same image is used of a scholar sitting at a lectern, pointing his finger in an open book (see Figs. 5.6 on p. 263, 5.38 on p. 317). In *Tfundament der medicinen*, a single image of a scholar in his study reappears three times. Images like these present the

14 E.g. Rose-1516, Dist-1517, Tscep-1520, Dier-1520 (with a portrait of Charles V).

15 On privileges in the Low Countries: Adam 2017, 19–22; Witcombe 2004, 335–336; Baelde 1962; Verheyden 1910.

16 Lerer 2002, 19. The paradox of errata is that they can be (and were) be interpreted either as a sign of diligence or, conversely, of negligence; Smyth 2019, 255; Lerer 2002, 18. On errata lists, see also Blair 2007b.

17 There are no lists of errata in the Dutch medical-astrological books. Apart from the single errata in *Den groten herbarius*, an interesting correction from the print shop is present in several copies of *Der dieren palleys* (1520). They contain two instances where an erroneously omitted text line at the bottom of a column was added after printing, on a pasted-in strip with printed text; see Appendix 1.

18 Herb-1514, fol. b2r: *Die fgure vander eender hoelwortele staet voer die andere* ('The figure of the one hoelwortele is in the place of the other').

19 Herb-1532, fol. X4v: *Item dese figuer hier achter gedruet sal staen in litera m i int xcvi. capittel voor die andere die daer gheset is* ('the figure printed hereafter should be in litera m i [i.e. fol. m1r] in the 96th chapter [on *ridderspooren* or *consolida*] instead of the one that is printed there').

20 Enenkel 2015 with general references on 20–21; Kapfhammer, Löhr, and Nitsche 2007; Meier 2000; Wenzel 1998.



Fig. 4.1. Author portrait of Johannes Indagine, with hand-colouring. *Chyromantia Ioannis Indagine* (Utrecht: Jan Berntsz, 1536), fol. A4v. Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 I38Du 1536. [Chyro-1536-B16]

author figure amidst books as tokens of trustworthiness.²¹ The author portrait of Johannes Indagine, copied after *Chyromantia*'s Latin source edition of 1522, shows him with a humanist beret and a scroll, which emphasise his learned status (Fig. 4.1).²² Finally, iconographic traditions can even be considered to have an authority of their own: once an image programme had been established for a certain text in print, it survived persistently in subsequent editions.²³

The rhetoric of authority in Dutch medical-astrological books is continuously intertwined with the rhetoric of practical usability, as we have seen in the previous chapters: readers need to trust not just that the presented knowledge is based on reliable sources, but also that it is actually useful to them.²⁴

21 The author as a divinely inspired mediator, another iconographic means of conveying authority, does not occur in my corpus. This absence supports my observation that religion plays a limited and mostly implicit role in Dutch medical-astrological works; see Chapter 2.

22 Indagine's portrait appears three times within *Chyromantia*, all printed from the same block.

23 See also Chapters 1 and 3 above and Pouspin 2017, 1.2.2.

24 On usefulness as an 'instrument of legitimation,' see also Enenkel 2015, 13. Various authors, notably Pamela H. Smith, Pamela O. Long, Alisha Rankin, and Tillmann Taape, have observed that early modern how-to books were not just meant for practical instruction but

Diagrams and other analytical images convey authority and reliability through their claimed relation to reality (cf. Chapter 3) and through their use of visual language stemming from scholarly traditions (e.g. diagrammatic features, objects against blank backgrounds). Further contributions to authority were made through suggestions of completeness – inherently present in diagrams, image series as well as textual enumerations (cf. Chapter 2) – which convey to readers that the book presents all there is to know on the topic in question. Similarly, the constantly implied message that humans are capable of comprehending and manipulating nature in its full extent to their benefit – which underlies the multitude of functional diagrams as well as narrative scenes of everyday activities and medical interventions discussed in Chapter 2 – engenders readers’ trust that they can influence matters of health, indeed, of life and death. All of these cases underline that close attention to material and visual aspects of books is not only important to understand how knowledge from these books was used, but also how it was legitimised.

Images of scholars: An engaging framework of auctoritas

The visual references to authorities to which we will now turn our attention convey a combination of personal, textual, and material *auctoritas*. While empirical methods like observation became increasingly important in natural history in the course of the sixteenth century, classical and medieval scholars remained influential authorities.²⁵ Dutch medical-astrological texts constantly call upon authorities such as Hippocrates, Dioscorides, Pliny, Avicenna, and other natural philosophers and medical scholars as sources, whether the texts deal with herbal recipes, bathing prescriptions, or bloodletting instructions.²⁶ As visual counterparts to this type of references, recurrent images of scholars fulfil an important function in conveying authority and trustworthiness.

The small woodcuts of scholars in the Dutch books have not been studied systematically before. They are part of the large and varied group of stock images of what I have called dialogue figures in Chapter 2 – men and also some women who make gestures of speech and debate – who appear across the texts in many places and whose relations to the texts are not always evident. A

importantly also to raise the status of craftsmanship and hands-on knowledge. Kostelnick 1996 considers both ‘establishing credibility’ and ‘connoting usability’ as rhetorical functions of document design (pp. 26–27); see also Introduction.

25 Margócsy, Somos, and Joffe 2018, 95–98; Rankin 2014, 114–122; Panse 2012, 58–63; Bauer 2003; Harms 1985, 80.

26 The analysis in the present section is a reworked version of Van Leerdam 2019a. On authority references in English medical texts, especially the range of authorities and the linguistic structures of the references, see Taavitsainen and Pahta 1998, 167–175.

substantial number of these dialogue figures clearly represent scholars, holding a book or a scroll, wearing berets or more orientalist-looking turbans or long drape-like headgear, and raising a hand or finger as a sign of conversation (see e.g. Figs. 2.5 on p. 96, 2.20 on p. 116, 4.2, 4.4).²⁷ This illustration practice has been briefly noted by Yves G. Vermeulen and Piet J.A. Franssen, who consider it to be typical of Van Doesborch.²⁸ However, they do not discuss how Van Doesborch's blocks of scholarly half figures – as well as similar stock figures – were reused and copied by and exchanged within a network of printers, most notably Willem Vorsterman, Jan Berntsz and Jan Roelants.²⁹

The practice of inserting small, reusable scholar woodcuts seems to have been initiated by Van Doesborch, some time before 1520 – *Thuys der fortunen* (1518) and *Der dieren palley*s (1520) provide the earliest examples in my corpus. In this early group of figures from Van Doesborch's stock, the scholars wear outfits with turbans, wide garments, and long beards (Fig. 4.2), stereotypically depicting non-Christian philosophers as we encounter them in medieval tradition and still, for example, in Hans Weiditz's woodcuts for Polydorus Vergilius' *Von den Erfindern der Ding* (Augsburg 1537; Fig. 4.3).³⁰



Fig. 4.2. Left column: half figure of a scholar next to an authority reference to Solinius. Right column: the animal draconopedes. *Der dieren palley*s (Antwerp: Jan van Doesborch, 1520), fol. F1v. The Hague, KB, National Library of the Netherlands, KW 226 A 19. [Dier-1520-H04]

- 27 On typical garments and headgear of medieval scholars, see Von Hülsen-Esch 2006, 69–132, with many visual examples, and Jurina 1985, 38–39.
- 28 Franssen 1990, 36; Vermeulen 1986, 111–112.
- 29 On connections between Vorsterman and Van Doesborch: Schlusemann 1997, 45–47. On Van Doesborch and Berntsz: Franssen 1988. These studies do not pay specific attention to the scholar woodcuts. Jan Roelants copied woodcuts from Berntsz in great detail not only in his *Chyromantia* edition of 1554, but also *Der vrouwen natuere* of 1555 and 1563.
- 30 Polydorus Vergilius, *Von den erfyndern der dyngen* (Augsburg: Heinrich Steiner, 1537), Book 1, Chapter 16, *Vom vrsprung der weiszgelerthayt Philosophie*, fol. D4v. *De inventoribus rerum* by the Italian humanist scholar Polydorus Vergilius was first published in Venice, 1499, without illustrations. Van Doesborch's early set of scholar figures also appears in *Thuys der fortunen* of 1522, printed by Willem Vorsterman.



Fig. 4.3. Ancient scholars, illustration to a chapter on the origins of philosophy. Polydorus Vergilius, *Uon den erfyndern der dyngen* (Augsburg: Heinrich Steiner, 1537), fol. D4v. Munich, Bavarian State Library, 2 J.rom.f. 77 m#Beibd.1.

In or shortly before 1531, Van Doesborch and/or Jan Berntsz – who worked together in Utrecht at the time – introduced a second set, consisting of six figures (Fig. 4.4, see also Fig. 1.1 on p. 59, Fig. 2.5 on p. 96). Their consistency in style and size suggests that they were, indeed, created as a set, probably appealing more to the taste of the time than Van Doesborch’s earlier figures. The six figures, all beardless, now also wear outfits resembling those of humanist scholars, for example in the author portrait of Johannes Indagine in *Chyromantia* (Fig. 4.1) or the famous portrait of Erasmus by Hans Holbein the Younger.³¹ Images from this group of six appear in various editions of *Der vrouwen natuere ende complexie* (c. 1531 onwards), *Den groten herbarius* (1532 and 1538), *Dits dat hantwerck der chirurgien* (1535), *Chyromantia* (1536 and 1554), and *Thuis der fortunien ende dat huys der doot* (1531 and c. 1540). In some editions, images from this set appear together with Van Doesborch’s earlier designs (e.g. in *Den groten herbarius* of 1532 and *Der vrouwen natuere* of c. 1535).

Vermeulen describes the small scholar figures as ‘authorities’ busts’ because they often accompany a textual reference to an authoritative scholar. The

31 Hans Holbein the Younger, *Portrait of Erasmus of Rotterdam*, 1523, oil on panel, 43 x 33 cm, Paris, Louvre.



Fig. 4.4. Scholar figures inserted throughout the text. *Den groten herbarius* (Utrecht: Jan van Doesborch, 1532), fols. H1v–H2r. Antwerp, Hendrik Conscience Heritage Library, Collectie Stad Antwerpen, G 142285 [C2-519 f]. [Herb-1532-A170]

most eye-catching example of this illustration practice I have come across is Van Doesborch's 1532 edition of *Den groten herbarius*. Apart from a plant illustration at the beginning of each chapter, the volume includes dozens of scholar figures, including many repetitions and even multiple blocks showing the same figure.³² Many page openings have at least one scholar figure, but some page openings even have five (fols. H1v–H2r, O4v–P1r) or seven of them (fols. Q2v–Q3r) (Fig. 4.4). Because the figures are less wide than a text column, the running text continues next to them. This is also the case in other works where they appear. By far the majority of their occurrences coincide with a textual reference to a scholar. However, there is no consistency as to which image is used for which scholar: within a single volume, different images may represent the same scholar, and a single image may be used to represent different scholars.³³

³² See Chapter 1.

³³ Apart from *Den groten herbarius* (1532), we see this also, for example, in *Der dieren palleys* (1520), where the name of Dioscorides is accompanied by different scholar woodcuts on fols. C4r and F3v, respectively.

The figures are therefore not intended to represent a specific individual. This is also suggested by the fact that they occur in cases where no particular scholars are mentioned in the text, as happens particularly often in *Hantwerck* and *Chyromantia*. Whatever the inconsistencies in the scholars' positioning, their frequent recurrence runs like a thread of scholarly authority through the books. Vermeulen's term 'authorities' busts' is apt, not in the sense that they represent specific authorities – they clearly do not – but rather because they personify *auctoritas* in a more general, de-individuated sense.³⁴

This de-individuated way of visualising *auctoritas* has a parallel in the way in which the texts refer to authorities. Historian of science William B. Ashworth jr. has shown that the German naturalist Conrad Gessner (1516–1565), in his *Historia animalium* of 1551, includes no fewer than eighty different authorities in a single chapter on the fox.³⁵ As Ashworth notes, many of these authorities must have been known only to a small audience of specialists. The Dutch works in my corpus show a very different picture. The number of authorities mentioned in all of them together probably does not even total eighty. Instead, a much more limited range of scholars is being repeatedly referred to, many of whom were quite widely known. Moreover, the texts contain all kinds of non-descript claims of authority, such as *Die sommige meesters vander medecijnen segghen...* ('some masters of medicine say...'), *men scrijft* ('it is written...'), *Albertus ende anderen segghen* ('Albertus and others say...'), or *die wyse astrologiens segghen in haren boecken* ('the wise astrologers say in their books...').³⁶ Such phrases suggest that precise references were not deemed necessary for the purpose of these texts, just like consistent portraits were not a requirement either.³⁷ The intention of the book producers was primarily to convey that earlier, well-trusted authors have written about the subject matter at hand, and that this in itself, without further specifications, was a mark of approval. Both the textual and visual references thus present *auctoritates* as generic sources of scholarly knowledge rather than as specific individuals.³⁸

34 Vermeulen assumes that the woodcuts were reused to represent different scholars because there were more scholar references than images, but I would suggest that the images were never intended to be so strictly connected to a specific name. Vermeulen 1986, 111.

35 Ashworth 1996, 19.

36 Herb-1547, fol. E4r; Vrouw-1531, fol. F3r; Thuys-1518, fol. F4v; Tscap-1520, fol. b1v.

37 On generic references, see also Taavitsainen and Pahta 1998, 172–174, who conclude that references to authorities 'are more common and more specific in learned treatises aimed mainly at medical professionals' than in works targeting a lay audience (p. 181).

38 Johnston 2020, 402–406 makes a similar observation with respect to the title page woodcuts of scholars in German *Bauern Practica* and *Wetterbüchlein*: the scholar figures exemplify the source of knowledge about the weather that these books present, referring to scholarly methods for the observation of nature.

How the scholar figures convey authority is not only shaped by their overtly scholarly (humanistic or non-Christian) outfits and their ubiquity, but importantly also by their arrangement on the pages.³⁹ Through their *mise-en-page*, the figures add various layers of meaning to the printed text. Firstly, their arrangement establishes a close assimilation of text and image. Typically set within the text columns, facing the text and never looking ‘outside’ of the book, the scholar figures are visually and spatially connected to the text, even when they are not necessarily connected to it in terms of content. With their speech gestures, they suggest to the reader that certain passages are important to observe, and they might even give the impression of actually pronouncing the text. Secondly, apart from the level of image-text interaction, the scholar figures also add meanings at the level of interaction among images. They seem to be communicating across and beyond the text, even across pages, as if engaged in conversation with each other.



Fig. 4.5. Three fingers. Johannes Indagine, *Introductiones apotelesmaticae elegantes* (Strasbourg: Johann Schott, 1522), fol. d2v. Munich, Bavarian State Library, Res/2 Anthr. 3.



Fig. 4.6. Three fingers and a standing male figure (a scholar?). *Chyromantia Ioannis Indagine* (Utrecht: Jan Berntsz, 1536), fol. H3r. Utrecht, University Library, Rariora R fol. 456. [Chyro-1536-Uo1]

39 For a detailed analysis of these aspects of their visual rhetoric, see Van Leerdam 2019a.

Understanding their spatial arrangement as a rhetorical element in this way also helps us interpret what is probably the most curious arrangement of images in *Chyromantia*. Accompanying a discussion of the shapes of lines on the fingers is a depiction of three separate fingers, copied after the Latin edition (Figs. 4.5 and 4.6). The fingers are combined with another woodblock of roughly the same height, depicting a bearded man in full length wearing a long gown and a wide hat (a scholar?). The arrangement makes it appear as if he is looking and gesturing towards three huge fingers. Seen in the context of other scholar figures in the book, however, this peculiar Tom Thumb suggests a further level of interaction that the scholarly figures evoke. They do not only interact with the text and with each other, but also with the analytical images in *Chyromantia* of hands, fingers, faces, and astrological constellations. Together, the scholar figures thus create meanings of authority, importance and continuous dialogue that are not achieved by the text or by a single scholar image alone. Through these added layers of meaning, they invite the reader to follow their example and join in the interaction.

Rather than representing the intended audience, then, the scholar figures might be considered ‘a reflection of ideal conditions of use,’ as Jean A. Givens concludes for an illuminated medical manuscript of c. 1430 that includes busts of reading and talking scholars in the margins.⁴⁰ In the case of the Netherlandish books, no less important seems to be the reflection of ideal – scholarly – *origins* of the knowledge presented in the text.

That the highlighted presence of scholars indeed functioned as a strategy to convey reliability through visual rhetoric, is forcefully suggested by an edition in which the scholar images are *not* present. When the Antwerp printer Symon Cock printed a new edition of *Den groten herbarius* in 1547, he did not illustrate it with scholars’ heads like Van Doesborch and Berntsz had done, but instead, he made a scholar’s name stand out by printing it in large type in several instances (Fig. 4.7). These large names do not reveal any clear logic of placement or selection: sometimes the references to scholars are printed in large font, at other times they are not. Sometimes the large names are placed at the beginning of a paragraph, preceded by a paraph sign ¶, but equally often they appear in the middle of a paragraph. This eye-catching type of paratext resembles the scholar imagery not only in its seemingly random placement throughout the texts. The large names are also very similar to the woodcuts in terms of their effect: throughout the book, they immerse the reader in a framework of scholarly authority.

40 Givens 2006, 143 and 126 (Fig. 5.4): *Livre des simples médecines*, ca. 1430, Copenhagen, Kongelige Bibliotek MS GKS 227 2°.



Fig. 4.7. Authority references in large type.
Den groten herbarius (Antwerp: Symon Cock, 1547), fols. a2v–a3r.
 Utrecht, University Library, Rariora qu 294. [Herb-1547-U01]



Fig. 4.8. A page from the *Biblia Pauperum* with half figures of prophets at the top and the bottom. *Biblia pauperum* blockbook, [Netherlands or Germany, ca. 1470] [image 35 in the scan]. Washington, D.C., Library of Congress, Incun. X .B562.



Fig. 4.9. One of hundreds of half figures of biblical, mythological and historical figures. Hartmann Schedel, *Liber chronicarum* (Nuremberg: Anton Koberger, 1493), fol. 50v. Utrecht, University Library, MAG: S fol 1 (Rariora).



Fig. 4.10. A scholar figure copied after Schedel's *Liber chronicarum*. *Tfundament der Medicinen ende Chyrurgien* (Antwerp: Willem Vorsterman, 1530), fol. G3v. Washington, D.C., Library of Congress, Rosenwald 1159. [Tfund-1540-Wo2]

The iconography of these scholar figures was not typically Netherlandish. Vermeulen has noted a similarity between Van Doesborch's earliest set of half figures and those depicting prophets in the fifteenth-century *Biblia pauperum* blockbooks (Fig. 4.8).⁴¹ In addition, the Netherlandish scholar figures are reminiscent of the half figures in another fifteenth-century German source: Hartmann Schedel's *Nuremberg Chronicle* from 1493 (Fig. 4.9).⁴² The hundreds of biblical, mythological, and historical half figures in Schedel's monumental volume were printed from a relatively limited set of woodblocks, each of which was reused multiple times to represent different persons, in a similar vein as the Netherlandish scholar figures. Unlike the Netherlandish figures, however, all of the half figures in the *Nuremberg Chronicle* are identified in a caption. The undeniable influence of the *Nuremberg Chronicle* is visible in *Tfundament der medicinen*. In this work, scholar figures appear in several places to mark the

41 Vermeulen 1986, 111–112. On the *Biblia pauperum*: Palmer 1999; A. Henry 1991.

42 Schedel, *Liber chronicarum* (Nuremberg: Anton Koberger, 1493). On the *Nuremberg Chronicle*: Seibert 2011; Green 2006; Reske 2000; Füssel 1996; Wilson 1976.

beginning of a new section. Some of them are closely copied after Schedel's chronicle (Fig. 4.10).⁴³

Although the iconography of small scholarly half figures occurred elsewhere, too, the specific way of inserting such images in the running text was, to my knowledge, nowhere as prevalent as in the Low Countries. In the case of *Chyromantia* (1536), for example, the addition by Jan Berntsz of many dialogue figures, including thirty appearances of the six scholarly half figures, distinguishes the Dutch edition from the Latin and the German as well as the later French and English editions (see Fig. 1.1 on p. 59, Fig. 2.5 on p. 96 and Fig. 3.25 on p. 190). In a similar vein, Jan van Doesborch included several scholars in *Der dieren palleyes* (see Fig. 4.2), yet they are completely absent from the English translation of this work that Van Doesborch published shortly after, *The noble lyfe & natures of man, of bestes, serpentys, fowles & fisshes yt be moste knowen*.⁴⁴ This translation by Laurence Andrewe has largely the same illustrations as *Der dieren palleyes*, the scholar images being a notable exception, however.⁴⁵

It seems, therefore, that Van Doesborch and a number of other Netherlandish printers appropriated an existing type of images, and put it to a new type of use as interchangeable 'talking heads' within the text. Although their presence is not limited to medical and astrological works, it seems typical of these genres that they appear so frequently.⁴⁶ That the insertion of 'talking heads' became something of a Netherlandish convention, suggests they may have had a two-fold, self-reinforcing effect: they convey trustworthiness not just by visually invoking *auctoritas*, but also by doing so in a familiar form, through a visual convention that had become familiar to the Netherlandish audience. As we will see next in the case study of playful images, the rhetorical strategy of engendering readers' trust through familiarity manifests itself in other ways, too.

43 E.g. Tfund-1530, fol. B6v, several in quires G and H, L3r, Q1r, 2D4v.

44 *The noble lyfe* (Antwerp: Jan van Doesborch, transl. Laurence Andrewe, after 1520).

45 Unlike in *Der dieren palleyes*, scholar figures are neither present in the title page woodcut of *The noble lyfe* nor as inserted figures in the text. In another English work, scholar figures do turn up in a similar way as in the Dutch books, and may indeed have been introduced there through Jan van Doesborch: *The vertuous handywarke of surgeri* (London: Peter Treveris, 1525), a translation of Hieronymus Brunswig's *Cirurgia* (first printed Strassbourg, 1497); Franssen 1988, 176–177 and 1990, 36. See also Appendix 1. Further study is needed to establish whether decisions (especially by Van Doesborch) to include or leave out scholar figures in English works were governed by technical circumstances or by deliberate audience strategies.

46 They occur incidentally, for example, in a chronicle (*Van Brabant die excellente cronike*, Antwerp: Jan van Doesborch, 1530) or in a religious-didactic work (*Spiegel der liefhebbers deser werelt*. Utrecht: Jan Berntsz, 1535).

4.2 | Persuasive playfulness

While it may be easy to acknowledge that invocations of authority and *au-toritates* affected reliability, the link between playfulness and reliability is less straightforward. Especially the presence of many playful narrative scenes of women and their relationships with men may at first seem counterproductive rather than beneficial to the perceived reliability of medical-astrological knowledge. I will show, however, that playful ways of engaging with serious knowledge were in fact a widespread phenomenon that took on many different appearances. My analysis of sexually connoted images suggests that these scenes appealed to a sense of community which had the potential to invoke trust. The playful allusions to sexuality enabled readers to identify with an in-group through mechanisms of self-mockery as well as othering.

Knowledge and play

Tongue-in-cheek sexual allusions were one of the many forms that playfulness could take in epistemic contexts. Research in various fields – literary studies, cultural history, history of knowledge – has shown that in sixteenth-century culture, the transmission of knowledge was intricately connected with entertainment and play.⁴⁷ Many types of print testify to a widespread fascination with games, word plays, riddles, and surprises that stimulated readers to explore and contemplate knowledge of the natural world. This fascination is strongly reflected in emblem books, that became popular from the 1530s onwards and that often draw on imagery from and knowledge of nature.⁴⁸ It is also reflected in a range of other genres, including rebuses, question-and-answer dialogues, images with movable or cut-and-fold parts (for example, related to anatomy, astronomy, and geometry), educational board games, and many other forms of ‘serious play.’⁴⁹ Indeed, cultural

47 Van de Haar 2020; Kircher 2020; O’Byran 2019; Van Dixhoorn 2014; Vandommele 2011; Findlen 1990.

48 On the intricate relations between emblems and natural history, ever since the inception of the emblem book with Andrea Alciato’s *Emblematum liber* (1531): Enenkel and Smith 2017; Harms 1985; Ashworth 1996.

49 On prints with movable parts: Karr Schmidt 2017; Carlino 1999. Moyer 1999 examines the ‘Astronomer’s game,’ a board game that was used in university circles in the fifteenth and sixteenth centuries for learning the basic principles of astronomy and astrology. Armstrong 2007 discusses a number of rebus-poems by the Burgundian poet Jean Molinet (1435–1507) that activate readers’ knowledge of the natural world (botany, zoology) in order to be deciphered (pp. 354, 356–357). On dialogues as entertaining instruction for a wide audience: Taavitsainen 2009, 115–16 and Taavitsainen 2004, 87–88.

historian Robert Darnton considers ‘reading as game-playing’ as a distinct kind of reading in early modern Europe.⁵⁰

Rather than distracting from – or even undermining – serious and reliable knowledge, entertainment and play were considered to have a strong potential for fruitfully contributing to knowledge transmission. They facilitated memorisation and brought delight by challenging and stimulating readers’ minds. The connection between learning and delight was often substantiated with reference to Horace, who, in his *Ars poetica* (c. 20 B.C.), wrote about the success of literature that is both instructive and entertaining: ‘applause is secure for the man who blends what is useful with what is pleasant and thereby delights the reader and advises him.’⁵¹ Moreover, a pleasure in learning was also considered to result from man’s natural curiosity as described by Aristotle – a notion to which the preface of *Der dieren palley*s refers explicitly and which is also voiced in the prefaces of *Den sack der consten* and *Tscep vol wonders*, among others (see Chapter 3 and Table 4).⁵² Another commonplace was that entertainment through learning new things helps to ward off melancholy, as voiced in *Den sack der consten*, *Thuys der fortun*en, and Hieronymus Brunschwig’s *Distellacien*, among others.

Playfulness was an essential characteristic of the Dutch vernacular knowledge communities of the late fifteenth and early sixteenth century, as Arjan van Dixhoorn has argued.⁵³ The chambers of rhetoric (*rederijkerskamers*) around which these communities revolved, created performative literature in which intellectual and moralising reflection was typically fused with light-hearted, tongue-in-cheek, ambiguous references, word plays, and visual spectacle. Van Dixhoorn uncovers how books such as *Tscep vol wonders* and *Distellacien*, published by Thomas van der Noot within the vernacular knowledge community in Brussels, testify to a pleasure in do-it-yourself experimenting and an interest in natural knowledge. This playful engagement with knowledge extended beyond the chambers of rhetoric and was also present among other craftsmen, civil servants, and other community members from the urban middle classes, who were not necessarily rhetoricians.⁵⁴

Not only *Tscep vol wonders* and *Distillacien*, but virtually all of the titles studied here display elements of playfulness and entertainment. They do so in a variety

50 Darnton 2007, 506.

51 Horace, *Ars poetica*, line 342–343, in Reinhardt 2013, 519–520.

52 In the opening line of the *Metaphysics*, Aristotle states that ‘all men by nature desire to know.’ Aristotle, *Metaphysics* 1(A).1, col. 980a (transl. W.D. Ross), in Aristotle/Barnes 1995. See also Vermeulen 1986, 49, 174–175 on the combination of usefulness and delight as motivations for early printed books in Dutch.

53 Van Dixhoorn 2014.

54 Van Dixhoorn 2014; see also Chapter 1.

of ways, both in texts and images. *Der dieren palleys*, as we saw in Chapters 2 and 3, offers entertainment by appealing to readers' curiosity about the natural world. Compared to its Latin source (*Hortus sanitatis*), it was probably read less for medical purposes and more 'for what it had to offer in the realm of the unusual, the marvellous.'⁵⁵ The narrative features in many of the animal images reinforce the textual attention to the unusual and the marvellous.⁵⁶ Apart from subject matter, some of the works are also playful in their language, for example in the use of light and easy-to-remember verse in *Dat regiment der ghesontheyt*. The verses repeatedly advise readers to be cheerful in order to stay healthy; they address the reader in a familiar, sociable tone; and they use simple words. In this regimen, the addition of lively narrative woodcuts that are lacking in its contemporary German counterparts further heightens its entertaining qualities (see Fig. 4.21 on p. 227). *Fasciculus medicine*, which addresses medical practitioners, contains verses on the four temperaments in a similar light tone, which were qualified by a seventeenth-century annotator as 'silly verses' (*sodts verskens*).⁵⁷

As such direct qualifications by readers are rare, it can be difficult for present-day readers and viewers to identify what was appreciated as playful or witty by sixteenth-century readers. For example, what are we to make of the Escher-like effect that Christian Coppens has noted in a woodcut in *Fasciculus medicine* depicting a uroscopy scene?⁵⁸ The image shows a physician, a female patient, and other figures standing in a room with two arches supported by three pillars (Fig. 4.11). The pillars to the left and the right are positioned in front of the standing figures, while the pillar in the middle is behind them. Is this a mistake on the part of the illustrator, as Coppens assumes, or a deliberate visual joke?⁵⁹ The same may be asked of the woodcut illustrating the chapter on 'the time to use medicines for purging from above and from below' in the 1535 edition of *Tscep vol wonders* (Fig. 4.12). This image of a vomiting man is already rather comical in itself: one of the man's companions is looking away, in what might be either

55 Houwen 2004, 69–71 (quote on p. 71). Houwen points out that in the Dutch and English editions, compared to the Latin edition, the sections on *operationes* (practical, medicinal applications) have been shortened, the indexes are lacking, the references to authorities are less specific, and the translated titles foreground the animals while leaving out any references to medicinal value. Compared to the Dutch edition, the chapters in the English edition are abbreviated even further; Houwen 2004, 66 and 70. See also Chapter 2 on the limited presence of finding aids in *Der dieren palleys*.

56 See also Chapter 3.

57 Fasc-1512-Ko7b, fol. a4v. Curiously, the annotation initially read *drollige verskens*; *drollige* is struck through and *sodts* is written above it. Both words mean silly, funny, or foolish.

58 Coppens 2009b, 194.

59 In the Italian edition of 1494, the scene from which the Netherlandish woodcut derives shows all of the three pillars behind the standing figures.

embarrassment, disgust, or *Schadenfreude*. The scene is given an additional twist in the 1535 edition – literally, though perhaps unintentionally – as it is printed upside down. As a result, the vomit seems to rise up like a fountain, which creates a visual play on the words ‘above’ and ‘below’ from the chapter title.⁶⁰ Apart from such instances of which we are not certain whether early modern readers also perceived them as funny, there are probably at least as many jokes or playful allusions that are entirely lost on us.



Fig. 4.11. A woman presenting a urine sample to a physician. The left and right pillars are in front of the scene, the middle pillar is in the background.

Fasciculus medicine
(Antwerp: Claes de Grave, 1512), fol. r6v.
The Hague, KB,
National Library of the Netherlands, KW 227 A 9.
[Fasc-1512-Ho4]

⁶⁰ My corpus contains only one other instance of a woodcut that was printed upside down – the woodcut of *wijnsteen* (cream of tartar) in Herb-1526, fol. F2v (also in Herb-1533, which is a reissue) – and in this case, too, with a comical effect. Here, too, the image is already comical in itself: it shows a man crawled into a wine barrel, with only his legs and sagging pants visible. Printed upside down, the image provides an additional visual joke on drunkenness.

lichaems hulpen sal.

Fo. xxiij.

te worpen. En vanden set ic v hier een eyemple. Thes wa
eachtich dat saturnus aensiet die cole der melancolien/want
hij is sake vāder generaciē En alle melācolieuse zyn onder sa
turnus dpe dan die melācolie purgeren wilt/soe moettmē dat
doen als saturnus cranc/ende belet is oft anders en soude die
planete dpe medecinen niet laten wercken Dese regel moec
men houden vander planeten saturnus dpe specialijc aēsiēt
dpe coluer. Ende dpe mane dpe die melancolie aensiet.

¶ De sijn dat mē medecine nuttē sal om van bouen ende van
onder te purgeren. Capittel. xij.



O te we
te in wele
ken rīde dat men
enige medecine
nuttē sal so moet
si weten datter
tweedhande me
decinē zyn waer
af oene doet pur
gerē doer dē mē
met ouergeuen/
en dander vā on
dere/dato ter ta
merengaen.

Dpe eerste medecine te wecē dpe van bouē doet
purgeren met ouergeuen en machmē niet geuen als die ma
ne is in dat treken leo. Wat si soude der magen contrarie zyn
en der helen als dat si die wederom ter helen wt soude doē ke
ter/ Men en behoort in dier tjt ooc niet te bloet late noch ooc
als die mane inden verbrādē wech is/gelijc als si is op vijftiē
gradē na ten eynde vā libra is/en als si vijftiē graden int be
ginfel van scorio is. Mer als die mane int wterste en ghere
trogradeert is/dā cest goet medecine nuttē en ouergeuen En
de als men medecine gheeft/ als dpe mane in thaurus ofte in
capicornus om ouer te geuē/so salt die medecine al geheellic

f. ij. den

Fig. 4.12. 'Purging from above and from below.'

Tschip vol wonders (Antwerp: Claes de Grave, 1535), fol. F3r.

Brussels, KBR Royal Library of Belgium, II 47.705 A (RP). [Tscep-1535-Bo2]

In several cases, elements of play are undeniably intended, most overtly in *Thuys der fortunien*, *Der vrouwen natuere*, and *Den sack der consten*. These three works help us establish more precisely how playfulness and knowledge transmission went together in a medical-astrological context. In all three cases, the joint presence of playful elements and serious knowledge stimulated readers to engage actively with this knowledge, rather than take it at face value. *Thuys der fortunien* invites readers' active engagement most emphatically. It combines a so-called book of fortune, a kind of interactive group game that takes up roughly one third of the volume, with a larger section (roughly two-thirds) containing more serious information on health and astrology.⁶¹ This latter section also contains elements of playful interaction, including fold-out sheets with images (see Fig. 2.8 on p. 100 and Fig. 2.21 on p. 116) and a sort of computational trick to calculate under what zodiac sign a person is born, based on the letters of their name and their mother's name.⁶² At the beginning of the book of fortune, readers rotate a pointer on a dial displaying the wind directions. Depending on the outcome, they are then guided from a wind direction along a zodiac sign, a month of the year, and a famous woman, each combining an illustration with a brief verse text referring onwards to the next guiding character. The reader finally ends up with a historical or allegorical master who provides life advice and a horoscope-like prediction of the reader's fortune. Books of fortune in which the reader's path through the book was determined by fate (rotating a wheel, or throwing dice, for example) were popular throughout Europe, in print since 1482, but already in manuscript form before that date.⁶³ It has been suggested that *Thuys der fortunien* originates in the context of the chambers of rhetoric, and that its first publisher, Jan van Doesborch, may also have been the compiler.⁶⁴ The work – in its successive editions – will have circulated much wider than among the rhetoricians, however.

Willy L. Braekman has asserted that the references to astrology and male and female authorities were meant to enhance the credibility of the predictions.⁶⁵ I find it more likely, however, that they are meant to mock conventions of authority. The 'authorities' include famous names such as the twelfth-century Andalusian philosopher Averroes and (Johannes) Mesue, a ninth-century physician from Baghdad, but also foolish and deceitful allegorical figures that

61 On group use of books of fortune, see also Karr Schmidt 2017, 325.

62 *Thuys*-1518, fols. H1v–H2r.

63 The earliest known printed version is Lorenzo Spirito's *Libro dela ventura* (Perugia: Stephan Arndes, Gerardus Thomae, and Paulus Mechter, 1482). On books of fortune in print and manuscript: Schmidt 2017, 325–332; Heiles 2017; Kiliańczyk-Zięba 2016; Braekman 1980–1981.

64 Braekman 1980–1981, 7, repeated in Bleyerveld 2000, 268 (note 74).

65 Braekman 1980–1981, 16.

can hardly be considered as serious counsellors, such as Lichtvoet (Lightfoot), Alberoyt (Penniless), and Schoonbedroch (Sweet Deceit, depicted as a beautiful woman whose body is decaying underneath her robe; Fig. 4.13).⁶⁶ The women who speak to the reader have all been either a victim of love themselves, or they have ruined a man.⁶⁷ The preface already warns readers not to take the astrological predictions too seriously.⁶⁸ The convention of drawing on authorities for knowledge of health and human nature, that is present in the second part of



Fig. 4.13. *Schoonbedroch* ('Sweet Deceit') with xylographic inscription *Respice finem* ('consider the end').

Thuis der fortunē ende dat huys der doot (Utrecht: Jan Bernsz, 1531), fol. B1v.

The Hague, KB, National Library of the Netherlands, KW 227 E 55. [Thuis-1531-Ho4]

⁶⁶ Franssen 1990, 162 notes that the squandering type like Alberoyt occurs frequently in sixteenth-century literature and that he was based on the biblical Prodigal Son.

⁶⁷ Bleyerveld 2000, 70. See also below.

⁶⁸ Thuis-1518, fol. A2r; see also Chapter 1.

this work in a more serious way (including multiple images of scholars as discussed above), is thus parodied in the book of fortune in the first part. Various kinds of playfulness converge, then, in *Thuus der fortunē*: the work allows readers to discover in an interactive and social way about their own fortune as well as about health and the cosmos in general, it includes witty allusions to social relationships between men and women, and parodies on classical authorities.

In *Der vrouwen natuere*, playful images and a concluding verse were added to the main text that was translated from the thirteenth-century *Liber physiognomiae* by Michael Scotus. Elements of jest and serious information are thus intertwined in a way that was designed especially for the printed work. *Der vrouwen natuere* provides information related to fertility and reproduction, explained on the basis of humoral pathology, about which the target audience – men – was probably genuinely curious: why some women want to have sex more often than others, what the right time is to conceive a child, what diseases are caused by having too much sex, what kinds of foods and odours are harmful to pregnant women, and much more. The illustrations seem to play with this male curiosity: they include several depictions of seductive naked and half-naked women and of lovers in bed (Fig. 4.14).



Fig. 4.14. Naked woman.
Der vrouwen Natuere ende Complexie
(Antwerp: Heyndrick Peetersen
van Middelburch, c. 1540), fol. D1v.
Bethesda, MD, National Library
of Medicine, HMD collection, WZ
240 V984 1528. [Vrouw-c1540-B16]

Mocking elements are overtly present at the beginning and end of the work. At the beginning there is, again, a kind of disclaimer, in the form of an image of a man, a woman, and a jester. The jester was a common character in sixteenth-century pictorial, performative and literary contexts to point to foolish behaviour of humans and the futility of worldly desires; he makes many appearances as a reference to love fools.⁶⁹ His presence in *Der vrouwen natuere* clearly guides readers into an interpretive framework of mockery and jest: while not all editions of this work have the same illustrations, all of them do have a woodcut at the beginning in which a man and a woman embrace or hold hands in the presence of a jester. In some editions, the figures in the woodcut are further accompanied by a scholar or a physician, dressed in a long gown (Fig. 4.15).⁷⁰ Thus, the image epitomises the work's typical combination of education (scholar) and entertainment, including allusions to – and perhaps a light-hearted moralising warning against – foolish curiosity (jester).



Fig. 4.15. A scholar, a couple and a jester. Image copied after a woodblock from Jan van Doesborch's stock.

Der vrouwen natuere ende complexie (Antwerp: Jan Roelants, 1563), fol. A2v.

Amsterdam, Allard Pierson, University of Amsterdam, OTM: OK 62-610. [Vrouw-1563-A04]

69 Sullivan 1998, 333; Grössinger 2002, esp. 111–122; Bleyerveld 2000, 54, 65–66; Pigeaud 1985, 50; Stewart 1977, 55–71.

70 The image was used on, and probably designed for, the title page of *Refreynten int sot, amoreus, wijs* (Antwerp: Jan van Doesborch, c. 1529), where the figures represent *sot* (foolish), *amoreus* (amorous) and *wijs* (wise). It also appears at the end of *Vanden leven ende voerganc des Antekerst* (Utrecht: Jan Berntsz, 1539), fol. K4r. There it follows a text passage that states that physical disease is often caused by sin and that doctors therefore should always let a patient confess first. In this case, the scholar figure in the image can be interpreted as the physician and the man, woman, and jester as a reference to the people who foolishly let themselves be tempted into sinning.

In all editions except the earliest one by Jan van Doesborch of c. 1531, a jester recurs prominently at the end of the book, accompanying a short verse that alludes to a controversy over the book's subject matter. This controversy most likely had to do with the final chapter in Van Doesborch's first edition, which was devoted to the complexion (i.e. nature) of the testicles (*secreter ballen*).⁷¹ It ended with a mocking verse stating that the book was made so that men will know how to behave in order not to be beaten by angry women. In subsequent editions, this chapter as well as the verse text were left out and in their place is a verse that apparently defends the former presence of this subject: under the heading 'Conclusion' (*Conclusie*), the verse states in the voice of an anonymous first person (probably the printer) that he was criticised for what he had said here about the 'consoler of women and his strong neighbours' (*den vrouwen-trooster ende sinen gebueren sterck*), but that it is nevertheless part of nature, knowledge of which is to be pursued. A large image of a jester then follows, drawing even more attention to the controversy (Fig. 4.16). The combination of playful and serious elements in *Der vrouwen natuere* thus appealed to readers' curiosity and challenged the boundaries of what was deemed appropriate. Throughout the work, the images provide a kind of playful visual commentary on Scotus's text.



Fig. 4.16. Jester.

Der vrouwen Natuere ende Complexie
(Antwerp: Heyndrick Peetersen van
Middelburch, c. 1540), fol. F4r.
Bethesda, MD, National Library of
Medicine, HMD collection, WZ 240 V984
1528. [Vrouw-c1540-B16]

71 On this controversy and the verse texts in the editions of Van Doesborch and Berntsz: Van de Kolk 2009, 36–39; Mateboer 2008, 185–186; Pleij 2008, 50; Franssen 1990, 33.

In *Den sack der consten*, elements of jest and mockery of conventions are intertwined with more serious information to such an extent that they are hard to tell apart.⁷² The book is a collection of (medical) recipes, magic tricks, and what we would now call life hacks. It includes recipes and instructions for catching fish at night, for pulling an egg through a golden ring, for removing unwanted hair, for making an ever-burning light, for knowing if a pregnant woman will have a boy or a girl, and much more. Both the editions of 1528 and 1537 are illustrated throughout with woodcuts reused from other works. They depict, among other things, single figures of men and women, and scenes of eating, people in bed (a sick person in some images, a couple making love in others), riding on horseback, making music, playing chess, and cooking freshly caught fish (Fig. 4.17). According to Braekman, ‘they serve in the first place as



Fig. 4.17. Reused images from other works in *Den sack der consten*. Left: a scene from an *Ulenspieghel* edition. Right: a couple playing chess and a jester (copied after Fig. 4.20).

Den sack der consten (Antwerp: Jacob van Liesvelt, 1528), fols. A4v–B1r.

Amsterdam, Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 290. [Sack-1528-Ao4]

72 The following analysis of playfulness in *Den sack der consten* is also incorporated in Van Leerdam 2023a.

decorations; their illustrative value can be qualified at best as minimal and highly vague.⁷³ It is true that the images are not related to the texts in any literal sense, but they are related in spirit: together with the texts they convey an impression of a prosperous, joyful, and healthy life, reminiscent of the visual and textual rhetoric of present-day lifestyle magazines.

As in *Der vrouwen natuere*, one of the most obvious elements of jest is right at the end of the book, and as in *Thuys der fortunien*, it entails a mocking of convention: the book concludes with a mock recipe against toothache. It contains ingredients such as ‘a handful of vanity’ and ‘a little ignorance’ and is attributed to *meester arnout vander hagen prouoost van Commerkercken etc* (‘master Arnout van der Hagen, provost of Sufferkirk, etc.’); the fictitious place of Commerkercken appears in other contemporary parodic texts as well.⁷⁴ The mock recipe is even illustrated with a purported portrait of master Arnout. Following the mock recipe, a short disclaimer in verse requests the ‘honourable readers’ not to make any reproaches, ‘even though there may have been some impropriety.’⁷⁵ The work illuminates how ‘practical’ knowledge – whether or not practically useful – and its conventions were at the same time a source of mockery and of what we might call domestic play.

The various editions of *Thuys der fortunien*, *Der vrouwen natuere*, and *Den sack der consten* thus provide clear – though sometimes ambiguous – signals that not all of their content is to be taken seriously. They do so through visual and textual jest, parodic elements, and disclaimers. These signals therefore shape the ways in which readers approach the work. Crucially, the books leave it up to readers to decide which parts are serious and which parts are not. By playing with conventions such as authority references or the recipe format, they presume readers to be familiar with these conventions and thus capable of decoding the signals. The typical intermingling of serious knowledge and mockery, as well as of uncontested knowledge and controversy – whether around the credibility of fortune-telling or around information related to sex and genitals – makes it a particularly pressing question how ambiguous or even supposedly inappropriate subject matter affected the reliability of a work as a whole. I will now address this question on the basis of images alluding to sex and lust.

73 Braekman 1989, 17. My translation.

74 Sack-1528, fol. C4r. Another mock recipe is provided on fol. B3r: for a long life, one should take a daily drink of the juice of patience mixed with quite some grace of God. On Commerkercken: Van Kampen et al. 1980, 120 and 191.

75 Sack-1528, fol. C4r (*Al isser somtijts buyten sweechs ghegaen*).

Images of women and couples: Playful ambiguity

Visual allusions to sexuality and relations between men and women not only occur in *Thuys der fortunēn* and *Der vrouwen natuere*, works that emphatically present themselves as playful, but also in many other works in my corpus.⁷⁶ Sex sells, obviously, yet its occurrence in medical-astrological books calls for a more nuanced interpretation than as a mere selling trick – an interpretation that also takes into account the possible effects on readers.⁷⁷ After all, such images are not only present in the most noticeable places, such as title pages, prefaces, or colophons, but also throughout the texts. Much study has been devoted to the popularity of sexuality, lust, and gender roles as comic themes across sixteenth-century works of literature, visual arts, theatre, and music.⁷⁸ Unequal relations of power between men and women were a source of comic relief, for example by turning gender roles into a ‘battle of the sexes’ and by mocking behaviour driven by lust. Such topoi have been studied primarily in terms of their iconography, their underlying moral ideals, and their functioning in social contexts (i.e. how they reflect and affect actual relations between men and women). Here, I want to investigate how they guided the reading experience and the attitude of readers towards the reliability of books that promise to convey useful knowledge. As I will show, familiarity and a sense of community are key elements in how these images helped to establish readers’ trust. In terms of the rhetorical functions that Kostelnick identifies in document design, the images of women and couples simultaneously function to create interest, to convey a certain – light-hearted – tone, and to establish credibility.⁷⁹

Closer scrutiny of the images of women and couples reveals how their meanings are related both to physiology and to social relations. Unravelling this ambiguity is crucial to understanding how these images functioned rhetorically. On the one hand, depictions of women and couples fit naturally in a medical-astrological context. Encounters and relationships between women and men are obviously part of everyday life, as illustrated for example by

76 According to a calculation by Hanneke de Bruin, no fewer than some 150 of 400 woodcuts in profane works printed in Dutch between 1475 and 1540 show male and female figures together, and over half of these 150 images are ‘slightly erotic’; De Bruin 1999, 334 (note 13).

77 That the images functioned in more complex ways than as a selling trick is all the more evident as they are not only present in the most noticeable places, such as title pages, prefaces, or colophons, but also throughout the texts.

78 For example: Versendaal 2022; Buys 2018, 51–55; Lavéant 2017; various contributions in Van der Coelen and Lammertse 2015; Peacock 2010 and 2007; Grössinger 2002, 107–129; Bleyerveld 2000; Pleij 1988, esp. 99–109; Dresen-Coenders and Bange 1987; Stewart 1977; Zemon Davis 1975. Sexuality and gender roles have been subjects of wit and playfulness throughout many periods and cultures, cf. Papenburg 2017; Foka and Liliequist 2015.

79 Kostelnick and Hassett 2003, 101; Kostelnick 1996, 26–27; see Introduction.

woodcuts showing a woman nursing a baby, a woman presenting a urine flask to a physician, and the many ‘dialogue figures’ showing men and women in conversation.⁸⁰ Such images may have strengthened male as well as female readers’ trust in the practical usability of the presented knowledge. More explicitly sexually connoted images are in several cases also clearly embedded in the framework of macrocosm and microcosm. Images of embracing couples – often naked – regularly appear in series like the labours of the months and the children of the planets. For example, the zodiac sign of Gemini is commonly represented in my corpus as naked couple kissing and/or embracing each other (Fig. 4.18).⁸¹ The labours of the month May – the month of spring and new life – are represented in the calendar series in *Der scaepherders kalengier* by a couple embracing under a tree. In the series of children of the planets in the same work, bathing and singing couples embracing are shown among the children of Venus (Fig. 4.19). The text describes the children of Venus as sensual, beautiful and keen on pleasure (*Alle ghenuechte si gheerne pleghen*).⁸² The presence



Fig. 4.18. Gemini depicted as a naked couple embracing, with light colouring/drawing in the breasts and genitals of the woman.

Thuys der fortunens ende dat huys der doot (Antwerp: Willem Vorsterman, 1522), fol. F3v. Brussels, KBR Royal Library of Belgium, II 11.452 B (LP). [Thuys-1522-Bo2]

- 80 Images of nursing women appear in *Tregement der ghesontheyt*, *Der vrouwen natuere*, *Den groten herbarius* of 1532 and 1538, *Tfundament der medicinen*. An image of a woman presenting a urine flask to a physician appears in *Fasciculus medicine*. On the dialogue figures, see Chapter 2.
- 81 Gemini is represented as an embracing naked couple in all editions of *Dat regiment der ghesontheyt*, *Fasciculus medicine* (zodiac man), *Tscep vol wonders*, *Thuys der fortunens*, *Tfundament der medicinen* (zodiac man), and *Chyromantia*, and in *Der scaepherders kalengier* of 1511, c. 1514, and 1516. Other common representations of Gemini, for example as male twins or as a dressed couple, rarely occur in my corpus (as male twins: in *Chyromantia*; as a dressed couple: *Der scaepherders kalengier* 1539, 1544, 1546). On the iconography of Gemini, see Hourihane 2007, lxi; Pérez Higuera 1998, 79–80.
- 82 Cited after Scaeph-c1514, fol. h3r. See on these character traits of Venus’ children also Grössinger 2002, 63. Throughout the Middle Ages, Venus had retained her symbolic significance as the classical goddess of love and beauty, while Spring – and the month of May in particular – was also traditionally associated with fertility, love and joy. On the medieval iconography of Venus, see Long 2012.



Fig. 4.19. Children of Venus.

Der scaepherders Kalengier (Antwerp: Willem Vorsterman, 1516), fol. h3v.

Washington, D.C., Library of Congress, Rosenwald 1137. [Scaep-1516-Wo2]

of such images in a medical-astrological context expresses, firstly, that love and lust are inherent to human nature and are partly incited by the influence of the planets. Sex was considered an important aspect of a healthy life, at least when practised with moderation: it relieves the body and brings joy to the soul.⁸³

On the other hand, the multitude of sexually connoted images in the medical-astrological books reflects that sexuality was not just a physiological but emphatically also a social phenomenon. Caricatures of lustful couples, disorderly women, and unequal lovers (one intent on sexual pleasure, the other on financial gain) pervade sixteenth-century culture, in books as well as other media. They portray women as highly sexually active creatures who cunningly dominated, seduced, or

⁸³ On sex in relation to health, see for example *Der vrouwen natuere* (Vrouw-1531, fols. B1v-B2r; Vrouw-c1538, fol. B2r) and *Fasciculus medicine* (Fasc-1512 fol. e1v). See also Meuwese 2014; Jacquart and Thomasset 1988, e.g. 56–57, 79–86, 145–146; Zemon Davis 1975, 124–125.



Fig. 4.20. *Die Scaker* ('the Chessplayer').

Thuus der fortunene ende dat huys der doot (Antwerp: Jan van Doesborch, 1518), fol. D4v.

Antwerp, Museum Plantin-Moretus – UNESCO World Heritage, R 47.14. [Thuus-1518-A12]

deceived men, and men, on their part, as faint-hearted and foolish enough to let this happen.

Nowhere in my corpus are gender roles, lust and deceit thematised so vividly and extensively, both textually and visually, as by the speaking authorities in *Thuus der fortunene*. Among them, the reader encounters allegorical love fools like the Old Lover, whose young and attractive girlfriend takes his money from his pocket without him noticing, and the Chess Player, who tells the reader that his lover has ‘won a pawn’ from him; the image shows a couple playing chess while watched by a jester (Fig. 4.20).⁸⁴ Pretty young Handsome (‘Moyaert’) is seducing an old toothless woman for her money, while a monkey is watching them from a tree. As mischievous creatures that resembled humans, monkeys were associated with lust, shamelessness, and the devil.⁸⁵ In addition to

84 The Chess Player says: *mijn lief[...] heeft mi een vinne ontscaect. Dat mijn lenden beuen, mijn rugge craect* (Thuus-1518 fol. D4v). On chess as an allegory of love: O’Bryan 2019a.

85 <https://www.rijksmuseum.nl/en/rijksstudio/subjects/monkeys> (accessed 23 April 2023); Walker Vadillo 2013.

allegorical figures, the women in *Thuys der fortunen* include biblical and narrative characters who had their way with men, such as Delilah who took away Samson's powers by cutting off his hair while he was sleeping (see Fig. 4.24), and Medea (depicted with a jester and playing the lute) who took revenge on Jason for leaving her.⁸⁶ Other female characters, conversely, were victims of love, like Thisbe who killed herself out of grief over the death of her beloved Pyramus, and Sandrijn (depicted holding an owl on her hand) who was raped and humiliated by the nobleman Lanseloet of Denmark after she had rejected him. Attributes like owls, monkeys, lutes, and jesters signal unmistakably that the scenes are to be interpreted in the context of love and deceit.⁸⁷ The owl, as a night creature, was associated with ignorance, temptation, and the devil's influence.⁸⁸ The association of the lute with feminine sexuality was partly incited by the instrument's shape, resembling the womb.⁸⁹

Sex-related subjects thus offered playful ways of delivering moralising messages. Images like these could warn against worldly desires and against human weakness with a view to salvation, and they importantly also reinforced as well as challenged the norms for gender roles through a ridicule of these norms.⁹⁰ A substantial number of images of women and couples in the Dutch books unmistakably allude to such playful moralisations concerning carnal desire, even when these are in most cases not voiced as explicitly (or, indeed, not at all) in the texts. For example, scenes of bathing couples embracing or drinking illustrate bathing prescriptions in *Tregement der ghesontheyt*, *Dat regiment der ghesontheyt*, and *Thuys der fortunen*, whereas these texts remain silent about lustful activities that undoubtedly took place in bath houses (Fig. 4.21).⁹¹ The image of the Chess Player from *Thuys der fortunen* also appears in *Der vrouwen natuere* and *Den sack der consten* (see Fig. 4.17), where no mention is made of chess as a metaphor for the game of love. In *Tfundament der medicinen*, a treatise on 'women's diseases' is preceded by a combination of woodcuts that evokes a playful effect: next to a woodcut of a gracious and voluptuous naked woman is a stock figure of a man (copied after Schedel's *Nuremberg Chronicle*) who brings one hand to his head

86 On the female characters included in the series, see Bleyerveld 2000, 70.

87 A jester is present in the images of Medea, Edelaert, the Chess Player (*Die Scaker*), Lightfoot (*Lichtvoet*); an owl in the images of Sandrijne and the Old Lover (*Die oude minnaer*); a lute in the image of Medea.

88 Grössinger 2002, 109.

89 Grössinger 2002, 114.

90 Lavéant 2017, 143; Peacock 2010, 676–678; Perfetti 2003, 200–202; Zemon Davis 1975, 128–131.

91 Van Hee 2002, 113 refers to regular closures of bath houses in the Low Countries (and elsewhere) due to the spread of venereal diseases. As in the case of Gemini mentioned above in note 81, bathing scenes in my corpus always depict an embracing naked couple, and thus do not include other – less sexually connoted – iconographies that circulated during this period.



Fig. 4.21. Bathing couple and bilingual (Latin-Dutch) text.

Dat regiment der ghesontheyt (Antwerp: Jan van Doesborch, c. 1510), fol. B2r. Washington, D.C., Library of Congress, Rosenwald 1122. [Regi-c1510-Wo2]

while pointing with his other hand towards the woman, as if he is perplexed by her nudity or her beauty (Fig. 4.22).⁹² In a medical-astrological context, readers thus encountered many visual references to sexuality, even when that was not the subject of the text.

An image that clearly unites medical and jestful associations is the depiction of the sanguine complexion in a series of the four complexions (Fig. 4.23). This series occurs in various works printed by Jan van Doesborch and Jan Berntsz: *Thuis der fortunē*, *Der dieren palleys*, *Chyromantia*, and *Der vrouwen natuere*.⁹³ The woodcut of the sanguine shows a young, wealthy couple, the man dressed in a long fur-trimmed gown. They are facing an old woman who is handing a pair of glasses to the man. The meaning of the glasses in the context of the sanguine complexion is apparently twofold. In humoral pathology, the sanguine is regarded as the most ideal complexion: hot and dry. Sanguines have a quick mind and learn easily, while they are also the most ‘amorous’ of all four complexions.⁹⁴ Therefore, on the one hand, the glasses may be seen as a symbol of in-

⁹² Tfund-1530, fol. P4r.

⁹³ All editions of *Thuis der fortunē* contain two different series of the four complexions; the series that includes the seller of glasses appears on the fold-out sheet of the House of Death (which details for each of the four complexions what their typical cause of death is; this sheet is missing in the only surviving copy of the 1522 edition). Another series illustrates the section where the nature of each of the four complexions is described. Van Doesborch’s woodcut series that includes the seller of glasses, reused by Jan Berntsz in *Chyromantia* of 1536, was copied by Jan Roelants in *Chyromantia* of 1554.

⁹⁴ *Thuis*-1518, fol. O4v (*amorues*).



Fig. 4.22. Playful combination of woodcuts: the male figure below left seems perplexed at the nudity of the woman on the right.

Tfundament der Medicinen ende Chyrgien (Antwerp: Willem Vorsterman, 1530), fol. P4r. The Hague, KB, National Library of the Netherlands, KW 228 A 10. [Tfund-1530-Ho4]



Fig. 4.23. The sanguine complexion, represented as a couple with an old woman selling glasses.

Chyromantia Ioannis Indagine (Utrecht: Jan Berntsz, 1536), fol. Z3r.

Utrecht, University Library, Rariora R fol. 456. [Chyro-1536-U01]

telligence, much like they regularly occur in portraits of scholars. On the other hand, glasses are – like jesters – also a playful reference to love and deceit. In the sixteenth century (and already in the Middle Ages), a close connection was perceived between sight and deceit, based on the idea that desire was evoked particularly through the sense of sight: seeing female beauty disrupted men's rational acting and turned them metaphorically blind, subject to foolish lust and easy victims of deceit by women.⁹⁵ In the early modern period, the Dutch word for a seller of spectacles (*brillenverkoper*) also had the meaning of someone who tells lies.⁹⁶ This depiction of the sanguine as a wealthy couple with a seller of glasses, present in multiple editions of multiple titles, thus merges various allusions to love, seduction, and deceit, while also being firmly embedded in humoral pathology. The associations readers had when encountering such an image in a medical book will therefore have extended well beyond the medical context.

Such sexually connoted images had the potential to enhance readers' trust through mechanisms of community-building. As in previous chapters, my reasoning here builds on Kostelnick and Hassett's argument that visual conventions, and a shared understanding of these conventions, lie at the heart of how visual elements fulfil rhetorical functions.⁹⁷ This includes the function of establishing credibility. Kostelnick and Hassett have observed that '[c]onventional codes serve as in-group identity markers for members of the communities that govern and disseminate them.'⁹⁸ While Kostelnick and Hassett refer to conventional codes in document design in general, we may conceive of motifs like unequal lovers, jesters, and glasses in similar fashion as visual conventions that served as 'in-group identity markers.' The in-group in this case consisted of a community of readers and viewers who recognised and appreciated the complex, interacting meanings of these images both in physiological terms and as playful moral mirrors of human behaviour. Indeed, jest and wit are particularly apt to reinforce a sense of belonging to an in-group, especially when they are perceived as inside jokes.⁹⁹

95 Bleyerveld 2000, 53, 65; see also Ridder 1999 on parodies of scholars as love fools in fifteenth-century German carnival plays. Resoort 1988, 143–150 identifies *gesichte*, *aensicht* and *oghen* as keywords in many medieval Dutch literary texts that warn against love, adultery, and lust in particular, and against unchastity in general. *Thuis der fortune* is among the many examples he provides.

96 WNT, 'brilverkoopen', 'brillenverkooper'; Tuinman 1720, 182 (*Ymand brillen verkopen*). See also Stewart 1977, 60–61.

97 Kostelnick and Hassett 2003; see also Introduction.

98 Kostelnick and Hassett 2003, 26.

99 On inside jokes: Ink 2016. On the potential of humour to unify and to divide people: Lynch 2002, 434–435; Meyer 2000, 318–319. An in-group is defined as '[a] group to which individuals see themselves as belonging, distinguishing 'us' from 'them' (an out-group) and generating social identity and difference'; Chandler and Munday 2020, 'in-group'.

We may easily imagine that recurrent images like that of the Chess Player, or the sanguine with the seller of glasses, had such an effect.

Such images could be appreciated in the first place as a form of self-mockery, as one could recognise in them one's own susceptibility to female beauty and worldly pleasures. Alternatively, they could be appreciated as reflections of someone else's life and thus engender othering: laughing at others who are stupid enough to let themselves be governed by lust, for example.¹⁰⁰ The images of nudity and seduction could evoke various – possibly contrasting – emotions, including fascination, lust, embarrassment, aversion, or a mixture of these. Such mixed emotions were, indeed, also incited by the medical information about the human body that these books provided, judging from annotations and instances of censorship that will be discussed in Chapter 5.¹⁰¹ The playful tone of the images may have functioned to acknowledge and mirror this possible unease or fascination of readers with matters of the human body, offering them an opportunity to laugh it all away. The perplexed man in *Tfundament der medicinen* (see Fig. 4.22) seems a typical, jestful mirror of such reader responses. In case readers took offence – as some evidently did – there were the overt references to wit and mockery (jesters, owls, people being caught together in bed, etc.) that offered an excuse for the book producers to claim that 'it is just a joke' – much like Jan Berntsz did in the mocking verse at the end of *Der vrouwen nature*. Both as mockery and as self-mockery, the sexually connoted images could affect a reader's trust in a book in a positive way by situating the book in the in-group to which readers felt they belonged.¹⁰²

There are many indications that book producers attempted to appeal to – and situate themselves in – a *community* of readers and viewers. For *Thuis der fortunen*, this is already indicated by the format of the book of fortune as a game

100 OED defines 'othering' as 'to conceptualize (a people, a group, etc.) as excluded and intrinsically different from oneself.' As Peacock 2010 has shown for the early modern theme of the shrew, jokes and wits pertaining to gender roles relate to all three theoretical motivations that are commonly distinguished in humour studies: superiority (laughing at others), coping (laughing away anxiety), incongruity (laughing at inversions of norms). Perfetti 2003, 168–202 discusses how gendered stereotypes in performances of French *farces* could incite laughter among female spectators both over the caricatures of their own position in the household and over the image of foolish or lazy husbands.

101 See Chapter 5 on responses to text passages on procreation and genitals, and on responses to images of nudity.

102 Anne-Laure van Bruaene and Sarah Van Bouchaute have shown compellingly how self-mockery and othering jointly contributed to community-building, in a study of caricatures of drunkenness in the community of rhetoricians in the Low Countries; Van Bruaene and Van Bouchaute 2017. They emphasise that the representations of drunkenness 'were in any case more about defining the self than about disciplining the other' (p. 25). Thus, they challenge the influential views of Herman Pleij, who has interpreted mockery and caricatures in terms of moral admonitions.

that could be played by a group. Moreover, the way in which both the female and the male characters ‘speak’ directly to the readers in the verse texts accompanying the woodcuts, reinforces the impression that the book and the readers are part of the same community. This impression is achieved through a close cooperation between text and image. The texts explicitly draw readers’ attention to elements in the images. Dalida (Delilah), for example, says: ‘Behold this example of Samson [...]’ (*wilt dit exempel van Sampson aenscouwen*), and thus invites the reader to look at the image which shows ‘this example’ (Fig. 4.24).¹⁰³ The direct addresses stimulate readers’ engagement and playfully invite them to reflect on different forms of unequal relations between men and women. Another clear example of community-building is the way in which the verse at the end of *Der vrouwen natuere* (discussed above) was altered: the allusion to the removed chapter on the *vrouwentrooster* and the apparent controversy it had caused is an inside joke, only understandable to an audience that knew what had been going on around this title.¹⁰⁴

A sense of community will have been further strengthened among readers who recognised the many crosslinks between the playful images in the medical-astrological books and other contemporary books in Dutch in which lust, love, and deceit are even more emphatically thematised. Jan van Doesborch and Jan Berntsz were among the most prolific producers of such works. Their publications include *Tghevecht van minnen* (Van Doesborch, 1516; a partially allegorical verse text on the troublesome state of being in love), *Dat bedroch der vrouwen* (Berntsz, 1532; *exempla* of deceitful women from ancient history to recent times), *Van den x esels* (Van Doesborch, c. 1531; *exempla* of ten men who behaved foolishly with women), and *Int paradij van Venus* (Berntsz, c. 1530; a dialogue between a ‘noble young man’ and a ‘noble young woman’ who ask each other questions and present each other with dilemmas related to love).¹⁰⁵ Many woodcuts

103 Thuys-1518, fol. B4v. The Old Lover makes a similar reference to the image: *Ic sidt hier verdoort als een out sot | In minnen versmoort dats ny mijn lot* (I sit here (i.e. in the image) daft like an old fool | smothered in love, that is my fate); D3v.

104 A similar tongue-in-cheek reference to another publication is present in the preface to *Dat profijt der vrouwen* (Antwerp: Jan van Ghelen, 1561), which tells of a woman who came to the print shop and reproached the printer for printing misogynous works like *Dat bedroch der vrouwen*; see Pleij 2008, 33–39; Franssen 1990, 33–34; Bleyerveld 2000, 85. Many more instances of community-building may be observed in the medical-astrological books, also of a non-sex-related nature, for example in how authors/compiler address the reader directly (particularly noteworthy in *Tscep vol wonders*, as also observed by Van Gijsen 1993, 132, and in *Distellacien*).

105 *Dat bedroch der vrouwen* (Utrecht: Jan Berntsz, 1532); according to Franssen, a now-lost edition was published earlier by Jan van Doesborch around 1528–1530 (Franssen 1990, 79–81). Similarly, *Van den X esels* is also known only from a later edition (Antwerp: widow of Jacob van Liesvelt, 1558); Franssen 1990, 86–87. *Int paradij van Venus* (Utrecht: Jan Berntsz, c. 1530). Other works on lust, men–women relations, and related topics include *Virgilius*

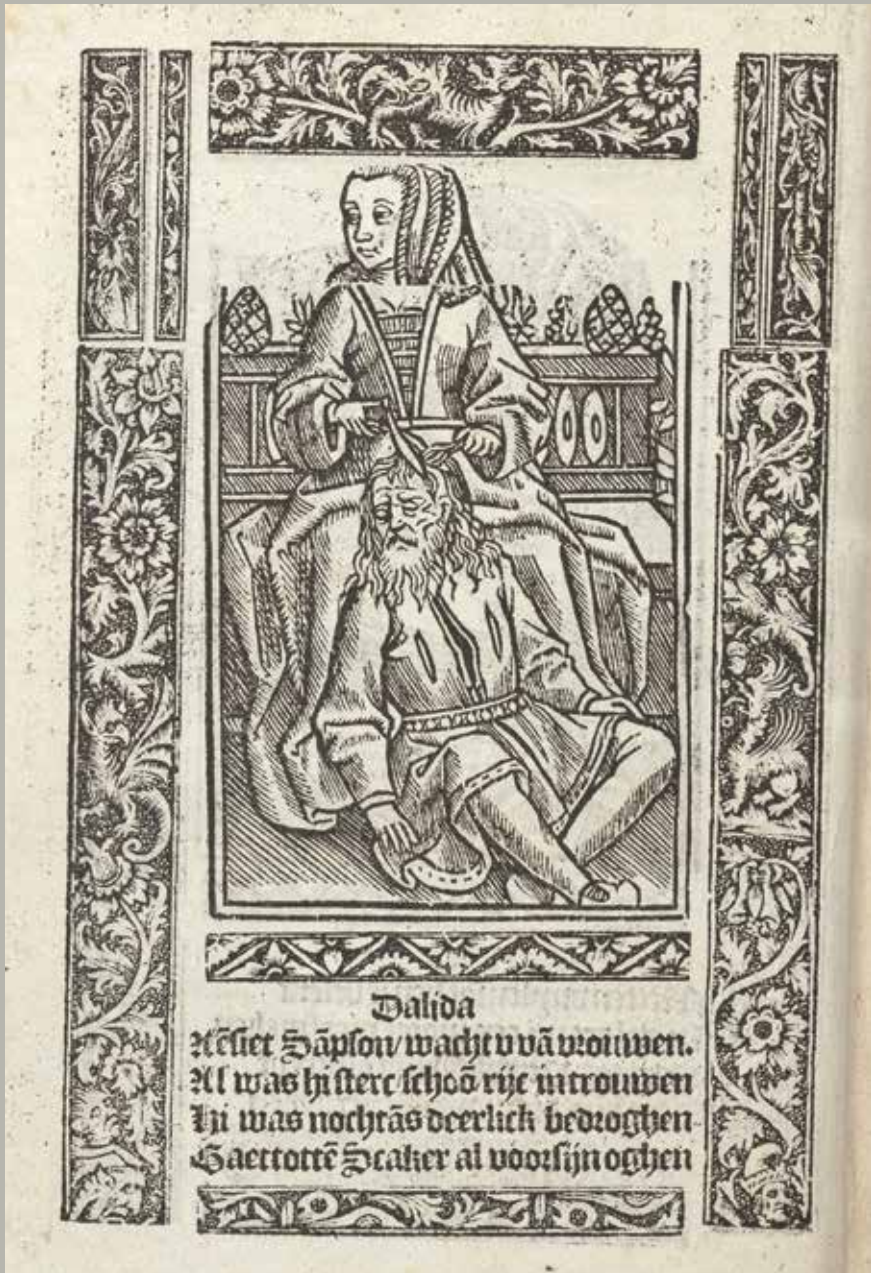


Fig. 4.24. Delilah cuts Samson's hair; with verse text warning the reader against deceit by women.

Thuis der fortune ende dat huys der doot (Utrecht: Jan Berntsz, 1531), fol. A5v.

The Hague, KB, National Library of the Netherlands, KW 227 E 55. [Thuis-1531-Ho4]

– including many ‘dialogue figures’ of men and women – were copied and re-used among these works (see Fig. 2.25 on p. 129).¹⁰⁶ Furthermore, several woodcuts of women and couples in my corpus also appear in love stories in prose romances from this period. For example, an image of a naked, long-haired woman illustrates a passage in *Der vrouwen natuere* (from the edition of c. 1535 onwards; reused and copied blocks) that describes how to recognise a woman’s complexion by the colour of her skin (see Fig. 4.14). In *Den sack der consten* of 1537, she appears next to a choice of recipes to enlarge breasts.¹⁰⁷ Earlier, she had been a key image in the narrative of *Frederick van Jenuen* (Antwerp: Willem Vorsterman, 1531), in the scene where ‘Lord Frederick’ reveals to the king that she is actually a woman (Fig. 4.25).¹⁰⁸



Fig. 4.25. ‘Lord’ Frederick van Jenuen reveals to be a woman (see also Fig. 4.14). *Van heer Frederick van Jenuen* (Antwerp: Willem Vorsterman, 1531), fol. D4v. Ghent, University Library, BHSL.RES.1070.

(Antwerp: Willem Vorsterman, 1525), *Vanden hinnen tastere* (Antwerp: widow of Jacob van Liesvelt, 1550), *Euangelien van den spinrocke* (Antwerp: Michiel Hillen van Hoochstraten, c. 1516), and *Refreyneyn int sot, amoreus, wijs* (Antwerp: Jan van Doesborch, c. 1529).

¹⁰⁶ A further indication that such texts were perceived as related is that the only known copy of *Int paradys van Venus* (London, British Library) is bound with *Vrouw-c1538-Lo1* and *Sack-1537-Lo1*. They have an eighteenth-century binding but perhaps they were joined already earlier. I thank Herre de Vries for his suggestions on the date of the binding.

¹⁰⁷ *Sack-1537*, fol. C3r.

¹⁰⁸ See also Van Leerdam 2023a. Another example is the woodcut of the month of May from *Der scaepherders kalengier* (c. 1514 and 1516), with an embracing couple under a tree: it is

Even when reuse by book producers across titles and text types would be purely economically motivated, for readers – some of whom undoubtedly owned, or at least knew, multiple of these books – such stock images could thus become associated with topics of love and deceit in particular. All of these crosslinks informed readers’ interpretations and shaped their attitude towards the titles in which they encountered them.

Kostelnick and Hassett have introduced the concept of the ‘visual discourse community’ to describe how visual conventions are being ‘shaped and sustained’ by groups of users.¹⁰⁹ In the present case, however, the discourse transcends the visual, as similar motifs also occurred in texts, performances, songs, and other verbal expressions. The community that appreciated this visual and textual discourse may well overlap to a significant extent with what Van Dixhoorn has identified as the ‘vernacular knowledge communities’ in the Low Countries.¹¹⁰ The playful engagement with sexual topoi might even be considered one of the constitutive elements that tied these communities where natural knowledge, moral knowledge, and playfulness were so intricately interwoven.

Recurrence, then, as we saw for the functioning of scholar images, is a meaningful element in the visual rhetoric of sexuality and men–women relations. In this case, the recurrence of playful visual motifs contributed to readers’ trust as it signalled that the book at hand belonged to their community and consequently had something to offer to them as members of that community. Readers’ trust here does not so much entail a reassurance that all knowledge in the books is accurate and correct – for, as we have seen, the books themselves sometimes indicate that this is not the case – but a reassurance that the subject matter, and the tone in which it is presented, is appealing and relevant to the readers’ personal experiences. If they already knew and appreciated another book in which the same or similar imagery appeared, including the familiar range of allusions and double meanings that came with it, they may have felt confident that the book at hand would also meet their interests.

4.3 | Conclusion

This chapter has analysed the visual rhetoric of authority and of playfulness, two crucially influential factors for understanding how woodcuts contributed

reused in the narratives of *Margriete van Limborch* (Antwerp: Willem Vorsterman, 1516) and *Peeter van Provençen* (Antwerp: Willem Vorsterman, c. 1517) to illustrate encounters between the respective protagonists and their lovers.

109 Kostelnick and Hassett 2003, 24–30. See also Kostelnick 2017, 259–261.

110 Van Dixhoorn 2014; see Chapter 1.

to the perceived reliability of knowledge. Both motifs on which I have focused, the images of scholars as well as those of seductive women and lustful couples, are typically not required for a better comprehension of the knowledge conveyed by the text. They fulfil important roles, however, in gaining readers' trust by inciting their active involvement with this knowledge.

The scholar images invite readers' engagement through a combination of their iconography, their arrangement on the page, and their recurrence – within a single book as well as across many other books. Similar to the pervasive yet often imprecise textual references to *auctoritates*, these multifunctional, reusable scholar figures convey the authority of bookish knowledge. Moreover, their positioning and recurrence evoke the suggestion of continuous dialogue, thus stimulating the reader to join in this dialogue.

In the case of the playful images of women and couples, too, their recurrence and familiarity are crucial in how they engage readers and invoke their trust. Relations between women and men were an inexhaustible source of playfulness, ambiguity, and mockery – extending widely beyond books – that could evoke both sexual, medical, and moralising connotations. Tongue-in-cheek allusions in images allowed readers to identify with an in-group in which these ambiguous meanings were understood and appreciated. Appealing to a sense of community, familiar visual motifs thus offered readers a reassurance that the book was meant for them. The light-hearted images of women and couples may even have offered a form of comic relief, providing readers with a playful mirror of their own curiosity or awkwardness about matters of the body. Such mixed feelings indeed come to the fore from readers' manipulations of images showing nudity and of text passages on procreation and lust, as we will see in Chapter 5.

Like various other elements of play in the medical-astrological books, the sexually connoted images stimulated readers to create their own interpretations in different contexts. Especially *Thuys der fortunien*, *Der vrouwen natuere*, and *Den sack der consten* epitomise how playful and serious presentations of medical-astrological knowledge are entangled to such an extent that readers are challenged to decide for themselves what to take seriously. The medical-astrological works thus appeal to a community of readers who not only enjoyed this knowledge out of curiosity about the natural world, but who were also sufficiently familiar with its formats to enjoy parodies thereof such as mock recipes and mock authority references. The multifaceted outlook that this chapter has taken on the visual rhetoric of reliability brings to the fore the fundamental nature of the book as a socially functioning object within a knowledge community of which both readers and printers formed part.



Detail of Fig. 5.10

Customising Knowledge



Readers' Engagement with Illustrated Books

Books are designed to arrive in the hands of a reader. Having examined various aspects of knowledge presentation by book producers in the previous chapters, we will now turn to early modern readers, to investigate how they engaged with illustrated books on medicine and astrology. What do the marks that readers left behind tell us about their purposes and interests, and what did they do with the images? What do we know about the identity of these readers? This chapter analyses owners' marks, annotations, and other traces of use from the sixteenth and seventeenth centuries and discusses the value and the limits of this type of source for reconstructing early modern reading practices. The analysis reveals how readers customised their books through interventions in texts, images, and in the book as a three-dimensional object.

The study of individual readers' traces has become an established approach, especially since the 1990s. Before that time, occasional publications had already been devoted to this type of source material, but the approach gained firm ground in the wake of a new interest in the social history of reading and a broader shift of interest in literary studies from authors to readers.¹ Systematic research into reading practices has taken a number of forms. A challenging, large-scale type of study is the census, where all extant copies of a particular text are surveyed – or, striving less for a complete inventory and more for finding patterns of reception, the study of multiple copies of a single work.² Corpora

1 Foundational: Sherman 2008; Jackson 2001; Jardine and Grafton 1990. Early examples are Wilson 1948 on Gabriel Harvey's method of annotating, and for the Low Countries Resoort 1976–1977 on the importance of traces of use in prose romances and popular books. Studies focusing on medical annotations: Maclean 2018; Stolberg 2016.

2 Examples of censuses: Margócsy, Somos, and Joffe 2018 on Vesalius' *De humani corporis fabrica* (1543 and 1555), Hooks and Lesser 2018 on the complete works of Shakespeare (copies of all

consisting of various titles are examined in studies focusing on specific reading practices³ or on traces of use within a specific collection.⁴ Other studies uncover the reading practices of specific individuals by studying their libraries⁵ or a specific annotated copy.⁶ Annotations and other material traces are also increasingly being catalogued by the holding institutions, for example in the large-scale international database *Material Evidence in Incunabula* (MEI).⁷ What comes to the fore from the vast array of case studies as well as more synthetic overviews is that reading in the early modern period was a profoundly embodied, material practice involving the hand and the pen as much as the intellect.⁸

So far, these studies have mostly focused on the content of what readers have written and marked in their books and much less systematically on how these marks are arranged on the page. While the influence of printed layout on reading experiences has become a booming field of study, the layout and other visual – and, indeed, graphic – aspects of readers’ annotations have received less sustained attention as a testimony to how they approached their books.⁹ The study of viewers’ responses to printed images is only beginning to emerge as a new and promising strand of research. Art historian Peter Schmidt has argued that printed images apparently incited users more strongly to modify and inscribe them than other media did.¹⁰ Devotional images in particular have been shown to contain many material traces that shed light on the ways in

editions until 1700); Gingerich 2002 on Copernicus’ *De revolutionibus orbium coelestium* (1543 and 1566). Extensive though not aspiring to completeness: Van Duijn 2017 on the Delft Bible of 1477, the first printed bible in Dutch; Panse 2012 on Hans von Gersdorff’s *Feldtbuch der wundtartzney* (1517); Green 2006 on Hartmann Schedel’s *Nuremberg Chronicle* (1493 and four later editions); Bogaart 2004 on Bartholomaeus Anglicus’ *Van den proprieteyten der dinghen* (1485). On the method of the census, see also Pearson 2010 and 2007, and Graheli 2021, 72–73 on the problems of this method for the study of popular print.

- 3 E.g. Steinová 2019 on the use of symbols in early medieval manuscripts; Rudy 2016 on devotional reading; Wakelin 2016 on conceptualisations of ownership; Schmidt 2002 on annotations in religious prints.
- 4 Maclean 2018 for medical works in the University of Glasgow Library; Sherman 2008 for the Huntington Library; Alston 1994 for the British Library.
- 5 Grafton 2017 on Matthew Parker; Sherman 1995 on John Dee; Jardine and Grafton 1990 on Gabriel Harvey. In the project ‘Sammelband 15–16’ (started in 2019, <https://sammelband.hypotheses.org>), Malcolm Walsby, Katell Lavéant, and Ann-Marie Hansen have studied the book collection – now held at Utrecht University Library – and reading practices of Hubert van Buchell.
- 6 Rautenberg 2018 on the *Herbarius* (1484) copy from the collection of Christoph Jacob Trew; Visser 2017 on Martin Luther’s reading of Erasmus.
- 7 On MEI, see also Appendix 1.
- 8 Amidst numerous case studies, important syntheses include Sherman 2008; Jackson 2001; Blair 2010a and 2010b; Leong 2018b.
- 9 Examples of such an approach: Sherman 2008, 25–52 (Chapter 2) on the shapes and uses of manicules; Schmidt 2002 on which parts of images were inscribed by viewers.
- 10 Schmidt 2002, 352.

which they were looked at and used by contemporaries.¹¹ Studies of prints with more profane subjects such as anatomy, astrology, and portraits also point out that systematic attention to traces of use is important to understand the motivations and expectations with which viewers approached images.¹²

In his recent article 'The Reader's Eye,' William H. Sherman observes 'the surprisingly complex ways in which readers used images as well as words to make their books meaningful, beautiful, or indeed useful.'¹³ He raises the pressing question:

What happens if we think of reading as a 'visual' rather than verbal mode, and see marginalia as part of a 'graphic' culture in which images played a central role in the interpretations and imaginations of readers?¹⁴

My study of a substantial corpus (120 copies of fifteen texts) sheds light on the range of possible ways in which these illustrated works were read, used, and looked at, and to acquire a sense of patterns or idiosyncrasies in how readers customised their books. In this analysis, I will pay particular attention to reading as a 'visual mode,' by examining the visual characteristics of annotations and especially readers' engagement with images. The main themes from the previous chapters – the organisation, visualisation and reliability of knowledge – will thereby be taken up again from the perspective of the readers.

More than two thirds of the copies I examined have been annotated or manipulated in some way by early modern readers.¹⁵ While some copies merely have a handful of annotations, others show traces of use on nearly every page. Appendix 2 provides a brief description of readers' traces per copy, while Appendix 4 lists the most frequent types of traces and the copies in which they occur.

This chapter begins with a methodological discussion of the use of readers' traces as a source: what insights can or cannot be drawn from them? Marks of ownership, analysed in the next section, provide insight into the variety of readers who engaged with these illustrated books. I will then characterise the traces

11 Dlabáčová 2020a; Rudy 2016; Areford 2010; Schmidt 2002; Van der Stock 2002, 26.

12 Many examples in Karr Schmidt 2011. Margócsy, Somos, and Joffe 2018 also pay systematic attention to traces of use in images in Vesalius' *Fabrica*, demonstrating that some 20 per cent of all annotations pertains to images, especially from readers who attempted to clarify and identify different body parts in the anatomical images and from readers who were offended by the images of nude bodies and felt the need to chastise them.

13 Sherman 2018, 25.

14 Sherman 2018, 25.

15 Of the 120 examined copies, 93 contain traces of use that I would certainly date to the sixteenth and seventeenth centuries (which makes up 78 per cent), while another dozen copies contain traces that are difficult to date and might be of a somewhat later date.

of use in terms of their subject matter, distribution within and across volumes, and language. From these mostly text-related annotations, practically oriented reading emerges as the predominant mode in which the books were used – or at least the mode of reading that has left the most traces. These traces also testify to a variety of strategies of organisation and navigation, which reveal how readers customised access to knowledge. The following section looks in detail at traces that inform us of how early modern readers looked at images and, therefore, how they engaged with visualisations of knowledge. While some of their textual and visual responses to images clearly relate to the medical-astrological subject matter and to epistemic purposes of reading (such as understanding and clarifying), others seem more concerned with embellishment or with sexual or moralising connotations. Hand-colouring is a frequently occurring form of customisation that needs to be considered as part of the reception of images. It helps to understand what caught the eye of early modern viewers and how they perceived the reuse of visual motifs. The final part of the chapter considers annotations as interventions by readers in a book's design. The *mise-en-page* of their marks reveals how they used – or discarded – layout conventions to make the book into a personally authorised repository of knowledge.

5.1 | Tracing the readers: Limits and merits

Research into marginalia and other traces of use inherently faces a number of challenges that complicate their interpretation and that are therefore pertinent to the present study. Nevertheless, this type of source material can provide unique insights into individual readers' practices, if used with due caution.

Firstly, a major caveat is that many ways of reading or using a book leave no material traces.¹⁶ A lack of annotations does not mean that a book was not used. Secondly, the vast numbers of 'lost books' from the first century of print bring about a survival bias: large books, for example, have commonly stood a better chance of survival than small books, and books in Latin a better chance than vernacular books.¹⁷ Many books that were considered precious or special

16 Dobranski 2011, 109–110. Hansen 2019 aptly argues that dense annotations such as those by Gabriel Harvey, which have attracted much scholarly attention, are exceptional. Margócsy, Somos, and Joffe 2018, 56–57 point out that the owners of the *Fabrica* tended to be 'sporadic readers,' many of whom left annotations on just a handful of pages of their copy. Pearson 2007, 27–28 also discusses various copies of Julius Caesar's works with only incidental notes or marks.

17 Bruni and Pettegree 2016 for the term 'lost books,' and within this volume especially Pettegree 2016, 2–3 and 9 on uneven survival rates for different kinds of books. See also Graheli 2021, 73; Koppitz 1987a, 17–19.

for whatever financial, intellectual, or emotional reasons have been preserved, because they became collector's items early on in their lifetime, whereas the most thoroughly used books were often literally read to pieces.¹⁸ Thirdly, the pages of many surviving annotated books were trimmed when the books were bound or rebound at some point in their lives. Substantial parts of the original margins and any traces in them were often lost in the process.¹⁹ Frustratingly, several margins now merely contain some bisected or truncated letters, enough to know that there must have been more written text but not enough to reconstruct any of it. As a consequence, the absence of annotations does not mean that they were never there. Fourthly, the ideal of pristine copies that emerged in the nineteenth century led collectors and restorers in the nineteenth and twentieth centuries to scrape off or bleach out many annotations, as clean pages were more highly valued than pages defiled by readers.²⁰ I have not found any clear traces of deliberate bleaching or scraping in the Dutch medical-astrological books under scrutiny. Considering the large number of copies that still contain annotations, I suspect that these books may have largely escaped attempts to have them meet the ideal of the clean copy.²¹ That they have not been the most sought-after collector's items internationally may have worked to their advantage.

Because of these caveats, many questions about real readers, their numbers, interests, and identities are still left to be answered and it remains challenging to move from case studies to more synthetic overviews. Indeed, Andrew Pettegree has expressed fierce scepticism about the value of users' traces as a source for studying reading culture:

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- 18 Van der Stock 1998, 179 observes this paradox, too, for printed images: 'the larger the quantity of impressions made and the larger number of people they reached, the smaller was the chance of the material being preserved.' With respect to the Dutch Republic, Pettegree and Der Weduwen 2019, esp. 13–17 warn that the surviving material in present-day library collections is not only non-representative, but outright misleading for our understanding of what seventeenth-century Dutch people read.
- 19 Dobranski 2011, 107; Sherman 2008, 163. A copy of *Den groten herbarius* in the Metropolitan Museum of Art (Herb-1526-N53) exemplifies that the margins of a book could be trimmed already early on in a book's lifetime: part of the sixteenth-century annotations in this volume are cut off, whereas the volume has a parchment binding that must also date from the sixteenth century. The book seems to have been used and annotated, then, before it was bound. I thank Herre de Vries for his advice on the date of the binding.
- 20 Sherman 2008, 163–164; Orgel 2000b, 92.
- 21 The ideal of the clean copy is strongly reflected, however, in the facsimile series *Zeldzame volksboeken uit de Nederlanden*, edited in the 1980s by Willy L. Braekman (e.g. *Der vrouwen natuere* (1980) and *Der scaepherders kalengier* (1985)): traces of use were left out and damaged woodcuts were retouched (wormholes, broken lines) in the reproductions. Resoort 1976–1977, 311–312, 324 already criticised facsimili that do not reproduce traces of use.

[...] other disciplines in the history of the book have embraced far more speculative strands of scholarship. I think here particularly of the freight attached to manuscript marginalia and annotations in the quest to assess reader responses to text. In fact in the vast majority of cases such marginalia are extremely unrevealing.²²

However, there is a simple and strong argument in favour of studying users' traces. Heather Jackson incisively points out that making annotations while reading may have been customary in certain circumstances, but it was 'seldom *required* behavior' (her italics).²³ She draws attention not only to the question why readers bothered, but interestingly also to the question: for whom? 'Those who choose to make the effort to register their responses [in the margins of their books] must foresee some advantage for someone.'²⁴ I consider this assumption a justification for all types of research into reading traces, as it applies to even the tiniest, most idiosyncratic annotation. The mere fact that a reader took up a pen to write in a book, even if it was just a single word, is informative of the reader's approach to the book and the practice of reading with pen in hand. Moreover, even unintentional traces are informative of reading practices: an accidental ink stain, for example, might betray that a reader had a pen at hand while reading.²⁵ A keen awareness of readers' motivations for leaving their marks, and of the circumstances under which they may have left inadvertent marks, will enable us to connect scattered findings and to draw a broader picture of early modern reading practices. This broad picture will allow room for commonalities as well as diversification across text types, periods, languages, and types of readers. Unsurprisingly, then, I disagree with Pettegree that marginalia are 'extremely unrevealing.' As I see it, and as many recent studies convincingly illustrate, hardly anything will bring us just as close to the experiences of reading individuals of four or five centuries ago as studying the scribbles, doodles, colourings, and symbols they left in their books.

Various authors have proposed typologies for the classification of users' traces, some substantially more detailed than others.²⁶ Such classifications may help us to recognise and describe phenomena observed across different volumes. However, they do not point out the connections that often exist *within* a volume or a reader's collection between multiple annotations, or between

22 Pettegree 2016, 26.

23 Jackson 2001, 82.

24 Jackson 2001, 82.

25 See also Hansen 2019.

26 Various classifications discussed in Sherman 2008, 16–17; Van Duijn 2017, 201–204. See also Appendix 1.

multiple functions of a single annotation. Even a simple mark like underlining may function simultaneously to organise, process, and authorise knowledge. Moreover, annotations can be part of what I call a cluster, for example when a reader has marked a single text passage in multiple ways (e.g. with symbols as well as underlining), or when passages on a similar topic are marked throughout a book. In such cases, it is not necessarily an individual annotation but the cluster as a whole that offers insight into a reader's experience. Rather than narrowing the focus to a classification of individual traces, research into reading practices needs to do justice to such interrelations.

My analysis focuses on traces left by the earliest readers of the illustrated medical-astrological books, dating from the sixteenth and seventeenth centuries.²⁷ Precise dating of annotations is often difficult, and even more so for non-textual traces, which include underlining, colouring, drawings, symbols, but also stains, wear and tear, or pins and threads attached to the pages. In several copies, there are too few written annotations (e.g. only a handful of keywords or the word *nota*) to establish their precise date of origin. Often, however, it is clear not just from the handwriting, but also from the ink colour and/or spelling that a hand is, indeed, from the sixteenth or seventeenth century. Ink colour often also provides an important indication of the age of non-textual users' traces. Many early modern writing inks have now faded to grey, brown, or even light brown. If a copy also contains written traces in the same ink, these often provide some guidance for dating as well – lines and symbols rarely come alone.²⁸ However, when a copy contains traces of use in different colours of ink, it can be very difficult to establish whether they are by the same user – possibly with many years in between – or by multiple users. In the case of hand-colouring, characteristics pointing to an early modern origin include the use of watercolour and bodycolour, a limited colour palette, desaturated colours (e.g. red or green turned brownish, blue turned grey), and/or a crude application of paint in relatively large washes of colour that do not always follow the printed lines.²⁹ On the basis of these kinds of indications, all traces of use discussed in this chapter can be dated to the early modern period.

27 For this reason, I will refer to 'early modern readers' rather than 'late medieval readers.' I have not analysed post-seventeenth-century provenances and annotations.

28 For example, in a copy of *Den groten herbarius* (Herb-1514-Wo2), fol. h4r contains a hand-drawn planet symbol as well as an annotation in a sixteenth-century hand, both in the same colour of ink. In another copy (Herb-1514-Ko7), a hand-drawn flower was added to the woodcut of the plant *Aaron* on fol. b5r and a sixteenth-century annotation inscribed next to it in the same ink.

29 Foundational on early modern hand-colouring of prints: Dackerman 2002; Primeau 2002. See Stijnman and Savage 2015, 17–18, 20 on distinguishing printed from painted colour. See also Oltrogge 2009; Fletcher, Glinsman, and Oltrogge 2009; Griffiths 1996, 115. I have not conducted technical analysis of pigments in the context of this study.

5.2 | Marks of ownership: Private, professional, and institutional use

Dutch printers ventured to appeal to readers with different levels of experience in medicine as well as in literacy. Did they succeed in reaching this wide audience? Who owned illustrated medical-astrological books in Dutch?³⁰ There is only fragmented evidence to answer this question. The oldest marks of ownership in these books, from the sixteenth and seventeenth centuries, bring us as close as possible to the earliest readers.

Inscribing one's name is probably the most immediate form of customising and, indeed, personalising a book.³¹ In total, the 120 copies I examined contain some 45 (more or less) legible owners' names from the sixteenth and seventeenth centuries (listed in Appendix 3). The majority of these names are found in copies of *Den groten herbarius* (sometimes multiple names in a single copy), the text that has survived in the largest number of copies. On the one hand, this uneven situation of survival may complicate a balanced view of the corpus as a whole. On the other hand, the unevenness might reflect the reality that some books were used in quite different ways than others: it is significant that copies of *Den groten herbarius* are not only relatively numerous, but also relatively often annotated. As we will see throughout this chapter, this work was used *and* cherished particularly often as a personal or institutional knowledge base.

Even when we know an owner's name, in many cases it is still impossible to identify these persons and to find out how and why they obtained their copy. In most cases, it is not even possible to link the owner's inscription with certainty to other annotations in the same volume to learn more about their particular interests. Distinguishing annotators is complicated because different hands may resemble each other, a person's handwriting may change over the course of a lifetime, and owners' names are frequently written more neatly than annotations made while reading. Nevertheless, the list of names in Appendix 3 and the ways in which these owners identified themselves allow for some relevant observations with respect to the early readership of illustrated medical-astrological books in Dutch. I will discuss female ownership, institutional ownership, professional occupations of owners, and ownership of multiple books.

Firstly, while the majority of named owners are men, a handful of female names can be found as well. As various studies have shown, women played an

30 This section has partially been published in Van Leerdam 2021, focusing on the owners of *Den groten herbarius*. The analysis is extended here to include all titles in the corpus.

31 On marks of ownership as a source for studying practices of personalisation: Wakelin 2016.

important role in early modern healthcare and the preparation of medicines, for example in households, as local healers, in hospitals, and as medical advisors.³² For the three women whose names appear in copies of *Den groten herbarius* – Dignen van Hueculum, Magdalena van Tuerenhout, Neelken van [..]uffelsen – we do not know whether and how they were engaged in medical practices. In fact, for Neelken, we cannot even be certain that she was the owner of the volume. The peculiar positioning of her name, written upside down in the margin of fol. B4r, suggests that it may be a pen trial: it could refer to the owner or maybe to a beloved one whose name the annotator used to test the pen. By contrast, Magdalena van Tuerenhout did not let any misunderstanding occur as to her ownership of *Den groten herbarius* (copy Herb-1526-N53³³): she inscribed her name no fewer than three times on the front endleaves, twice with an appeal to anyone who might find the book to return it to her. Both of these inscriptions are carefully written in an inexperienced yet neat hand, apparently when she was still a child. This suggests that the bestower wanted her to learn about *matéria medica* from an early age and that the book was envisioned to stay with her during her lifetime. It seems to have been inherited within the family, judging from the fact that a Jasper van Tuernout also inscribed his name in it.³⁴

Secondly, the ownership marks include instances of institutional ownership. The Celestines at Heverlee, who numbered the books and manuscripts in their library, inscribed their copy of *Den groten herbarius* (Herb-1514-Bo2a) with shelfmark ‘theca 64.’³⁵ A copy of *Distellacien* (Dist-1517-Bo2) was kept in the library of the Norbertine abbey of Grimbergen (*Bibliothèque Grimbergensis*). The Poor Clares in Brussels received at least two medical books from their confessor Henricus de Beringhen. *Den groten herbarius* (Herb-1547-A12) contains a request to pray for him, written by himself or by one of the sisters of St. Clare. The inscription identifies him as *Confessario huius conuentus*, implying that the book was kept inside the convent. He also donated a copy of *Tfundament der medicinen* (Tfund-1540-Wo2).³⁶ The inscription on the title page of this medical anthology details not only when it was donated (in 1555, just fifteen years after the book

32 Strocchia 2019; Leong 2014; Rankin 2013; Green 2008, 120–129.

33 For the full details of individual copies to which I refer here with codes, see Appendix 2.

34 It is unclear whether Jasper’s inscription is earlier or later than Magdalena’s. On family ownership of recipe collections: Leong 2018a, esp. Chapter 5.

35 To my knowledge, the library of the Celestines has not been studied, but I have come across two more books from their collection with similar shelfmarks: MS Paris, Bibliothèque de l’Arsenal, 0775 (‘theca 50’), listed in *Bibale*: <http://bibale.irht.cnrs.fr/24587> (accessed 23 April 2023); and Boethius, *De consolatione de phylosophie* (Bruges: Colard Mansion, 1477), Paris, Bibliothèque nationale de France, Rés. R. 86 (‘theca 52’).

36 Henricus de Beringhen also inscribed his name in two manuscripts with sermons by Bernard of Clairvaux: Van den Gheyn 1901–1948, vol. 2 (1902) nr. 1464 and vol. 3 (1903) nr. 1874.

was published), and by whom (*Confessarius huius Conuentus*), but also for what purpose (Fig. 5.1).³⁷ It states that the confessor donated the book *pro Consolatione infirmarum* (for the consolation – or aid – of the infirm) and that it must remain in the convent’s infirmary. Three sisters are identified on the title page as *seruitrices*, so we may assume that these *sorores* ‘Eliz[abeth] Reynbout,’ ‘Magd[alena?],’ and ‘Kath[arina] Petri’ used the book as nurses in the infirmary. We can imagine that the copy of *Den groten herbarius* served a similar practical function in the sick room of the Clares, and that perhaps it was used by these same three sisters.³⁸ Another copy that may have been used in an institutional medical context is inscribed by a Coelaert Pantin with reference to a chapel of St. Nicholas (Herb-1533-N53). The chapel of that name in Antwerp had been founded in 1422 to care for sick and poor members of the guild of local merchants.³⁹

Thirdly, marks of ownership sometimes refer to book owners’ professional occupations. As recent studies show, such inscriptions indicate that professional occupation constituted an important aspect of how readers constructed their identities.⁴⁰ These studies also show that such references testify to a distinctly social aspect to the personalisation of books: identifying oneself is relevant as the book may (and eventually will) end up in someone else’s hands. Cases where owners identify themselves as medical practitioners are surprisingly few in the Dutch medical-astrological books: I found just three explicit references to medical professions. One is from *C Flessiers Chirurgijn*, who inscribed his copy of *Fasciculus medicine* (Fasc-1512-Ko7b) on 13 June 1630. He is likely the Claes Flessiers who is documented as a surgeon in Leiden between 1627–1640.⁴¹ Another practitioner was *Meester Rogier Hellebo[ts?] barbier chirurgien*, owner of a copy of *Tscep vol wonders* (Tscep-1514-Bo2b). Furthermore, a copy of *Den groten herbarius* was owned in 1685 by the Surgeon’s College in Bruges, judging from the stamp on its front and back bookplates (Herb-1533-N53). A few

37 The initials ‘P.H.B.’ handwritten in a printed shield in the centre of the page, likely refer to *pater Henricus de Beringhen*. On this copy of *Tfundament der medicinen*, see also Van Leerdam 2023b.

38 Herb-1547-A12 contains an annotation on fol. q4v in evidently the same hand as that on the title page of *Tfund-1540-Wo2*; it must have been written either by Henricus de Beringhen or by one of the sisters.

39 Agentschap Onroerend Erfgoed 2020, ‘Sint-Niklaasgodshuis,’ <https://id.erfgoed.net/erfgoedobjecten/5350> (accessed 23 April 2023). The same copy (Herb-1533-N53) also contains another early modern institutional owner’s mark, of the Convent of the Discalced Carmelites in Antwerp.

40 Margócsy, Somos, and Joffe 2018, 66; Wakelin 2016, esp. 25–27; Hoogvliet 2013, 266–267.

41 Via the digital archives of Leiden at www.erfgoedleiden.nl I found three archival records on Claes or Nicolaes Flessiers *chirurgijn*: on his betrothal in 1627 (NH Ondertrouw K. 1004, inv. nr. 10, fol. K - 032), an entry for 1630 in the burgher registers (Register van poorterinschrijvingen F, inv. nr. 1267, fol. 196v), and a registration of real estate for 1640 (Tweede Register fol. 1-189, bon Zevenhuizen, archive nr. 501A, inv. nr. 6614, fol. 133r).

Fundament der Medicinen ende
Chyrurgien/ Een boeck vanden vri-

nen / ende andere reekenen der sietten / Dye crachten vanden cruyden/
haer waeren totter Medicinen/ Die Olien/ Die Syropen/ Die Clis-
tiren/ Die Pillen/ Die Electuarien/ Die Plaesteren ende Saluen der
Bedructen ende Chyurgien/ Van der huyde sicke/ Die Doc-
ken/ Der kinderen/ Dassen/ en een boeck van die Pestilentie/
Een practheylse chyurgie door de erpette goet be-
uonden/ waer af hier omme dye tafel volcht.



Cum gratia et privilegio,
dedit huc / libri Confessarii huius Conuentus pro Conuentione
Infirmarum

Fig. 5.1. Title page with owners' inscription of the Poor Clares in Brussels, stating that the book was donated by their confessor, to be kept in the infirmary. *Fundament der Medicinen ende Chyurgien* (Antwerp: Willem Vorsterman, 1540), fol. A1r. Washington, D.C., Library of Congress, Rosenwald 1159. [Tfund-1540-Wo2]

other owners, too, like Rogier, are referred to as ‘master,’ which could point to a medical occupation.⁴² Other owners in my study apparently either did not have a medical professional identity or they did not consider their engagement with health matters as their primary identity. Jasper van Tuernout (Herb-1526-N53) identifies himself as brewer, Loys de Joncheere (Herb-1514-Bo2b) as bailiff and *ontfangher* (receiver) of Watervliet and Waterdijck. The title *dominus* for Reijnerus in Harlingen (Chyro-1536-B16) may point to an ecclesiastical or an academic position. As we already saw, Henricus de Beringhen (Herb-1547-A12) emphasises his role as confessor of the convent of St. Clare. This latter occupation apparently involved not only care for the soul, but also for the physical health of the sisters.

Finally, research into owners’ marks contributes to insights into early modern book collections. A mark like that of the Celestines in Heverlee or the Premonstratensians in Grimbergen points to the inclusion of a book in a library. In addition to such institutional owners, I found several individual owners who also possessed multiple books. Dignen van Hueculum Jan gheerts dochtere, owner of a copy of *Den groten herbarius* (Herb-1538-Lo1), also owned a copy of *Devoot ende profitelijck boecxken* printed in 1539, which she inscribed in the same way.⁴³ Her handwriting seems to be sixteenth-century, so she must have been an early owner of both volumes. Conversely, Petrus Nicellai Saxsi wrote his name in his copy of *Den groten herbarius* (Herb-1526-Lo1) in 1642, over a century after its publication. He also owned a copy of *Hantwerck* (Hantw-1535-Lo1), where he left his name inside a woodcut of a medical instrument (see Fig. 5.34 on p. 313). His ownership and annotation of these books suggests that he had a more than passing medical interest.⁴⁴ Lambertus Optio (1583–c. 1619), the son of the secretary of Amsterdam Lambert Cornelisz and owner of a copy of *Den groten herbarius* (Herb-1514-LRB), must have been a highly literate man: he wrote two chronicles of the city of Amsterdam, one of which – written together with his father – includes his own family history.⁴⁵ There he mentions a Willem Barentsoen who was the uncle of his mother. This Willem Barentsoen

42 *Mr. Antoni Jacopsen outewael* owned Tfund-1532-Ko7. According to another inscription in this copy, the book was sold by a *Mester Boodsanus* (?) in 1689. *Mr. Philippus Trock* owned Fasc-1512-Ko7b nine years after Flessiers, in 1639.

43 *Een devoot ende profitelijck boecxken* (Antwerp: Symon Cock, 1539), Haarlem, Stadsbibliotheek, 176 K 9, title page with inscription of ownership reproduced in Van Dongen 2011, 36. Dignen’s ownership of this work is discussed in Van Dongen 2011, 35–37. Van Dongen does not mention *Den groten herbarius*.

44 In this case, some annotations can be attributed to Petrus Saxsi with a fair amount of certainty: both volumes he owned include typical ‘NB’ marks (*nota bene*) with both letters merged.

45 Scheltema 1859, V–VI, 35–37; ‘Opsy’ in NNBW vol. 5 (1921), col. 405–406. Lambertus is thought to have been a merchant or a ship owner.

Willelmus Barentsoen Boerhaave

De grote herbari met al sijn figuerē

Die *Ortus sanitatis* ghenacmt is. met sijn der tase
te in latijn en in dupsche En hier af een stoon registre om die cur arien teghen ald
hande te ancheden lichtelijck te vindene En oec een experēt suuerlic tractaet om dpe
ozine te iudiceene En noch een tractaet om die crachten van alle medecinen te hee
nene met vele andere goede leeringhen.



Lambertus Optio L. C. f. me possidebit

Fig. 5.2. Title page with hand-coloured woodcuts and inscriptions of ownership from Willem Barentsoen (top) and Lambertus Optio (bottom), who was his grand-nephew. *Den groten herbarius* (Antwerp: Claes de Grave, 1514), fol. a1r. Leiden, Rijksmuseum Boerhaave, BOERH g 3301. Photo: Tom Haartsen. [Herb-1514-LRB]



Fig. 5.3. Title page with inscription *Pro domino reynero in Harlingen*. *Chyromantia Ioannis Indagine* (Utrecht: Jan Berntsz, 1536), fol. A1r. Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 I38Du 1536. [Chyro-1536-B16]

has inscribed his name in the same herbal (Fig. 5.2). Like the copy of the Van Tuerenhouts, the herbal seems to have been handed down within the family, probably after Willem's death (before 1601). A certain Reijnerus in Harlingen probably became the owner of three medical works at once (Chyro-1536-B16, Herb-1532-B16, Hantw-1535-B16b). They are bound together in a single volume and although its current binding is from a later date, similarities in the hand-colouring of the woodcuts and in annotations throughout the volume suggest that the works must have been joined together already during the sixteenth century. The inscription on the title page of the first work, *pro domino reijnero in Harlingen*, suggests that they were presented together as a gift from someone outside of Harlingen (Fig. 5.3). Perhaps the most famous book collector who may have owned a medical-astrological book in Dutch was the English archbishop Matthew Parker (1504–1575).⁴⁶ It is not known how and when his collection came to include a copy of *Tscep vol wonders* (Tscep-1514-C75), but it is possible that the work already ended up there during Parker's lifetime.⁴⁷

Although the lack of references to medical backgrounds complicates our understanding of why these people owned medical-astrological books, the overview of owners does point to a wide array of institutional, civic, and domestic contexts in which these illustrated works were used. This material shows, then, that the printers succeeded in appealing to a wide, relatively diverse audience.

5.3 | Practically oriented reading

Apart from owners' marks, other annotations can also be regarded as acts of customisation: early modern readers manipulated their books driven by their own goals, interests, and habits. The examined copies (cf. Appendix 2) contain traces from many more readers than those who inscribed their names. Although the authors of the vast majority of annotations remain anonymous, both the content of the annotations and their arrangement on the page provide indications of how these readers approached and used their books. Beyond individual idiosyncrasies, certain tendencies and conventions clearly come to the fore with respect to readers' interests, their reading purposes, and reading strategies.

In the more than ninety copies that contain at least some early modern traces of use, the vast majority of annotations are related to the printed texts rather than to the woodcuts. These text-related annotations are mostly practically oriented, focusing on practical rather than theoretical knowledge. They testify

⁴⁶ On Parker as a book collector and annotator: Grafton 2017.

⁴⁷ See Van Leerdam 2017 and Appendix 2.

to ‘goal-oriented’ reading, yet in a broader sense than specifically problem-solving.⁴⁸ Some readers were undoubtedly looking for an answer to a specific question, or for a remedy against a specific ailment, but readers may have had a more general interest in the practical application of medical and astrological knowledge as well. That interest could be professional, in the case of a surgeon or an apothecary for example, but it could also arise from a reader’s personal situation (taking care of a family, for example) or from an intrinsic curiosity about the natural world and for the human body in particular.

Among the most frequently encountered types of annotations in the Dutch medical-astrological books are various kinds of reading marks such as underlining, *nota* or *nota bene*, manicules (pointing hands), hyphen-like stripes and other symbols in the margins, as well as marginal keywords that emphasise and often literally repeat information from the printed text (cf. Appendix 4). Common as they may have been in the early modern period, these marks are revealing as typical instances of customisation, as they highlight the content that a reader found relevant. Readers also frequently added comments and additions of their own. These marks and annotations suggest that many readers went through their books with specific, practical interests. I will now explore these signs of practically oriented reading in more depth and discuss how this mode of reading relates to other modes of reading, such as reading for entertainment.

A predominant interest in remedies

The observation that stands out most distinctly is that the overwhelming majority of annotations pertain to recipes and other instructions for treatment of all kinds of ailments. Many of the annotators seem to share a predominantly practical interest in the medicinal effects and the application of herbs and other natural resources discussed in the texts, while other text types are less frequently annotated. Recipes have not just been *marked* most frequently, but many *additions* by readers are also related to recipes. To summarise a remedy, readers write, for example, ‘for the eyes’ or ‘to stop bleeding’ or ‘against pestilence’ in the margin, repeating keywords from the printed text.⁴⁹ Sometimes they also record whether a recipe works well or not. Furthermore, readers use margins, white spaces, blank pages, and endleaves to write down additional

48 Jardine and Grafton 1990, 30–31 argue with respect to scholarly reading that it was always ‘goal-oriented’ as it ‘characteristically envisaged some other outcome of reading beyond accumulation of information.’

49 This practice is also noted by Panse 2012, 197 and 202, for copies of the *Feldtbuch* as well as Brunschwig’s *Cirurgia* (1497).

recipes or additional benefits of certain substances. In the most extensively annotated volume I examined, a copy of *Den groten herbarius* now held in Brussels (Herb-1514-Bo2b), a sixteenth-century reader copied entire chapters from the Latin *Macer floridus* in the margins, amidst numerous other notes (Fig. 5.4).⁵⁰ Such additions show how readers turned printed books into customised collections of medical knowledge. This practice underlines that recipes were widely collected and exchanged in the early modern period, both in domestic and professional settings, and both as collections and as individual units.⁵¹



Fig. 5.4. Page opening in densely annotated herbal, mostly in Latin, including chapters from *Macer floridus*, marginal keywords, underlining, primary qualities noted inside the woodcut. *Den groten herbarius* (Antwerp: Claes de Grave, 1514), fols. m1v–m2r. Brussels, KBR Royal Library of Belgium, VH 6.696 A (RP). [Herb-1514-Bo2b]

50 See below.

51 Leong 2018a on domestic use of manuscript recipe books in early modern England. Leong and Pennell 2007 approach recipes as ‘currency,’ considering how they were exchanged, how they held value, and how they required trust. Griffin 2015 points to the fluidity of recipes and recipe collections.

It is noteworthy that the annotations are rarely or never intended to clarify or specify instructions on how to prepare a recipe. Historians of knowledge have pointed out that medieval and early modern recipes call on vast bodies of implicit knowledge, for example on how to establish a diagnosis and on required quantities, tools, and methods of preparation.⁵² This is true for the recipes in the Dutch books, too, and it seems that readers did not feel a need for clarification. It is likely that they acquired such knowledge through other means than books, most notably through hands-on experience and practical instruction, whether in a domestic or a professional setting. Alternatively, quite a few readers may not have desired to know details about diagnosis or preparation, because a physician, apothecary or other professional could do that for them.

It would be interesting to conduct a systematic analysis of which recipes have been annotated, but this falls outside of the scope of the present study. Many of the annotations reveal an interest in everyday ailments such as toothache, bad or sore eyes, menstrual pains, fever, colds, and wounds.⁵³ Various readers also show a concern with ‘pestilence,’ which could refer to the plague but also to epidemic diseases more generally. Some copies reflect quite specific interests of their readers. For example, in a copy of *Den groten herbarius* (Herb-1514-Bo2a,) several annotations are related to conditions that affect the mind, including melancholy, drunkenness, and delusions, as well as to sexual lust and to warding off devils.⁵⁴ Other annotators had an interest in remedies for the eyes (Dist-1517-Lo1), nosebleeds (Herb-1538-Co1), or buzzing ears (Herb-1514-Ko7). Although such a specific focus does not preclude professional use of the book, it rather seems to point to a more personal interest of a reader in an ailment from which he/she or someone in the direct vicinity was suffering.

In only a dozen or so copies, annotations testify to an interest in the source of the knowledge presented in the text or added by a reader: some readers

52 Hagendijk 2020, esp. 154–155; Griffin 2015, 136; Fissell 2011, 421; Pennell 2004, 238–239; Eamon 1994, 131.

53 Panse 2012, 204 observes for Gersdorff’s *Feldtbuch der wundtartzney* (1517), too, that readers were mostly interested in recipes, and especially in those for common ailments. On readers’ interest in remedies for common ailments, see also Slack 1979, 263–264. In some cases, a specific remedy has been marked in multiple copies. For example, Herb-1514-Ao4 (fol. k6r) and Herb-1526-Lo1 (fol. 11r) both contain a +symbol written next to a passage that advises to chew cumin for healthy eyes, and in the same chapter on cumin, Herb-1514-Ao4 and Herb-1538-Co1 (fol. m2v) both have a marking in the passage on using cumin against *snotteringhe*.

54 Underlinings in this copy relating to mental illness include *die met fantasien beuanghen zijn* (‘those who are overcome with fantasies,’ fol. f6v) and *Manian. dat is ydelheyt van hersenen oft die sotheit van hoofde* (‘Manian, that is idleness [emptiness] of the brain or madness of the head,’ fol. g2v).

marked the names of authorities in the printed text or wrote the author's name on the title page or the endleaf at the beginning of a book.⁵⁵ A seventeenth-century reader who added a recipe in a copy of *Tscep vol wonders* held in Brussels (Tscep-1514-Bo2b) mentions that it is prescribed (*geordoneert*) by *doctor Cocxstael*. Most readers, however, do not mention a source for the recipes and other information on remedies they added to their books. The ways in which they phrase their remarks and additions as facts, echo the assertive tone of the printed texts. This leaves us to wonder: did they copy their additions from other books, did they learn about them from hearsay, or from personal experience?⁵⁶ All of these options seem possible for an annotation in *Den groten herbarius* (Herb-1514-Ho4). The printed text provides a remedy against cold and lame limbs. Between the lines, a reader has written in tiny letters: 'a bad remedy for cold and lame limbs' (*voer vercoude ende lamme leden een slechte remedie*).⁵⁷ Did he or she try out the recipe to come to this conclusion, or did it come from another source?

Such apparently evaluative comments do not necessarily reflect a reader's personal observation, as two examples may show. A reader of a copy of *Distellacien* held in Brussels (Dist-1517-Bo2) has written 'contradictions' (*Contradictien*) in the margin next to a passage that describes how wormwood water (*Alsenwatere*) can be used both as a laxative and as a remedy against diarrhoea. While this may well be one of many instances where this reader was critical of the text (see below and Appendix 2), the contradictory workings of common wormwood are also noted in the printed text of *Den groten herbarius*, for example.⁵⁸ The second example can be found in a copy of *Den groten herbarius* held in The Hague (Herb-1538-Ho4). In two places, a reader has written a

55 For example, in Herb-1514-Bo2b several authorities' names have been underlined or repeated in the margin, and occasionally the passages that a sixteenth-century annotator copied from *Macer floridus* include a source reference. In Tfund-1540-B16, several authorities' names have been underlined. The rubricator of Dist-1517-Ho4 underlined various authorities' names in red, as well as the author's name in the preface (fol. a2r); similarly, Brunschwig's name on a2r is also underlined in Dist-1517-Wo2. Authors' names have been inscribed in Rose-c1540b-Ao4b (*Eucharius Rhodion de partu hominis est autor hujus operis* on the flyleaf preceding the title page) and Hantw-1535-B16b (*Autor est Jeronimus bruijnswijck te straesburch gheboren witten gheslachte van salernen* on the title page). My findings contrast with those of Margócsy, Somos, and Joffe 2018 for Vesalius' *Fabrica* (p. 95): they found a substantial number of annotations related to bookish knowledge (outnumbering those related to personal experience), including many cross references and collations with other (mostly classical) authors, which are very rare in my corpus.

56 A rare instance of a cross reference by a reader is present in Herb-1514-Bo2a, fol. E4r: *Siet hier nae int boeck van visschen Int 87 capittel folio 118* ('See hereafter in the book of fish in the 87th chapter folio 118'). It suggests that the herbal may have been part of a composite volume, as *Den groten herbarius* does not contain a book on fish.

57 Herb-1514-Ho4, fol. x5r.

58 Herb-1514, fol. a4r: *Platearius seit dat die alsene een wonderlike natuere aen haer heeft. want si laxeert ende stopt ende die twee zijn contrarie deen den anderen.*

warning in Latin not to try and stay healthy through fruits (*Sij vis sanis esse nolijte fructijbus esse*; see Fig. 2.7 on p. 98).⁵⁹ This phrase may also have circulated more widely: it is also inscribed by an early modern reader in a medical manuscript of 1433-1434.⁶⁰ Conversely, another annotation in the *Distellacien* copy in Brussels by the same reader who noted the ‘contradiction,’ unquestionably voices this reader’s own experience (Dist-1517-Bo2). A recipe for agrimony water against a sore throat is underlined and the reader has written: ‘I have also experienced it thus’ (*Ick hebt alsoe oeck beuonden*).⁶¹ That readers rarely bother to legitimise the trustworthiness of their statements can be seen as a testimony to their practical interest: they show more concern with the application of knowledge than with its source.

Annotated recipes versus other text types

While the vast majority of annotations pertain to recipes, other types of text passages contain annotations as well. Moreover, not all annotations are related to medical information. What do the subject matter of annotations, their distribution, and their language tell us about the purposes with which readers took up medical-astrological books?

Of the texts I have examined, *Den groten herbarius* is by far the most frequently annotated, followed by *Tfundament der medicinen*, *Fasciculus medicine*, and *Distellacien*. The distribution of annotations within these volumes again testifies to the predominant interest in recipes and to reading for practical purposes. The annotations are concentrated especially in the sections with medical recipes, while the parts with information or instructions on other subjects are less frequently annotated. In *Den groten herbarius*, for example, the chapters on plants have been annotated more or less heavily in most of the copies, whereas annotations are much rarer in the additional treatises on other topics such as uroscopy and cultivating trees. In the examined copies of *Distellacien*, traces of use are virtually absent from the first book that explains how to distil and how to make distillation instruments, while annotations occur regularly in

59 Herb-1538-Ho4, fol. E1v: *Sij vis sanis esse nolijte fructijbus esse*; fol. H4r: *sanis esse nolite fructibus*.

60 University Library of Glasgow, GB 247 MS Hunter 362 (U.8.30). According to the catalogue, a leaf containing various early modern (15th–17th-century) mottos and verse texts includes the inscription *de duobus malis minus | est eligendum si vis sanus esse noli | fructibus esse* (<http://collections.gla.ac.uk/#/details/ecatalogue/296733>, accessed 23 April 2023). The manuscript’s place of origin is not stated in the catalogue.

61 Dist-1517-Bo2, fol. A3r. Another personal experience is recorded in Vrouw-1555-A91, fol. C6v, where an early modern annotator asserted the veracity of a passage that was struck through, apparently by another reader. See below.

the second book with recipes for herbal waters.⁶² In a similar vein, in copies of *Tfundament der medicinen* the sections with medicinal recipes are annotated more frequently than the sections on surgery.⁶³

Of the subjects other than recipes, one that evidently prompted readers to annotate – though less frequently than recipes – is instructions for blood-letting.⁶⁴ Unlike for recipes, these annotations are nearly always limited to markings that emphasise knowledge from the printed text (e.g. underlining, marginal keywords) but that do not enrich this knowledge with additions or comments from readers.⁶⁵ A remarkably rarely annotated subject is astrological information (e.g. about the planets and their influences). This is typically visible in copies of *Der scaepherders kalengier*: while the calendar section regularly contains all sorts of annotations, including personal additions as we will see below, readers have hardly left their traces in other parts of the work, except for incidental markings of basic elements such as the names of the months, the seasons, or keywords like 'letting blood.'

Other subjects that are hardly ever annotated in my corpus include surgery, anatomy, obstetrics, and other texts that deal with medical interventions in the body itself. This finding deviates from a number of other scholars' observations with respect to vernacular surgery and obstetrics manuals, where they did find substantial numbers of annotations.⁶⁶ To explain these differences, further comparative research of various text types from different regions is needed. A factor of influence may have been that such rather specialist knowledge was difficult to learn from a book; novice professionals were likely more focused on practical, hands-on training.⁶⁷ An annotation in a copy of *Fasciculus medicine* held in Philadelphia (Fasc-1512-P27) suggests the interest of a lay reader in knowledge of anatomy. In this copy, which mostly contains underlinings in the

62 In a copy of Brunshwig's *Small Book of Distillation* (1509) in the Bavarian State Library, Munich (Res/2 M.med. 35), the same pattern of annotation is visible: annotations abound in the part on herbal waters while the other parts hardly contain any notes. In Brunshwig's *Cirurgia* (1513) held at the Staats- und Stadtbibliothek in Augsburg (2 Med 82), too, the final part with recipes is annotated while the parts with instructions on surgical interventions are not.

63 For example Tfund-1540-B16 has underlinings throughout the volume, but especially in the parts on herbs and herbal waters (in at least two different hands) and relatively few in the surgical treatise.

64 Melanie Panse has found that this subject was relatively frequently annotated in Gersdorff's *Feldtbuch* (1517), too; Panse 2012, 199–200.

65 Marked passages on bloodletting e.g. in Fasc-1512-P27, Fasc-1512-Ho4, Tscep-1520-L79.

66 Panse 2012, 202–204 on annotations related to anatomy, surgical instruments, and internal wounds. Sherman 2008, 60–61 states that midwifery texts are 'very commonly annotated.'

67 Hagendijk 2018 provides an insightful case study on the use of handbooks in the context of 'hands-on education' in the eighteenth century. Republished in Hagendijk 2020, 167–198.

treatises on bloodletting and (female) reproductive organs, a reader has also underlined a sentence in the anatomy treatise stating that ‘Every human has 365 veins.’⁶⁸ Below this sentence, the reader has added ‘as many days in the year, so many veins does a human have in his body’ (*alsoe vele dagen int jare alsoe vele adren heeft een mensche in zijn lijff*). This seems to be a mnemonic for a lay reader rather than a note from an expert.

We should not conclude too lightly, however, that recipes were by definition a type of text that invited readers to annotate. For example, the *Roseghaert* contains not just a section on obstetrics, but also a substantial section with recipes and health prescriptions for young children, which, despite their apparent usefulness to parents, have rarely been annotated.⁶⁹ The herbal section in *Tregement der ghesontheyt* is equally rarely annotated, even though it partially contains the same kind of information as provided in *Den groten herbarius*. The extent to which recipes were annotated may thus be related to the context, to the kind of work in which they are included.

The distribution of annotations across and within texts reveals patterns that may point to different purposes of reading. Apart from the above-mentioned astrological knowledge and specialist knowledge of the body, there is another group of texts in which I have found very few annotations: texts with an entertaining character such as *Dat regiment der ghesontheyt*, *Der vrouwen nature*, *Den sack der consten*, and *Der dieren palleys*.⁷⁰ As we saw in Chapter 2, these works also have fewer structuring paratexts than many other medical-astrological titles and it is well conceivable that they were read for other than primarily medical purposes. If reading for entertainment, indeed, left relatively few traces, this means that it is difficult to assess the extent to which other texts were read for entertainment purposes as well. Hieronymus Brunschwig mentions avoiding melancholy as one of the motivations for his *Distellacien*, and, as we saw in Chapter 4, many elements of play and entertainment are present in informative and instructive works. A rare glimpse of readers’ enjoyment can

68 Fasc-1512-P27, fol. I1r.

69 The most intensively annotated copy I examined of *Roseghaert* is Rose-1530-Ao4, which includes marginal keywords and some additional recipes written by a sixteenth-century reader. It also contains a comment by a seventeenth-century owner, Johannis van der Dussen, that seems to hint at the work’s practical usefulness. He states that ‘this book was found amidst other books from which much is taken that was much used for these things’ (*Dit Boeck is gevonden onder andere Boecken daer veel wt genoemen wort dat tot deese dinge veel gebruickt werden*).

70 These observations are especially tentative as only few copies survive. Graheli 2021, 69 also notes that annotations occur less frequently in ‘entertainment literature’ than in ‘functional texts’ like almanacs and herbals. Rozanne Versendaal has found hardly any annotations in her corpus of French and Dutch joyful writs (*mandements joyeux*); Versendaal 2022. I thank her for sharing her findings with me.

be found in a copy of *Fasciculus medicine* held in Copenhagen (Fasc-1512-Ko7b). A reader – probably the surgeon Flessiers who inscribed his name in 1630 – not only noted ‘silly verses’ (*sodts verskens*) below four short verses on the four complexions, but also ‘very pleasant to read’ (*seer aerdich om te leesen*) next to a passage on genital ailments.⁷¹

Practically oriented reading is complemented not just by reading for pleasure, but in some cases also by moralising reading. Several readers inscribed moralising phrases, ranging from personal mottoes such as *Is lijden vrolijk soo Treure ic seldom*, 1639 (‘If suffering is joyful, then I rarely grieve, 1639,’ Fasc-1512-Ko7b) and *Weest Eendrachtich Doer God almachtich* (‘Be united through God almighty,’ Fasc-1512-P27) to biblical or classical quotes.⁷² Like the printed texts, as we saw in Chapter 2, readers inserted expressions of a religious worldview to a limited extent, to provide a framework of interpretation especially at the beginning of a text. Moralising phrases were sometimes evoked specifically by images, as will be discussed below.

Two subjects in particular evoked responses of fascination and enjoyment as well as of reproach or even censorship: sex and magic. Such responses can be found both in texts and in images.⁷³ The annotations related to sexuality thus reflect the ambiguous attitudes – both playful and moralising – on which the images played.⁷⁴ In the copy of *Fasciculus medicine* held in Philadelphia (Fasc-1512-P27) most underlined passages are found in the treatise on the female genitals, and a reader of *Distellacien* (Dist-1517-Wo2) has added a recipe for keeping devils out of one’s house. In a copy of *Den groten herbarius* (Herb-1514-Bo2a) several recipes related to devils, reproduction, and lust have been marked or crossed out, sometimes both. The fiercest criticism I have come across is voiced in the Brussels copy of Dist-1517-Bo2. It is clearly religiously motivated in this case. Various recipes for warding off devils or obtaining magical effects have been

71 Fasc-1512-Ko7b, fols. a4v and e1r.

72 A master Philippus Trock inscribed the motto *Is lijden vrolijk soo treure ic seldom* three times on the blank endpaper at the end of Fasc-1512-Ko7b, once with the date 1639. Other moralising notes are present in Herb-1514-Ko7 (fol. i5r: *LX sijn tijt | Die ver[hogen? heugen?] doet mijn lijden*), Chyro-1536-B16: (title page: *Si ho[mo] potest intelligere diuina: potest et facere*, a quote from Lactantius, *Divinae Institutiones*, 7, 2), Herb-1532-B16 (a quote from Ecclesiasticus 38:9-15 on fol. a1r, exhorting to pray in case of illness and to acknowledge the physician’s healing powers granted by God). It is not clear whether the annotation in Herb-1538-Ho4, ‘if you want to be healthy, do not try and attain it through fruits’ (*si vis sanis esse nolite fructibus*; fols. E1v and H4r), echoes a general caution against fruits which is also expressed for example in *Tregement der ghesontheyt* (e.g. fol. g6r: *Ende de ghene die ghesont blyuen wylt en sal ghemeynlijck niet veel fruyten noch wermoesen eten*), or whether the reader meant it as an exhortation to pray rather than focus on all kinds of worldly goods to stay healthy. I thank Els Rose for her advice on the translation and interpretation of this note.

73 The images will be discussed below.

74 See Chapter 4.

struck through and marked as lies and nonsense (*quenicum*).⁷⁵ Some (though not all) words or phrases related to sex have also been censored. In the index, the reader has crossed out and even blackened several recipes for warding off devils, too, writing in the margin: ‘If you want to repel the devil you must amend your sinful life,’ and: ‘The devil cannot be repelled through the force of any herb’ (Fig. 5.5).⁷⁶ Such annotations indicate that reading experiences were also shaped by religious or moral attitudes, even though the medical books contain few explicit references to a religious or moral context.⁷⁷ At the same time, despite his or her religiously motivated criticism, the reader was still clearly engaged in practically oriented reading, as testified by other annotations in this copy such as keywords. Apparently the reader expurgated the book precisely in order to still be able to use it in practice.

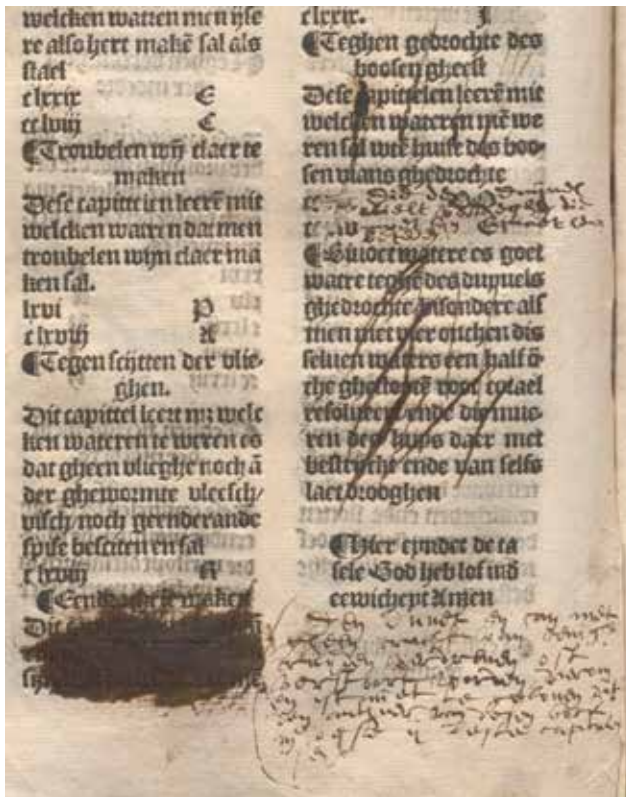


Fig. 5.5. Fierce response from a reader on recipes for warding off devils.

Die distellacien ende virtuyten der waten (Brussels: Thomas van der Noot, 1517), fol. h6v. Brussels, KBR Royal Library of Belgium, II 10.773 A (RP). [Dist-1517-Bo2]

75 Dist-1517-Bo2, fols. K4v, L1v, M3v.

76 Dist-1517-Bo2, fol. h6v.

77 See Chapter 2.

In a few instances, readers' additions testify to a type of goal-oriented use that was not necessarily related to the books' medical content: they sometimes used their books as personal archives. Various studies have shown that especially books concerned with the passing of time (such as almanacs) or with salvation history (such as bibles and chronicles) were frequently used to add details from readers' personal histories.⁷⁸ Indeed, an early sixteenth-century reader of *Der scaepherders kalengier* (Scaep-1511-P01) added the dates of birth of his/her children in the calendar section – and was actually mistaken about the date of one of them, judging from the correction (s)he made.⁷⁹ All of the birth years that this reader mentions are earlier than the book's year of publication, which indicates that the reader added the dates in retrospect and thus actively and deliberately turned the book into a personal record, rather than documenting events as they happened.⁸⁰

While there is a logic to adding personally relevant events to a calendar, there are also instances where there seems to be no link at all between the printed text and the annotations or additions. We can only guess why a member of the Frisian Haerda family recorded detailed genealogical entries on the flyleaf of a surgery handbook (Hantw-1535-A04), why a reader of *Fasciculus medicine* around 1700 used the endleaf to draw up a book list (Fasc-1512-K07), why a reader used a herbal to record how much money he lent to a Pieter Dalbert (Herb-1526-N53), or why a collection of seventeenth-century letters was kept in a herbal (Herb-1533-B16).⁸¹ For whatever practical or ad hoc reason such non-related information may have been added to a printed medical book – the scarcity and expense of paper being a likely reason – these personal notes suggest that the owners kept the book readily at hand, rather than tucked away in a cabinet or an attic. Non-medical additions not only testify to, but could indeed contribute to the authority and significance of the volume as a personally assembled and approved collection of knowledge.

The practical, medical focus of many readers (whether or not complemented by other modes or purposes of reading) becomes apparent not only from the

78 Hoff 2021 and 2022 on sixteenth-century Dutch bibles; Sherman 2008, 15–16, 76–77 on English bibles. Salman 1999, 167–171 on Dutch almanacs.

79 The birth of a child in 1501 (named Hennen) is noted first on fol. a5v, the page for February, where it is crossed out, and then inscribed again on fol. a6r for March.

80 Scaep-c1514-G03 and Scaep-1539-A04 do record events that happened after publication, including the death of a certain Bagutta in 1532 (Scaep-c1514-G03) and the Siege of Leuven by Maarten van Rossum in 1542 (Scaep-1539-A04). Renske Hoff also found an annotation documenting the Siege of Leuven in a contemporary Dutch bible, Hoff 2021, 22. I thank her for sharing her findings with me.

81 On the Haerda family notes in Hantw-1535-A04: Visser 1970. The book list in Fasc-1512-K07 is written upside down. It contains twelve Dutch titles from the (late) seventeenth century.

distribution of annotations but also from the combinations of texts joined together in a single volume.⁸² This type of evidence needs to be interpreted with care, as it is often uncertain at what point in time different works ended up in the same volume. In various cases, however, we see a single annotating hand across a volume and we can therefore safely assume an early modern composition.⁸³ In nearly all cases in the corpus where texts are joined, all of the texts are medical or astrological in nature.⁸⁴ The owners of the volumes thus combined practical works on related subjects.

In addition to the subject matter and the distribution of annotations, the languages in which readers wrote also reveal something of these readers' backgrounds and interests. By far the majority of annotations are in Dutch, the language of the printed texts. More than fifty copies have Dutch annotations. Annotations in Latin also occur regularly, though markedly less frequently: in some two dozen copies in total.⁸⁵ Some readers apparently switched effortlessly between both, even combining them in a single annotation like *contra febres ende quade mage* (against fever and a bad stomach; Herb-1514-Ho4) or *fruit natus mijn dochtere* (my daughter was born; Scaep-c1514-Go3). Other languages are used occasionally: a handful of copies have notes in German or English, while I encountered single instances of French and probably Danish and Italian (in hands that were difficult to decipher).⁸⁶ In herbal texts (e.g. *Den groten herbarius* and the second and third books of *Distellacien*) we frequently encounter vernacular readers who were familiar with, and active users of, plant names in Latin. In the alphabetical index of the *Distellacien* copy held in Washington, D.C. (Dist-1517-Wo2), an annotator (or annotators?) wrote Latin translations behind a multitude of printed Dutch plant names (Fig. 5.6). This reader was apparently familiar enough with the Dutch names to be able to find a plant there, but presumably for clarity or certainty (s)he preferred to have its Latin translation at hand.⁸⁷ Overall, the predominance of annotations in Dutch and, to a lesser

82 On the practice of compiling and the importance of compilations as a source for early modern reading practices, see Knight 2013 and the project 'Sammelband 15–16' (<https://sammelband.hypotheses.org>, accessed 23 April 2023).

83 This is clearly the case, for example, in the composite volume containing Chyro-1536-B16, Herb-1532-B16 and Hantw-1535-B16; the volume that includes Fasc-1512-P27; and the volume with Trege-1514-Lo4 and Tscep-1514-Lo4.

84 The most notable exception is the volume from Matthew Parker's collection that includes Tscep-1514-C75 combined with two theological texts, one printed and one in manuscript. See Appendix 2.

85 In this count I have considered the common phrases *nota* and *nota bene* as Latin annotations.

86 On the annotation in English on the title page of Tscep-1514-C75, see Van Leerdam 2017.

87 In various copies, readers have added Latin names as separate entries in the printed indexes (e.g. in Herb-1514-Bo2a, Dist-1517-Bo2, Dist-1517-Wo2). Apparently, these readers wanted to be able to search a plant by its Latin name.

Wilt addre watre ca. iij
 Woetel watre van lisch my blan
 bloemen ca. xx
 Waterhers watre *napusidm* ca. rrii
 Witte beer watre ca. lriij
 Witte campernoellen watre ca. lxxvij *fringub*
 Wit van hoe ader eper watre ca. lxxvij
 Walwoetel watre *rosalida* ca. c iij *maoz*
 Watre van dwatre dat inde carden staet
 ca. c rliij
 Witte steenbrech watre ca. c xc
 Wilde appels of hout appel watre ca. c iij
 Wijn gaert sap watre ca. c rri
 Wijn gaert soof watre ca. c rri
 Wilde rosen watre ca. c rriij
 Witte rosen watre ca. c rriij
 Wilde claueren watre ca. c rriij
 Walwoetel watre ca. c lxxvi
 Wilghen loof watre ca. c lxxvij
 Wilghen bloemen watre ca. c lxxvij
 Winterlinck watre ca. c lxxij
 Wevghenden watre ca. c lxx
 Wevghenden bloemen watre ca. c lxxij
 Wulscrupe watre ca. c lxxij *verbasen*
 Wechbreer watre ca. c lxxij *roden rinde*
 Wilde sauten watre ca. c lxxvij *salun ayas*
 Wintergroen watre ca. c lxxvij *pisela*
 Wilde perē of houtperē watre ca. c lxxij *pinn ag*
 Wile scarley watre *gallicus* ca. c xc
 Wolfs melck crupe watre ca. c rri *Julia*
 Witte lichen watre ca. c rri *Elon*
 Witte lichen woetel watre ca. c rri *alpe dops*
 Witte liche loof en woetel watre ca. c rriij *frucht*
 Walmeester crupe watre ca. c rriij *melon yfelen*
 Wilt soffen watre *ca. c rriij* *botulin*
 Wilt zedow aere woetel watre ca. c c
 Euen watre ca. c rriij *si drea*
Ple crupe watre ca. c rriij *si drea*
 Plop watre ca. c rriij *si drea*
Zeprenpe watre ca. c rriij *si drea*
 Zeebloemen watre ca. c l



Fig. 5.6. Latin names of substances added by hand to the Dutch index; the only coloured woodcut in the volume.
Die distellacien ende virtuyten der wateren (Brussels: Thomas van der Noot, 1517), fol. a4v.
 Washington, D.C., Library of Congress, Rosenwald 1139. [Dist-1517-Wo2]

extent, Latin, indicates that the Dutch medical-astrological books were mostly read by people who preferred to read as well as write in the vernacular (probably their mother tongue), but that ‘learned’ readers – explicitly mentioned as one of the target audiences in the preface of *Den groten herbarius* – also made use of these books.

A practical interest in these books continued for a long time after they had been printed. Even though many annotations are difficult to date with precision, a substantial number of hands must have been active in the later sixteenth and seventeenth centuries, judging from the letter shapes and in some cases from the match with a dated owner’s mark. Annotations such as marginal keywords and added recipes indicate that the books from the first half of the sixteenth century, and especially the herbals, continued to be used out of practical rather than antiquarian interests when they were already several decades or even more than a century old. A similar finding has also been observed for English and German medical books.⁸⁸

Selective reading and the customisation of structuring aids

Most marks and annotations appear intended to be retrieved at a later point in time – either by the same reader, or by someone else, or both. Books, then, were clearly meant to be reread. Reading and re-reading did not necessarily have to be from the first to the last page, though. Chapter 2 has shown that the layout of medical-astrological books commonly anticipated selective reading, offering all kinds of navigational aids, while the printed texts also alluded to continuous reading. What do readers’ traces tell us about their reading strategies? How did they navigate the pages? Material characteristics of their marks point to practices of both selective and continuous reading. These early modern traces are revealing of how readers used printed structuring aids for selective reading and how they expanded or modified these devices to suit their personal needs.

Indication of selective reading is sometimes found in the distribution of annotations across a volume. As we saw, the distribution may be related to the subject matter and in some cases even to an interest in a very specific ailment, but there are also quite a few copies where annotations are mostly present at the beginning of the volume, sometimes again surging towards the end.⁸⁹ The

88 Griffin 2019, xx, citing Glaisyer 2011, 514; Rautenberg 2018, 59; Fissell 2011, 429; Marttila 2011, 138.

89 E.g. Herb-1514-Ho4 (most densely annotated in the first few quires), Herb-1532-Wo2 (annotated throughout in different hands, but one of them is remarkably absent in the middle part of the volume), Herb-1547-A17o (fewer annotations towards the end). A similar uneven pattern of distribution across a volume is also observed by Margócsy,

quires in the middle are not just less heavily annotated but the paper is also stiffer and cleaner, suggesting that they were, indeed, used less intensively. Apparently, some readers started out enthusiastically (intent on reading the volume from cover to cover?) but did not keep up their interest and perhaps skipped to the final quires. In several instances, annotations have offset on the opposite page. This provides a material testimony of how a single reading session might have proceeded. In a copy of *Den groten herbarius* held in The Hague (Herb-1514-Ho4), for example, the two keywords written on the page opening b6v-c1r (*watersucht* on fol. b6v and *purgeert* at the top of fol. c1r) both have offset on the opposite page (Fig. 5.7). The positioning of the annotations – on the left page and at the top of the right page – suggests that they were not made during a reading of the entire text: the page was turned (or the book closed) directly after they had been written, before the ink had dried and before the reader would have had time to read the rest of the text on the right page.⁹⁰

At the same time, certain traces point to continuous reading. For example, the reader of the Brussels copy of *Distellacien* (Dist-1517-Bo2) who noted his/her personal experience with a recipe of agrimony water against a sore throat (*Ick hebt alsoe oeck beuonden*; see above) scribbled in tiny letters between the printed lines of text. This way of commenting will hardly have been useful to mark or retrieve the recipe, but would instead be encountered only on attentively (re-)reading the printed text. Moreover, in a substantial number of copies, the annotations are distributed relatively evenly across the volume (though, of course, not necessarily on all pages or in all chapters). These instances suggest that readers worked their way through the entire book, although this need not have happened in the order from cover to cover.

The ways in which many readers have customised structuring aids testify to selective reading as the predominant reading strategy and, again, to predominantly practical interests in remedies. That readers used printed search tools such as indexes – sometimes heavily indeed – is indicated by textual as well as non-textual traces of use. In quite a few copies, the first and/or last quires, which are often the ones containing tables of contents and indexes, are dirtier or more damaged than the rest of the book (frayed edges, paper restorations), and in several cases these first or last leaves are lacking altogether.⁹¹ Such non-textual

Somos, and Joffe 2018, 61 and Pearson 2007, 27. Margócsy, Somos, and Joffe suggest with respect to Vesalius' *Fabrica* that readers may have realised 'that linear reading did not work for this atlas of anatomy.'

90 Further examples of annotations that have offset on the opposite page: Herb-1538-Ho4, *nota* written four times in the margin of fol. d1v, offset (especially the lower one) on d2r; Herb-1533-B16, fols. n5v-n6r and n6v-o1r contain offsets from the handwritten chapter numbers.

denardus Capit. xix.

Akaru grece Nema arabice. bac
kara vel nardus agrestis latine
Die meester galienus indē boec sim-
plicium farmacia. Indē capittel azarū
leert ons dat wilde nardus heet en dō-
ghe is inden derden graet. **S**palsoti
des inden capittel azarum seyr dat die
cruyt ghelijc is der onderhaue ghehee-
ren edera terrestreis en heeft ronde blav-
deren met witte bloemē daer ane seere
bider wortelen. die bloemen sijn ghelijc
den bloemē van bils cruyt *Jusquiam?*
ghenaemt ende oec dat saet. **D**ie wor-
tele heeft eenen goeden root en is van
heeter naturen. **M**uicenna ende **G**a-
lienus segghē dat die wortele crachtich
is en niet dat cruyt oft saet. **M**uicēna.
haselwortele beneemt alle pine vā bin-
nen des lijfs en ghedroncken d'warme
van binnen alle die verroude leden.
Men haselworrel is goet teghen d'pe
watersucht als hier bekreuen staet.
Neemt haselwortele een loot. most oft
niewen wijn als hi versch wt den hel-
der coem eenē heelen pot. ende laet dat
staen. ij. maent onder een. daer na doet
den wijn af ende drincke dat smorgens
ende des auones **D**atis seer goet **P**ro-
picias en **P**tericis dat is dē watersuchti-
ghen ende den gheelsuchtighen. **E**n
verdrijft oec also ingenomen die coude
coetfen dat is quarteynen. **E**nde doet
wel pissen ende sterct die blase ende oec
die lenden. **E**nde purgeert oft reynicht
ghelijc eleborus albus dat is wit wief
cruyt mer niet so seere. **D**ie meester
Johānes mesic leert ons dat haselwor-
tele goet is en beter gemengt met heef-
wey oft honichwater **E**n datse dā pur-

geert alleynkens alle dat lijf also ghe-
nomen **H**asel worrel aldus ghemē-
ghet verdrijft oec oueruloedige stumic-
heyt **E**nde neemt met hem die oude coet-
fen **O**lie van hasel wortele ghemaeet
den rug knoop daer mede bestreken do-
gher wel sweeten. en heeler oec die ghe-
querste leden en doet wel pissen **S**er-
a pio seyr dat hasel wortele met most ghe-
soden. goet is ghedroncken den water-
suchtighen ende beneemt so oec die gheel-
suchte **M**en een ogghen wāter ghema-
ket **C**ollirium gheuoemt van haselwor-
tel ende thussen beneemt die roode ogē
ende maect daer ghesichte **P**linius
seit haselworrel ghedroncken is goet dē
vrouwen want si brenghet weder men-
struum ende doet den vrouwen daer af
wel pissen **D**andetta seget dat hasel
worrel also crachtich is als gheel leuen
gheheeten **A**corus. **D**aer omme heuet
macht te openen d'pe verstoppeyt der
leueren en der milten ghenaemt. **o**pila-
tio. **s**plenis et epatis **M**en haselwor-
tel hertstongen en senebladerē in wijn
ghesoden sijn goet teghen d'pe coetfen.
ghenoemt quartana.



Fig. 5.7. Two annotations (keywords) that have offset on the opposite page.
Den groten herbarius (Antwerp: Claes de Grave, 1514), fols. b6v–c1r.
The Hague, KB, National Library of the Netherlands, KW 227 A 12. [Herb-1514-Ho4]

traces suggest that some readers had literally used up the outer parts before the volumes received their present bindings.⁹²

As discussed in Chapter 2, indexes did not have a standardised form but could be organised and designed in various ways. Annotations in indexes also reflect a search for effective ways of organising knowledge.⁹³ These annotations are often intended to retrieve remedies more easily. For example, names of substances have been inscribed and errors in chapter numbers have been corrected. In a 1547 copy of *Den groten herbarius* (Herb-1547-Go3) an early owner, annotating in 1560, has substantially modified and expanded the printed topical index of ailments to make it easier to use. All ailments have been numbered by hand, from 1 to 291. On a blank leaf added at the end of the book, the annotator has created a more concise, handwritten alphabetical index of ailments with references to the handwritten numbers (Fig. 5.8). Apparently, and quite understandably, this reader found the printed index so disorderly that (s)he needed an index to the index.⁹⁴ The reader explains the advantage of the handwritten index in the introductory lines:

The index by paragraph printed before [is here] laid out by certain numbers, that is from 1 to 291, in order to find the remedies for diseases more easily by a.b.c.⁹⁵

The advantage of the handwritten index over the printed one is visible for example in an entry under D: 'Dispelling dreams, numbers 198 et 262 et 269' (*Dromen verdriuen numero 198 et 262 et 269*).⁹⁶ The annotator brings together related subjects that are placed wide apart in the printed index. The handwritten index thus facilitates searching by remedy.

Another now-indispensable structuring aid, printed folio or page numbers, is still relatively rare in the early sixteenth-century books, but some

92 On the historical importance of dirt, damages, and other unintentional traces of use: Walsby 2019; Hansen 2019.

93 On readers' modifications and additions to indexes, see also Margócsy, Somos, and Joffe 2018, 117–119; Panse 2012, 198; Sherman 2008, 9; Blair 2003, 17–19.

94 The printed index of ailments seems to combine multiple organisation principles, starting off with a head-to-feet order but switching halfway to more diverse topical headings (including a cluster of blood-related ailments, women's ailments, surgery).

95 Herb-1547-Go3, blank leaf at the end: *Den Register hier vorens gedruet bij paragraphus vuyt geteekent bij zeekeren getaele te weeten van i tot 291 toe om bij a.b.c die curatien der cranckheijden beter te vinden.*

96 The numbers refer to the following entries in the printed text: 198 = *Wat dye sware dromen verdrijft*, 262 = *Voor de cranckheit die Incubus genaemt is. Ende dese is als yemant also in sinen slaep gedruet wort dat hi noch spreken noch geroepen en can*, 269 = *Als yemant in sinen slaep spreket.*

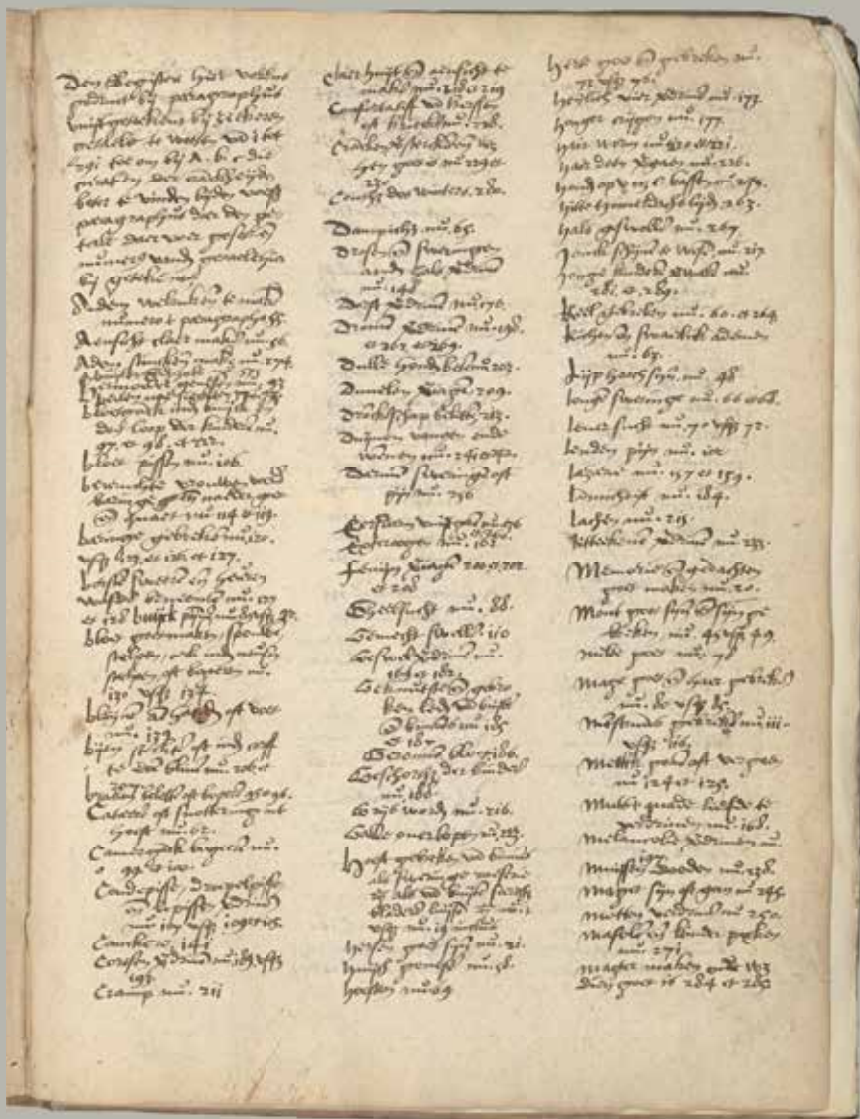


Fig. 5.8. First page of a handwritten index. *Den groten herbarius* (Antwerp: Symon Cock, 1547), recto of the first handwritten leaf after the printed text. Ghent, University Library, BIB.ACC.003404. [Herb-1547-G03]

early modern readers numbered the leaves by hand.⁹⁷ It is difficult to establish how common this type of addition was, as folio numbers may have been lost because of trimmed margins. In a copy of *Tscep vol wonders* held in Ghent (Tscep-1520-Go3), only a few pages still display partially cut-off numbers. In the *Hantwerck* copies in Amsterdam and Washington, D.C. (Hantw-1535-Ao4 and Hantw-1535-Wo2), the handwritten folio numberings start with 141 and 85, respectively, on the title page, suggesting that these books were at some point part of larger volumes. The handwritten folio numbering in a copy of *Den groten herbarius* held in New York (Herb-1547-N53) continues on eight added leaves with handwritten recipes at the end of the volume; these leaves must therefore have been bound with the herbal at an early date.

The clearest case where folio numbers were added as a primary navigational aid is the copy of *Tfundament der medicinen* in Washington, D.C. (Tfund-1540-Wo2), the copy that was meant to be used in the infirmary of the Poor Clares in Brussels.⁹⁸ The sisters numbered all leaves by hand in Roman numerals, and in the printed table of contents the same hand wrote the relevant folio numbers next to the printed entries. They also attached eye-catching and, indeed, tactile parchment tabs to the side of the paper to mark the start of a new section (see Fig. 5.17).⁹⁹ The folio number is written on both sides of each tab, thus facilitating navigation back and forth through the book. Although all numbers – both in the table of contents, on the folios, and on the tabs – are written very neatly, this great care did not prevent quite some mistakes. On several pages, the annotator apparently became confused over the Roman numerals: errors are struck through and corrected in the same neat hand. My general impression is that most readers still adhered to the medieval practice of navigating with chapter numbers rather than folio numbers. Chapter numbers are referred to in indexes (sometimes in print, sometimes added by readers), and errors in the printed numbers have been corrected in various cases by readers, both in indexes and in chapter titles in the main text.¹⁰⁰

The tables in *Der scaepherders kalengier* were elements that seemed to call for structuring interventions in particular. Various readers added lines or dots to separate the rows and columns more clearly, for example in the table that

97 Herb-1532-Wo2 has manually added page numbers rather than folio numbers, but perhaps this hand is from a somewhat later date. See further Appendix 4 and see Chapter 2 on printed folio numbers.

98 This case is also described in Van Leerdam 2023b.

99 On parchment tabs as navigational aids, see Sawyer 2016.

100 See Appendix 4. An annotator of Herb-1533-B16 has added chapter numbers in Arabic numerals throughout the volume, to complement the printed Roman chapter numbers. Like the annotator of Tfund-1540-Wo2, this reader seems to have had difficulties with Roman numerals, regularly correcting mistakes in the written Arabic numerals.

indicates for each day in what zodiac sign the Moon is, and in the one that indicates which planet rules which hour of the day (Fig. 5.9).¹⁰¹ Apparently, to these readers the rather cramped layout of the tables hampered their practical use. Printers of later editions (e.g. 1539, 1546, 1576) seem to have acknowledged this issue: although these later editions are smaller in size than the early ones, in octavo rather than quarto, various tables were designed more spaciouly, with a clearer layout. By positioning them transversely, the printers made use of the longest side of the page to place the columns with some distance in between.

A final structuring device to be discussed here for the insights it provides into selective and pragmatic reading is rubrication. Common in medieval manuscript culture, this practice continued in the early decades of print and gradually fell into disuse during the first half of the sixteenth century.¹⁰² The term, deriving from *rubricare* (to colour red), refers to the marking in red of titles, headings, paragraph signs, chapter numbers, capitals, and other structuring elements.¹⁰³ In my corpus around a dozen of copies are rubricated and significantly, in most of these cases this was probably done by readers themselves.¹⁰⁴ Some of the copies contain other annotations in red as well, suggesting that the rubricator was indeed the owner of the book (see Fig. 5.22).¹⁰⁵ Moreover, the underlinings in red in these and several other copies are done in a rather messy way: the lines are not straight, the pen has slipped regularly, and sometimes the ink ran out midway during a line. This is the case, for example, in the Leiden volume that contains *Tregement der ghesontheyt* and *Tscep vol wonders* (Trege-1514-Lo4 and Tscep-1514-Lo4). The similarities in the way they have been rubricated indeed point to the hand of a single reader rather than a professional rubricator.¹⁰⁶ Both works, then, must have been joined already early on in the sixteenth century, when rubrication was still a common practice.

101 Scaep-1511-Po1 fol. c1v; Scaep-c1514-Go3 fol. J2v (the lines have offset on J3r); Scaep-1516-Wo2 fols. d1v, i2v.

102 Smith 1990, 133.

103 Sometimes blue was used for rubrication as well. LexMA-O, 'Rubrikator'; Smith 1990.

104 See Appendix 4. Smith 1990, 137 also notes that some rubricators of incunabula 'may not have been professionals.' Aronson 2019 considers the 'reader-rubricator' as 'a type not often found.' However, this practice may have been more common than has been assumed until now.

105 The rubricators of Herb-1514-Ao4, Dist-1517-Ho4 and the composite volume with Chyro-1536-B16, Herb-1532-B16 and Hantw-1535-B16b added *nota* or manicules in red ink in the margins on several pages. See also below on 'rubrication' in images, likely also done by readers. Smith 1990, 133–134 considers marginal notes as one of the 'somewhat rarer' elements that rubricators could apply.

106 Throughout both texts, all capitals are rubricated with a small vertical red stripe, while chapter titles as well as quire signatures are underlined. These red lines are drawn free-hand, not very straight, often becoming thinner and lighter towards the end of the line. For another case where two copies (Trege-1514-Bo5 and Dist-1517-Ho4) seem to have been owned and rubricated by the same person, see below.

Dat gulde

ghetal	i	ii	iii	iiii	v	vi	vii	viii	ix	x	xi	xii								
Dries	.y	.n	.e	.v	.i	.p	.f	.h	.z	.p	.e	.u	.m	.a	.s	.i	.v	.q	.f	
Dries	.z	.o	.d	.u	.m	.a	.s	.i	.v	.q	.f	.x	.n	.b	.t	.k	.p	.r	.g	
Dries	.v	.p	.e	.r	.n	.b	.t	.k	.p	.r	.g	.p	.o	.e	.v	.l	.a	.f	.h	
Thaurus	.p	.q	.f	.y	.o	.e	.o	.l	.a	.f	.h	.z	.p	.d	.u	.m	.b	.s	.i	
Thaurus	.a	.r	.g	.z	.p	.d	.u	.m	.b	.s	.i	.v	.q	.e	.r	.n	.e	.t	.h	
Gemini	.h	.f	.h	.v	.q	.e	.x	.n	.c	.t	.h	.z	.e	.f	.y	.o	.d	.v	.l	
Gemini	.c	.o	.i	.p	.e	.r	.f	.p	.o	.d	.v	.l	.a	.f	.g	.z	.p	.e	.u	.m
Cancer	.d	.t	.h	.a	.f	.g	.z	.p	.e	.u	.m	.b	.s	.h	.v	.q	.f	.x	.n	
Cancer	.e	.v	.l	.b	.s	.h	.v	.q	.f	.x	.n	.c	.t	.i	.p	.r	.g	.p	.o	
Leo	.f	.u	.m	.c	.t	.i	.p	.r	.g	.p	.o	.d	.v	.h	.a	.f	.h	.z	.p	
Leo	.g	.x	.n	.d	.v	.h	.a	.f	.h	.z	.p	.e	.u	.l	.b	.s	.i	.v	.q	
Leo	.h	.p	.o	.e	.u	.l	.b	.s	.i	.v	.q	.f	.x	.m	.c	.t	.h	.p	.r	
Virgo	.i	.z	.p	.f	.x	.m	.c	.t	.h	.p	.r	.g	.p	.n	.d	.v	.l	.a	.f	
Virgo	.h	.v	.q	.g	.p	.n	.d	.v	.l	.a	.f	.h	.z	.o	.e	.r	.m	.b	.s	
Libra	.l	.p	.e	.r	.h	.z	.o	.e	.x	.m	.b	.s	.i	.v	.p	.f	.p	.n	.c	.t
Libra	.m	.a	.f	.i	.v	.p	.f	.p	.n	.c	.t	.h	.z	.q	.g	.p	.o	.d	.v	
Scorpio	.n	.b	.s	.k	.p	.q	.g	.p	.o	.d	.v	.l	.a	.t	.h	.z	.p	.e	.u	
Scorpio	.o	.e	.t	.l	.a	.r	.h	.z	.p	.e	.u	.m	.b	.f	.i	.v	.q	.f	.x	
Sagittari	.p	.d	.v	.m	.b	.f	.i	.v	.q	.f	.x	.n	.c	.s	.h	.p	.r	.g	.p	
Sagittari	.q	.e	.u	.n	.e	.s	.h	.p	.e	.g	.p	.o	.d	.t	.l	.a	.f	.h	.z	
Sagittari	.r	.f	.x	.o	.d	.t	.l	.a	.f	.h	.z	.p	.e	.b	.m	.b	.s	.i	.v	
Capcornis	.f	.g	.p	.p	.e	.u	.m	.b	.s	.i	.v	.q	.f	.u	.n	.c	.t	.h	.p	
Capcornis	.s	.h	.z	.q	.f	.u	.n	.c	.t	.h	.p	.r	.g	.x	.o	.d	.v	.l	.a	
Aquarius	.t	.i	.v	.e	.g	.x	.o	.d	.v	.l	.a	.f	.h	.z	.p	.e	.u	.m	.b	
Aquarius	.v	.h	.p	.f	.h	.p	.p	.e	.u	.m	.b	.s	.i	.z	.q	.f	.x	.n	.c	
Pisces	.u	.l	.a	.s	.i	.z	.q	.f	.x	.n	.c	.t	.h	.z	.p	.e	.u	.m	.b	
Pisces	.x	.m	.b	.t	.h	.z	.p	.e	.u	.m	.b	.s	.i	.p	.f	.h	.z	.p	.e	
Pisces	.y	.n	.e	.v	.l	.p	.f	.h	.z	.p	.e	.u	.m	.a	.z	.q	.f	.x	.n	

Wetēn in wat tecken dat die mane is soe
 besiet indē kalengier wat letter dat opt eynde
 vandē reghel staet vandē daghe die ghi weē wilt. Dā
 soect in dese voergaēde tafel die selue letter in dē regel
 die recht neder daelt onder dat gulde ghetal vandē re-
 genwoerdigen tare. En die mane is in da: tecken dat
 ter sidē ghenoeit staet recht teghē die voerstreue lee-
 tere die ghi in die tafel gheuondē hebt.

Fig. 5.9. Table to know in what zodiac sign the Moon is, with structuring dots added by the rubricator.
 Der scaepherders Kalengier (Antwerp: Willem Vorsterman, 1516), fol. div.
 Washington, D.C., Library of Congress, Rosenwald 1137. [Scaep-1516-Wo2]

These instances illustrate the complex position that rubrication takes up in a book's life cycle, as it can be considered both part of production and reception. While professional rubricators commonly worked on a book either before it was sold or at the request of an owner, the examples discussed here show that various owners took up the red ink themselves.¹⁰⁷ Rubrication may have been added not just for practical structuring, but possibly also for lending the book a certain authoritative appearance, alluding to a long tradition of knowledge by drawing on manuscript conventions.¹⁰⁸ However, when the rubricator in the same copy has written *nota* next to an instruction for making juniper oil against gout, a very practical interest comes to the fore as well.¹⁰⁹

5.4 | Looking at images

In search of an answer to the main question of this chapter – how did early modern readers use illustrated medical-astrological books? – let us now take a closer look at how they customised their books through engagement with the images. Grasping these practices is especially challenging because only a relatively small part of all images under consideration bear witness to any interventions by readers. However, the extant traces suggest that readers' eyes were sometimes caught by quite different visual elements than we might expect. In the medical-astrological books I studied, the annotated and modified images offer insight into a variety of approaches that testify to practical interests as well as entertainment and adornment.

Readers' interactions with images manifest themselves both textually and pictorially. These traces of use frequently do not stand on their own but are part of clusters that also include interactions with the printed text. In the following analysis, I distinguish between reader responses focused on the medical-astrological content and responses that testify to other, non-medical interests. Next, an analysis of hand-colouring, as an eye-catching means of customising a book, reveals how epistemic purposes such as understanding and identifying converge with other functions like conveying status or authority. A case study of coloured, identical woodcuts in *Den groten herbarius* demonstrates how visual repetition incited readers/colourists to play with meanings of similarity and

¹⁰⁷ It is often assumed that professional rubrication was applied before binding, in the binder's rather than the printer's workshop; Smith 1990, 140; Kronenberg 1917.

¹⁰⁸ This seems to be the case in Scaep-1516-W02, where the rubricator has added decorative red zigzag lines and dotted patterns to fill up partially empty text lines, a practice that can also be found in manuscripts.

¹⁰⁹ Herb-1514-A04, fol. s2v.

difference. Instances of 'rubricated' images (with details accentuated in red) provide further insight into early modern viewers' eye for detail.

Engagement with images testifying to medical interests

Various traces of use in the woodcuts pertain to the medical-astrological subject matter of a book, or, indeed, specifically of an image. These traces, often related to images with predominantly analytical features, provide an impression of the ways in which images functioned in practice as knowledge tools. One of the most pervasive of such traces is found in the herbals: various readers write down the name of a plant in or near the woodcut of that plant.¹¹⁰ The printed chapter titles of *Den groten herbarius* provide the names in Dutch, with the Latin, Greek, and Arabic names immediately following. Readers repeat the Dutch or Latin name, or they add a locally used alternative. They commonly use either the chapter title or the woodcut at the beginning of the chapter to visually anchor the added name, in several cases even writing inside a woodcut's framing border.¹¹¹ An annotator of a herbal kept in Bethesda, MD (Herb-1532-B16) used chapter titles as well as woodcuts, sometimes both in the same chapter. In Chapter 209 on millet grass (called *milie oft hirs* in the printed text), the word *Heers* was written (apparently by a single annotator) both inside the woodcut and behind the chapter title.¹¹² The woodcut for Chapter 176 on fumitory not only has two written names inside its framing border (*Aerdt roeck* and *catten keruel*) but the same hand also wrote immediately below the woodcut 'some say dove chervil' (*Duuen keruel seggen den summige*) (Fig. 5.10).¹¹³ In the densely annotated copy held in Brussels (Herb-1514-Bo2b), an early annotator from the first half of the sixteenth century used the woodcuts to write down information on the qualities of several plants (hot/cold, moist/dry) inside their images (see Fig. 5.4, 5.31).¹¹⁴

110 I have also discussed this practice – including several of the examples presented here – in Van Leerdam 2021, 375–378. Providing synonyms for a single plant species, both in Latin and vernaculars, was a widespread practice in the pre-Linnean era due to the lack of consistent nomenclature; Egmond 2012; Pavord 2005.

111 For example in Herb-1514-Bo2b, the chapter on ivory is illustrated with a woodcut of an elephant, captioned twice by a sixteenth-century reader: the word *Elephas* is written once inside the woodcut's border and again in the margin next to the woodcut.

112 Herb-1532-B16, fol. x3v.

113 Herb-1532-B16, fol. s4r.

114 A further example is discussed below: a reader of Herb-1514-Wo2 drew planet symbols inside many of the woodcuts, thus using the woodcuts to link each plant to a planet.



Fig. 5.10. Alternative names written inside and below the woodcut of fumitory. *Den groten herbarius* (Utrecht: Jan van Doesborch, 1532), fol. s4r. Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 I38Du 1536. [Herb-1532-B16]

The woodcuts are eye-catching navigational aids, signalling the start of a new chapter even more conspicuously than the chapter titles. The way in which readers have added handwritten plant names or, occasionally, other information suggests that they recognised and used this function of the woodcuts.¹¹⁵ The added plant names provide synonyms that were apparently current, or better recognisable, in the reader's local context. Thus, they often function as keywords and translations simultaneously. A copy held in Cambridge (Herb-1538-C01), for example, has handwritten plant names in English. The combination of an image and a familiar name will have helped a reader to easily recognise what plant is discussed.

Particular – perhaps personal – interests seem to be reflected in the practice of adding plant names. In the copies I examined, names or synonyms are never provided for all plants, but for several dozen at most, often spread throughout the book. We are left to guess whether a reader's interest was directed towards the medicinal powers of a particular plant, its familiarity, or its exotic nature. A

¹¹⁵ This is illustrated by the example of fumitory in Herb-1532-B16: the woodcut to which the names are attached is at the bottom of the left-hand column, while the chapter title and the chapter itself follow in the right-hand column. Similar examples appear in Herb-1533-B16 (woodcut of *Muis oere* with inscription at the bottom of c5r, chapter follows on c5v) and Herb-1514-B02b (fol. n5r: woodcut of date palm with inscription at the bottom of the left-hand column, printed text for this chapter starts in the right-hand column).

sixteenth-century reader of the above-mentioned copy in Brussels (Herb-1514-Bozb) tagged both the native daisy (*Kerssauwe*) and the more exotic elephant (*Elephas*) that illustrates the chapter on ivory.¹¹⁶ Even when we do not know why a reader provided synonyms for certain plants, we may interpret this practice as a way in which readers relate knowledge from the book to their own social environment. Whether the plant names functioned as structuring aids, mnemonic aids, means of appropriation, expressions of practical relevance or of personal curiosity, readers used the woodcuts or chapter titles as visual landmarks on the page to which they could attach these keywords.

Readers occasionally added captions or labels to images, a practice that is related in appearance to the added plant names but different in function.¹¹⁷ The captions serve for clarification, or for the identification of specific parts of an image. The figure of Cupid, for example, apparently drew attention: he has been captioned in allegorical images of the planet Venus in copies of *Der scaepherders kalengier* (Scaep-1539-Ao4) and *Chyromantia* (Chyro-1536-B16).¹¹⁸ In the Amsterdam copy of *Tfundament der medicinen* (Tfund-1540-Ao4), small half figures are identified as classical authorities in two instances, written in different hands. The two profile busts on the title page, printed in red, are captioned by a reader as *hipocrates* [sic] and *galenus*. A different hand also identified *ipocras* and *Galienus* among the three half figures that mark the beginning of a treatise on 'excellent proven remedies.'¹¹⁹ This reader could not think of a name for the third figure, apparently. Nevertheless, the case shows that these readers interpreted the multifunctional half figures as classical *auctoritates*, even though they are not identified in any way in the printed text.¹²⁰

Apart from adding labels of their own to images, readers sometimes also corrected or clarified printed text labels in diagrams. Such modifications provide a glimpse of how they 'read' schematic visual language. The vein man in *Der scaepherders kalengier* of c. 1514 has xylographic letters that indicate the veins for letting blood, which are explained in the text following the woodcut.¹²¹ A reader of the copy in Ghent (Scaep-c1514-Go3) made several corrections, both in some of the letters and in a connecting line that points to the wrong body part (Fig. 5.11). Such corrections suggest attentive viewing and perhaps active use of the image, even though we do not know whether the reader used it as an

116 Judging from the handwriting, this reader annotated somewhat later in the sixteenth century than the reader who inscribed the qualities of plants inside the woodcuts.

117 On this practice see also Margócsy, Somos, and Joffe 2018, 80–84; Van der Stock 2002, 26.

118 Scaep-1539-Ao4, fol. E6v; Chyro-1536-B16, fol. H1r. The same annotator in Scaep-1539-Ao4 also captioned the signs of the zodiac in the woodcut of the zodiac man, fol. B7r.

119 Tfund-1540-Ao4, fol. D4v.

120 See also Chapter 4.

121 Scaep-c1514, image on fol. d4r, explanation on fols. d4v, e1r, e1v.



Fig. 5.11. Vein man with xylographic text labels, with corrections by a reader.

Der scaepherders Kalengier (Antwerp: Willem Vorsterman, c. 1514), fol. d4r. Ghent, University Library, BHSL. RES.1076. [Scaep-c1514-G03]

instructive tool, as a mnemonic aid, or simply as a sort of index for the texts.¹²² Another attentive reader, of a *Fasciculus medicine* copy kept in Copenhagen (Fasc-1512-Ko7a), attempted to clarify the printed labels in the skeleton diagram (see Fig. 3.21 on p. 185). The reader elongated some of the connecting lines, in order to attach them more closely to the labels they belong to. Thus, the reader attempted to resolve an unclarity in the image, which has six labels to the left of the skull but only five connecting lines.

Only rarely did I encounter comments on a specific image. The heavily annotated copy of *Den groten herbarius* in Brussels (Herb-1514-Bo2b) provides two examples, written by the same sixteenth-century hand that also noted the qualities of the plants inside the image frames. Inside the woodcut of chicory (*weghewaert*), this reader notes that the stem does not look as it should, and that it is taken (i.e. copied?) from the stem of fennel.¹²³ The woodcut of polypodium (*engelsoet*) has a comment in the margin (Fig. 5.12), stating that the leaves should have black dots like *hederic* (*rapistrum*), a plant that is indeed depicted with dotted leaves in Chapter 344.¹²⁴ It is remarkable that only so few of the more

¹²² The erroneous labels in *Der scaepherders kalengier* have not been corrected in other copies where this same image appears (Scaep-1516-Bo2, Scaep-1516-Wo2).

¹²³ Herb-1514-Bo2b, fol. i4r: *Nota desen steel of stale es niet wat hij behoort te zijne ghenouch [or: ghenouch?] den stale van vynckele.* I thank Mark Vermeer for checking my transcription.

¹²⁴ Herb-1514-Bo2b, fol. 11r, annotation partially cut off: *Nota Int middele van desen bladen*



Fig. 5.12. A reader's comment on the image of polipodium: its leaves should have black dots like *hederic*.

Den groten herbarius (Antwerp: Claes de Grave, 1514), fol.)1r.

Brussels, KBR Royal Library of Belgium, VH 6.696 A (RP). [Herb-1514-Bo2b]

than 400 woodcuts in this copiously annotated volume have such detailed comments. Possibly the annotator had a particular interest in, or knowledge of, the plants where (s)he bothered to comment on their appearance.¹²⁵ In a similar vein, in a copy kept in New York (Herb-1514-N53) a reader seems to criticise the verisimilitude of the woodcut of the wild clover (*Malloete of wilde claueren*), commenting that 'This herb or figure does not resemble the appearance of the wild [clover].'¹²⁶ A reader of *Der scaepherders kalengier* (Scaep-c1514-G03) seems to have used the diagrams of solar and lunar eclipses in this edition to keep track of eclipses, and in doing so observed an error (Fig. 5.13). Next to the printed

behoeren zwarte dropkens of spottelkens te stane ghelijc ghelijc [sic] In hederic die Rapist[...] Int latine ghenoeemt wordt [...]

dit blijt h[ier?] [na?] Int cap [...]. Chapter 344 on *Hederick* is on fol. G4v.

¹²⁵ The extensive annotations in this hand, likely from the first half of the sixteenth century, in Latin as well as Dutch, suggest a specialist reader but (s)he did not leave a name.

¹²⁶ Herb-1514-N53, fol. v4r: *Dit cruijt of figure en ghelijct niet an tfautoen den wilde [...]*. The final part of the annotation is missing due to a trimmed margin, but it probably read *clavere*.

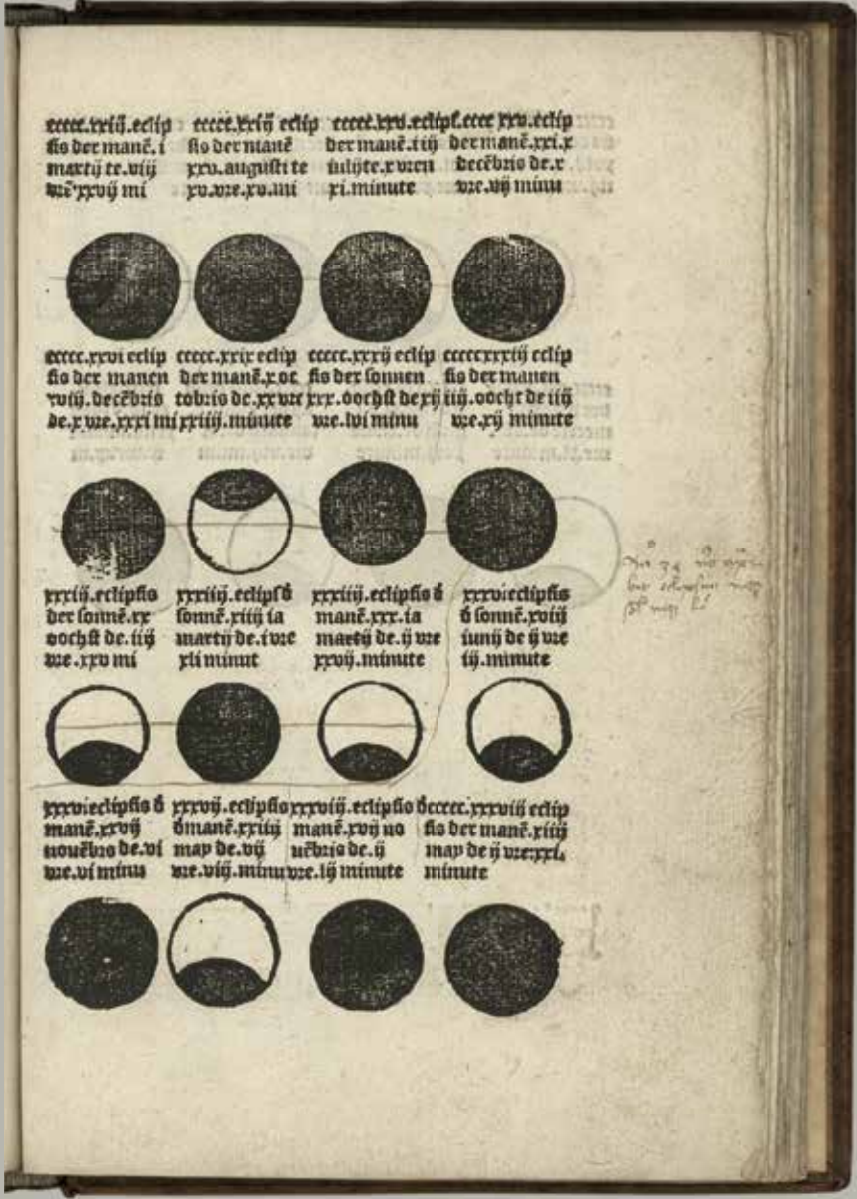


Fig. 5.13. Woodcuts of solar and lunar eclipses, with lines drawn through and between them by a reader who commented that there were no eclipses in 1535. *Der scaepherders Kalengier* (Antwerp: Willem Vorsterman, c. 1514), fol. d3r. Ghent, University Library, BHSL.RES.1076. [Scaep-c1514-Go3]

caption for the 1535 solar eclipse, which states its exact date and time, (s)he comments in Latin that there were neither solar nor lunar eclipses in 1535.¹²⁷ The year 1535, noted in the printed captions of both a solar and a lunar eclipse as *xxxv*, has been corrected by the annotator in both instances into *xxxvi*, i.e. 1536. Moreover, (s)he has drawn a line that clearly demarcates the eclipse figures for 1535 from the previous ones. While those preceding 1535 have been struck through, perhaps after they had occurred, the eclipses for subsequent years have not been marked. Perhaps the reader stopped using the book after encountering the error.

As the examples of hand-drawn lines in diagrams already indicate, readers did not just express their interest in medical-astrological subject matter of images through writing, but also through drawing. A reader of *Den groten herbarius* (Herb-1532-B16) drew a flower in the bottom margin below the woodcut of *camedren* and captioned it *camedros bloem*.¹²⁸ As the plant in the woodcut does not show any flowers, the reader apparently felt the need to add this information.¹²⁹ Numerous drawings with an evident relation to the book's subject matter appear in another copy (Herb-1514-Wo2): a reader with an apparent interest in astrological botany has drawn planet symbols in roughly a third of the plant woodcuts, thus connecting each plant, or part of a plant, to a planet. The symbols are probably meant to indicate under what planetary influence a plant should be harvested, or applied.¹³⁰ Most, but not all, of the drawn planet symbols in this copy are surrounded by horizontally drawn hatchings that seem to suggest clouds or sky. This reader also added further details in some of the images, such as additional hatchings in clothes or windows or leaves, and landscape features such as hills and plants (Fig. 5.14). While the planet symbols clearly serve to add information, the hatchings and other details look more like doodles.

Another case in which it is not clear whether added details are simply doodles or whether they are meant for epistemic purposes, is the copy of *Chyromantia* held in Groningen (Chyro-1536-G12). In the book on physiognomy, how to judge character from facial traits, a few of the woodcuts of faces contain crudely drawn additional lines, sometimes barely visible, running across the faces, through the eyes and to the ears (Fig. 5.15). These interventions might

127 Scaep-c1514-Go3, fol. d3r: *Anno 35 non apparebat eclips[es?] neque solis neque lunae*.

128 Herb-1532-B16, p3v.

129 In a similar vein, a reader of Herb-1514-Ko7 (fol. b5r) added a crudely drawn yet characteristically shaped stem with berries to the *Aron* or 'calf's foot' (*arum maculatum*), and a reader of Herb-1538-Co1 (fol. N3r) drew a flower in the woodcut of St. John's wort that is simple yet distinctive, with small dots around the flower heart to represent the typical stamens of this species.

130 Some woodcuts contain two drawn symbols, probably relating to different parts of the plant in question. On astrological botany: Chapman 1979, 297–299; Arber 1912, 204–220.

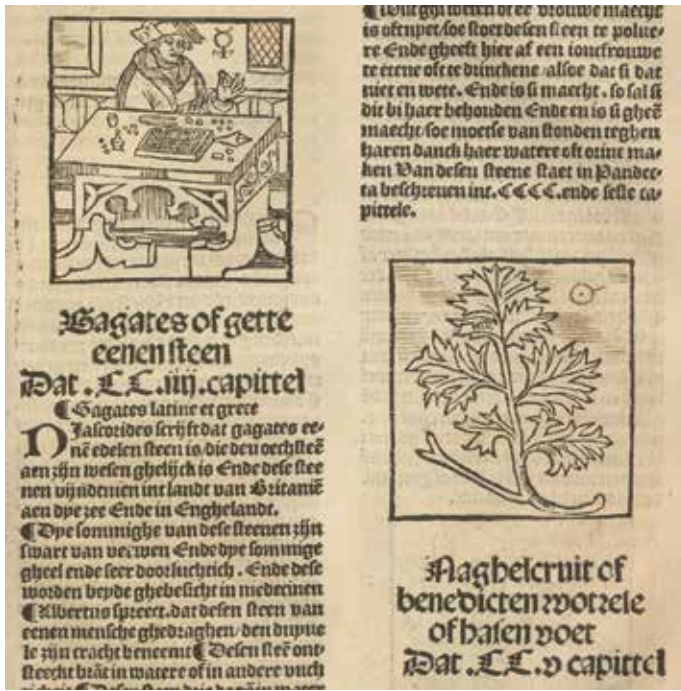


Fig. 5.14. Planet symbols and hatchings drawn inside woodcuts. *Den groten herbarius* (Antwerp: Claes de Grave, 1514), fol. 14r. Washington, D.C., Library of Congress, Rosenwald 1128. [Herb-1514-W02]

result from a type of use that the anonymous translator of *Chyromantia* suggests in the preface: he advocates the work's usefulness to artists, who can display their mastery in painted or drawn faces that instantly convey emotion, mood, and character. Perhaps this copy was used by an artist, or at least by someone interested in how to draw faces, who used the images to study the proportions and relative positions of the various parts of a face when drawing them from different perspectives.¹³¹

Engagement with images testifying to non-medical interests

Some of the readers' traces in images testify to other than medical-astrological concerns, and in particular to a moralising and sexual focus. These traces occur in analytical as well as narrative images. They recall the annotations pertaining to the printed texts, discussed above.

¹³¹ Similar studies of proportions in different types of faces were published in Albrecht Dürer's widely used *Vier bücher von menschlicher Proportion* (Nuremberg: Hieronymus Andreae, 1528), e.g. fols. Q1r–Q1v. On this work, see Dackerman 2011, 236–239.



Fig. 5.15. Lines drawn horizontally through a face in the physiognomy section.

Chyromantia Ioannis Indagine
(Utrecht: Jan Berntsz, 1536), fol.
M4v.
Groningen, University
Library, uklu NAUTA 6o.
[Chyro-1536-G12]

While moralising phrases could be inscribed as personal mottoes or as reflections apparently related to a work in general, some readers attached moralising comments specifically to images.¹³² Below the woodcut of a patient suffering from the plague in one of the Copenhagen copies of *Fasciculus medicine* (Fasc-1512-Ko7b), the surgeon Flessiers, who owned the book in 1630, quotes Job 14:1 on the brevity and misery of human life.¹³³ Quite different in execution than Flessiers' flamboyant handwriting, but similar in tenor, is a quotation written in a minuscule, humanistic hand inside a woodcut in the copy of *Chyromantia* held in Groningen (Chyro-1536-G12; Fig. 5.16).¹³⁴ Next to the small half figure depicting an astronomer who is holding a celestial globe and a

¹³² Margócsy, Somos, and Joffe 2018, 80 also found this practice in Vesalius' *Fabrica*.

¹³³ Fasc-1512-Ko7b, fol. h4v: *Den mensch van eender vrouwe gebooren leeft enen corten tijt. Ende is met veel Miserien en Elenden onderworpen Segt Job*. The handwriting below the image is clearly identical to that of Flessiers' mark of ownership. The pervasive association between Job and the plague is also manifest in the plague treatise in *Tfundament der medicinen*, which is illustrated with a woodcut depicting Job on the dung heap being rebuked by his wife (Tfund-1530, fol. Q1r).

¹³⁴ The copy bears a sixteenth-century mark of ownership from a Sebastiaen van Aeyssle, but the annotation in the woodcut was apparently written by a different hand.



Fig. 5.16. A quotation from Ovid and apparently a name (*hans musmass?*) inscribed inside the woodcut of an astronomer.

Chyromantia Ioannis Indagine (Utrecht: Jan Berntsz, 1536), fol. XIr.

Groningen, University Library, uklu NAUTA 6o. [Chyro-1536-G12]

pair of compasses, inside the woodcut's framing border, a reader has written a quote from Ovid: *Omnia sunt hominum tenui pendencia filo Et subito casu quae valere ruunt* ('All mankind's affairs are hung on one fine thread: some sudden chance brings high-riders tumbling down').¹³⁵ Such reflective utterances provide a glimpse of how readers connected practical, medical-astrological knowledge to a religiously or moralistically imbued sense of *memento mori*.¹³⁶ While Flessiers wrote his comment in large letters for every reader to see, the Ovid quote in the *Chyromantia* copy will only catch the eye of an attentive reader.

A subject that readers could not keep their pens – and their eyes – off are genitals and breasts.¹³⁷ Unsurprisingly, these body parts appear quite regularly in medical illustrations. Readers' alterations to such images testify either to a critical, censoring approach, or to a positive fascination. The dual attitude – of rejection and fascination – towards sexual elements recalls the textual annotations discussed above that comprised both censorship and markings. Both approaches are visible in copies of *Fasciculus medicine*. In the anatomical image of the female reproductive organs, showing a woman sitting with her legs wide apart, a reader of the copy in Amsterdam (Fasc-1512-Ao4) has inscribed the word *toette* in minuscule letters in her genitals (see Fig. 2.11 on p. 104).¹³⁸ This Middle Dutch word has several meanings that might apply here. It could refer to the rather peculiar beak-like shape of the organ in this image (as a synonym to the Dutch word *tuit*, 'spout'), or it could refer to a pointed mouth (cf. *snuut* or *toet*, 'snout'), or even to the sound of blowing a trumpet (*toet*, *toeteren*). The copy in The Hague (Fasc-1512-Ho4) shows similarly subtle signs of fascination from a reader: small hatchings have been added in the penises of both the 'wound man' and the 'disease man'.¹³⁹ In the copy in Brussels (Fasc-1512-Bo2), the genitals of the vein man were first censored by scratching them away, and then (presumably by another reader) drawn in again.¹⁴⁰ The paper had become so thin from the scratching that the hand-drawn genitals are also visible on the reverse of the page. In the copy of *Tfundament der medicinen* in Washington, D.C.

135 Ovid, *Epistola Ex Ponto*, IV. 3. 35 (transl. Peter Green), in Ovid/Green 2005. Astrologers were frequently accused of pride, claiming status for themselves based on ill-founded predictions; Krifka 2000, 411–412.

136 See also Chapter 3.

137 This is a recurrent topic of fascination and condemnation among readers of Vesalius' *Fabrica* as well, as Margócsy, Somos, and Joffe 2018 demonstrate (pp. 59–61, 64–65, 89, 106–114, 126). Even readers of the animal chapters of the *Hortus sanitatis* betray a fascination for genitals; Jaritz 2015 discusses several examples.

138 Fasc-1512-Ao4, fol. d3v.

139 Fasc-1512-Ho4, fols. f3r and g5r. The reader also added small hatchings in the stone on the wound man's head.

140 Fasc-1512-Bo2, fol. a5r.

(Tfund-1540-Wo2) the woodcut of a naked woman has been chastised through a hand-drawn veil that covers her genitals (Fig. 5.17).¹⁴¹ In this copy, intended to be used in the sick room of the Poor Clares in Brussels, the censoring of this image is part of a cluster of chastising interventions: in the text, several words related to genitals and procreation have also been neatly blackened. This information was evidently not considered appropriate for the sisters in the convent.

A particular fascination for genitals and breasts seems to have shaped the reading experience of a reader of *Thuys der fortunē* (Thuys-1522-Bo2). In many of the images, this reader elongated the cleavage of female figures, and added hatchings on breasts and crotches, even when the depicted men and women are decently clothed.¹⁴² The reader applied such accents even in less obvious choices of images, including the tiny depiction of the zodiac sign of Gemini as naked twins (see Fig. 4.18 on p. 223), and the anatomical half figure showing the internal organs where only part of the scrotum is just visible above the lower edge of the image. This sexually fascinated reader appears keenly aware of the allusions to lust, deceit, and unequal love in the images of the book of fortune. Moreover, the other examples discussed here show that medical illustrations such as vein men and anatomical figures, too, were approached from a sexual frame of mind.¹⁴³ This is precisely the kind of reading that the many sexually connoted images discussed in Chapter 4 playfully seem to allude to.

Non-medical interests are also at play in various kinds of drawings that readers left in their books. While the drawings discussed above may have served epistemic purposes, other drawings were evidently made as embellishments, out of distraction, or for amusement. Some doodles are totally unrelated to the printed text and images, like the small bird drawn in the upper margin of a copy of *Fasciculus medicine* (Fasc-1529-Bo2).¹⁴⁴ More numerous are the cases where readers draw – or doodle – an addition to a printed illustration. Unlike the added flower drawings in herbals, crude as they may be, the small flower placed in the hand of a scholar in a copy of *Tfundament der medicinen* (Tfund-1532-Ko7)

141 Tfund-1540-Wo2, fol. P4r. In the same copy, additional pubic hair seems to have been drawn in the image of the vein man (fol. 2A1v).

142 Among the clothed figures that this reader provided with accentuated crotch or breasts are the personifications of the choleric complexion (a man who violently attacks a woman, fol. O3r) and many female figures with cleavage in the series of women and men who advise the reader in the book of fortune.

143 Book producers seem to have been aware of this mode of viewing, and either played with it (see Chapter 4) or attempted to repress it: the zodiac man in the various editions of *Der scaepherders kalengier* is depicted wearing underpants.

144 Fasc-1529-Bo2, fol. h2r. The sketches on a blank leaf at the end of Herb-1538-Co1 provide a somewhat more sophisticated example. Partially torn off, they show studies of hands and a naked female figure with a floral wreath in black chalk and black ink.



Fig. 5.18. Two attempts by a reader at copying the woodcut of a goat (Capricorn). *Tregement der ghesontheyt* (Brussels: Thomas van der Noot, 1514), fol. g4r. Berlin, Staatsbibliothek Preußischer Kulturbesitz, 4^o Ji 407. [Trege-1514-Bo5]

seems to be purely a doodle rather than an enrichment or correction of the information provided by the printed image.¹⁴⁵

The practice of copying woodcuts in drawing in the margins of a book is particularly insightful of readers' viewing habits. In various instances, readers have attempted to copy part of a woodcut, often with little success. Despite a lack of talent for drawing, such imitations may reveal unexpected details that readers paid attention to. In the Berlin copy of *Tregement der ghesontheyt* (Trege-1514-Bo5), the margin next to the woodcut of Capricorn (used here to represent meat) contains two failed attempts at drawing the animal's head (Fig. 5.18).¹⁴⁶ At the second attempt, the reader wisely gave up after a few lines. In a copy of *Thuys der fortunien* in Antwerp (Thuys-1518-A12), two heads are drawn in the lower margin below the zodiac man, apparently as copies of the zodiac man's head (see Fig. 2.1 on p. 78).

The most striking example of woodcuts being imitated occurs in a copy of *Der dieren palleys* (Dier-1520-Bo2b), where an inexperienced hand has drawn seven of the depicted animals in the margins (Fig. 5.19).¹⁴⁷ Apart from the drawings, the volume hardly contains any other traces of use.¹⁴⁸ There is no clear logic

145 Tfund-1532-Ko7, fol. Q1r.

146 Trege-1514-Bo5, fol. g4r.

147 Dier-1520-Bo2b. The copied animals are *Maricomorion* (fol. J3r), *Mumumetus* (fol. J3v), *Multipes* (fol. K1v), *Pathion* (fol. K3v), *Pilosus* (fol. K4r), *Situla* (fol. M2r), *Taxus* (fol. M4r).

148 In a survey of Latin and German copies of *Hortus sanitatis* sections on animals, Jaritz 2015, 53 also found that the images incited more reader responses than the texts.



Fig. 5.19. Woodcuts of the animals *pathion* and *pilosus* copied in drawing. *Der dieren palley*s (Antwerp: Jan van Doesborch, 1520), fols. K3v–K4r. Brussels, KBR Royal Library of Belgium, II 38.891 A LP. [Dier-1520-Bo2b]

to the selection of animals that were copied. All of them are in the first book on land animals, and all of them are exotic – or rather, according to our standards, fantastic – beasts. Although the drawings are crude and not very skilful, with stiff and rather shaky lines, they seem to have been made with focused attention to such details as the shapes of tails or paws, and the ways in which body parts were hatched in the woodcuts. The drawing of the *multipes*, a kind of snake, has offset quite heavily on the opposite page, which suggests that the reader (who was perhaps more keen on looking at the images than on actually reading) turned the page immediately after making the drawing. These drawings bring to mind Erasmus' advice on using images of exotic animals and plants for arousing curiosity in an educational setting (see Chapter 3). Perhaps this copy of *Der dieren palley*s is a testimony to such a practice – the drawings may well have been made by a young reader.

A different kind of hand-drawn copy is the replacement of missing (parts of) woodcuts. In the nineteenth century, the missing title page of a copy of *Der dieren palley*s kept in Paris (Dier-1520-P01) was redrawn, according to a handwritten note

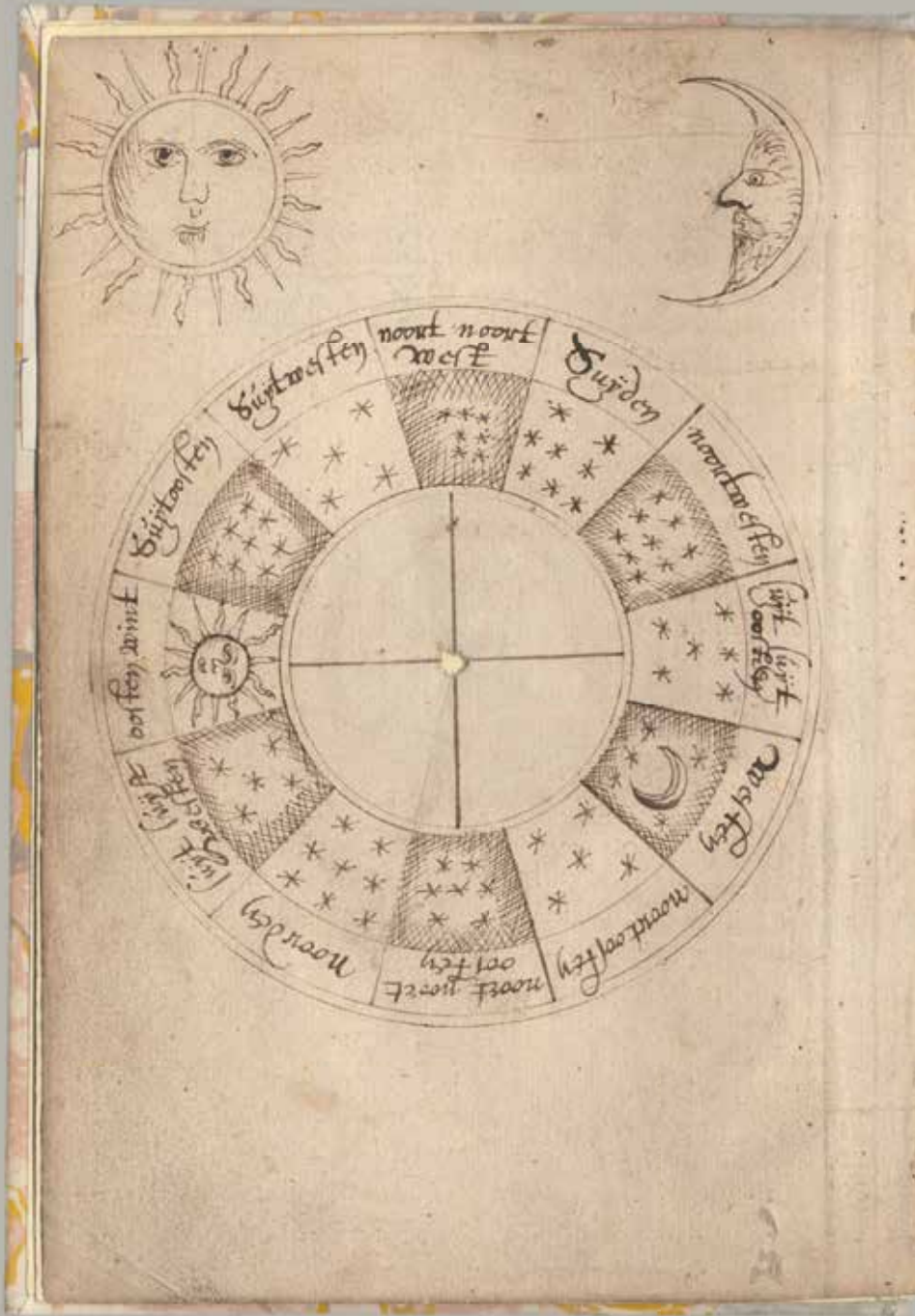


Fig. 5.20. Hand-drawn dial with wind directions, the starting point of the game of fortune. *Thuis der fortunen ende dat huys der doot* (Antwerp: Jan van Doesborch, 1518), fol. [A1v] (replaced). Antwerp, Museum Plantin-Moretus – UNESCO World Heritage, R 47.14. [Thuis-1518-A12]

on the endleaf by the owner of that time, 'by a capable draughtsman after those [title pages] of the subsequent books' [i.e. the books on birds and sea creatures in *Der dieren palleys*].¹⁴⁹ Perhaps already earlier, a torn page in the *Chyromantia* copy in Groningen (Chyro-1536-G12) was restored rather crudely with pasted-on pieces of paper that partially covered the woodcuts of a hand diagram and a decorative border on this page.¹⁵⁰ The covered parts were redrawn in pen. Decidedly early modern is the hand-drawn replacement of the dial with the wind directions in the Antwerp copy of *Thuys der fortunien* (Thuys-1518-A12; Fig. 5.20). The game of fortune started with this dial, on the reverse of the title page: readers had to turn the pointer to find out to which wind direction they had to turn, from whence they were eventually led to a 'master' who told their fortune. The dial must have been a vulnerable part of the book: the pointer is rarely preserved in the surviving copies.¹⁵¹ In this copy of 1518, the first leaf apparently had perished already in the later sixteenth or seventeenth century. In the replacement wind rose, the wind directions are inscribed in a hand that can be dated to this period. The replacement drawing – which also now misses the pointer and only has a hole in the middle – suggests that the book of fortune continued to be used, and/or the game continued to be played long after its publication.

Colouring as a means of customisation

One of the most frequently occurring types of engagement with images in my corpus, and one of the most eye-catching means of customising a book, is hand-colouring. It warrants more attention as a trace of use that informs us about viewing habits and responses to images. Scholarship has focused on the role of professional colourists and has considered their contribution primarily as part of the production of prints.¹⁵² Susan Dackerman has observed, and rightfully so, that 'color was often integral to the conception and meaning of printed images.'¹⁵³ Often, however, as I will show, colour in Dutch medical-astrological books was added by readers themselves rather than by professional

149 The nineteenth-century note states that the owner found the book 'among old knick-knacks in a badly damaged condition' (*onder oude prullen in eenen zeer ontredderden staet*) and had it restored 'as much as doable' and had the title page redrawn.

150 Chyro-1536-G12, fol. K4v. I am not sure about the date of these repairs but they do not seem recent.

151 It survives, glued to the page, in a copy of the 1606 edition (Rotterdam: Jan III van Ghelen) held in the library of Rotterdam (22 F 49): see Berger [s.d.].

152 Foundational: Dackerman 2002, esp. 15–26. See also Oltrogge 2009; Fletcher, Glinsman, and Oltrogge 2009. Goedings 2015, while focusing on professional colouring, also mentions seventeenth-century colouring by 'amateurs,' yet her observations are limited to images in *alba amicorum* (p. 87).

153 Dackerman 2002, 11.

colourists.¹⁵⁴ As a consequence, colouring touches upon issues of production as well as reception. Even the work of professional colourists, working at the request of a buyer, is revealing of viewers' responses to images: in the words of David Areford, 'it is useful to think of [these craftsmen] as the image's first true viewers or interpreters.'¹⁵⁵

The potential of this reception perspective to yield new insights becomes particularly evident in my analysis of a peculiar practice of colouring: the 'rubrication' of images with red details. Like hand-colouring, rubrication – as pointed out above – was in various cases not done in a professional workshop but rather by a reader. The practice of adding red accents in images demonstrates that the attention of early modern viewers was sometimes drawn to different details than we might expect.

Hand-colouring

The addition of colour, for example in images of plants, can have epistemic significance, as it can render the images more realistic or more recognisable. Moreover, colouring can also (and at the same time) be done for embellishment or for conveying social status. In total, 27 copies in my corpus have some amount of hand-colouring, but the ways in which woodcuts were coloured vary greatly, suggesting various motivations for customising a book through the addition of colour.¹⁵⁶ In a copy of *Den groten herbarius* in Antwerp (Herb-1532-A170) every single woodcut has been coloured, even including the numerous printed initials and decorative borders (see Fig. 4.4 on p. 203). Whereas it is difficult to tell in this case whether this was done by a reader or a professional colourist, it is unlikely that a professional would have done such a meagre job as the mere three partially coloured woodcuts in a copy in London (Herb-1538-Lo1) or the single partially coloured woodcut in a copy of *Distellacien* in Washington, D.C. (Dist-1517-Wo2; see Fig. 5.6).¹⁵⁷ The colourist of a copy of *Den groten herbarius* in Brussels (Herb-1514-Bo2a) seems to have started with great zeal, neatly colouring the woodcuts in the first three quires, even using different shades of green within a single plant leaf, and clearly distinguishing roots from stems, but all colour suddenly stops after Chapter 27 of 435.

154 Renske Hoff has also found various readers doing their own colouring in sixteenth-century Dutch bibles; Hoff 2022, 166–167, Hoff (forthcoming).

155 Areford 2010, 37.

156 For an analysis of colouring in the copies of *Den groten herbarius*, including several examples discussed here, see also Van Leerdam 2021, 380–382.

157 Herb-1538-Lo1, fols. a2r, S4v, X6v; Dist-1517-Wo2, fol. a4v.

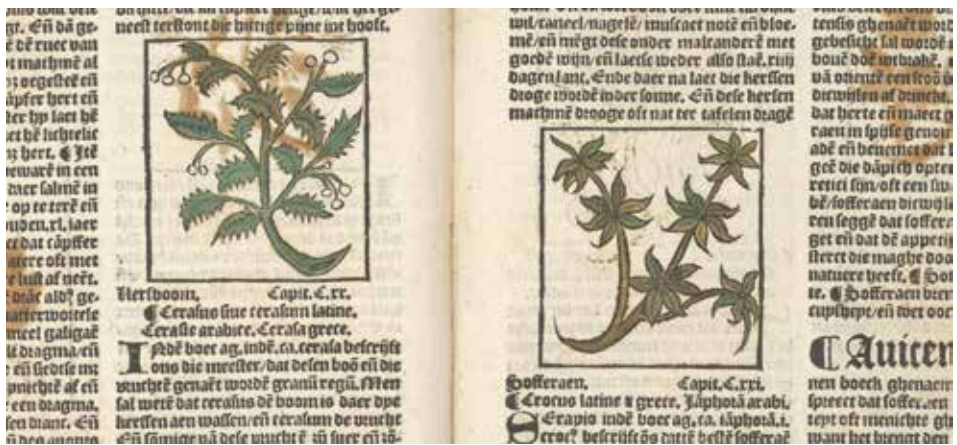


Fig. 5.21. Cherry tree and saffron, hand-coloured by a reader with a limited palette (no red anywhere in the volume).

Den groten herbarius (Antwerp: Symon Cock, 1547), fols. N2v–N3r.
Ghent, University Library, BIB.ACC.003404. [Herb-1547-G03]

Further signs of readers doing their own colouring can be found in a copy in Ghent (Herb-1547-G03), where hardly any colours have been used but two or three shades of green, applied to roughly a third of the images, scattered throughout the book (Fig. 5.21).¹⁵⁸ Woodcuts like those of the strawberry, the cherry and the grapevine show that this reader simply did not have more colours at his or her disposal: the leaves and stems are neatly coloured green, but fruits and flowers (especially those meant to be red) are left uncoloured.¹⁵⁹ The dispersed addition of colour may testify to an interest in specific plants, or maybe the reader simply added it in distraction, as a kind of doodling.

Other readers, on the other hand, show great skill in colouring. The composite volume in Bethesda, MD, containing *Chyromantia*, *Den groten herbarius*, and *Hantwerck* (Chyro-1536-B16, Herb-1532-B16, Hantw-1535-B16b) is coloured throughout with great precision, rich detail, and an impressive array of colours (see e.g. Figs. 2.6 on p. 97, 3.4 on p. 145, 5.3 on p. 250). Again, however, this must have been done by a reader rather than a professional colourist. Two of the colours, bright red and deep blue, were also used to add manicules, *nota*, and other

¹⁵⁸ At least one of the green shades is now suffering quite badly from a kind of oxidation: it has discoloured to a heavy brown that has seeped through the paper. Apart from the greens, this (amateur-)colourist occasionally used yellow and blue.

¹⁵⁹ The partially coloured woodcut of the strawberry is depicted in Van Leerdam 2021.

traces of reading (Fig. 5.22).¹⁶⁰ Moreover, the text was also rubricated in these same two colours, apparently by the same person.

In looking at coloured prints, then, we need to be alert for signs of professional or ‘amateur’ colouring. Indications of readers doing their own colouring are not necessarily found in the use of a limited number of colours, nor in a rather sloppy application of paint, as these were also common practice among professional colourists. Indeed, Dackerman considers it characteristic of professionally coloured early prints that ‘[t]he application of the colors is not always precise and in places exceeds the boundaries of the printed lines, suggesting that the colourist swiftly painted a considerable number of impressions.’¹⁶¹ Instead, as more secure indications of colouring done by readers I consider partially coloured images, a limited number of coloured images, an extremely limited colour palette, and – perhaps the most secure indication – annotations written in the same colours as used in the images.¹⁶²

So, which books have been coloured, and which woodcuts in particular? Two subjects stand out, which I will discuss here: plants and urine flasks (*matulas*). Plants obviously abound in *Den groten herbarius*, the copies of which not only contain the largest number of textual annotations, but also the widest range of colouring practices, varying from full colour (e.g. Herb-1514-LRB, Herb-1532-A170) to just a handful of partially coloured woodcuts (e.g. Herb-1547-A170, Herb-1538-C01). Nine of the 27 copies of *Den groten herbarius* I examined have at

160 In a similar vein, the careful colouring in Tscep-1520-L79 must also be the work of a reader. Many woodcuts in this copy are coloured only partially yet very attentively, and there is a hand-drawn manicule with a coloured sleeve on fol. e5v which clearly indicates that the colouring must have been done by a reader.

161 Dackerman 2002, 9. Professional colourists sometimes used stencils to increase their working speed, though this meant a concession to precision; Primeau 2013; Dackerman 2002, 17–18. Stencils do not seem to have been used in any of the copies in my corpus.

162 There will, of course, also have been highly skilled reader-colourists. In these cases, it is difficult if not impossible to distinguish whether readers did the colouring themselves or commissioned a professional colourist. Colour palettes that are so limited that they must have been applied by amateurs are found in Scaep-c1514-Go3 (only red crayon, also in some of the annotations, and occasionally a grey-greenish shade); Scaep-1516-Wo2 (mostly orange-red, green, brown); Scaep-1539Ao4 (various shades of red, some yellow and blue). Small numbers of woodcuts coloured: Dist-1517-Wo2 (one woodcut of a furnace coloured, fol. a4v); Tscep-1520-Go3 (only planet personifications coloured); Dier-1520-Lo1a (title pages of the three books partially coloured, as well as a handful of animal images); Vrouw-1555-A91 (one woodcut in the chapter on dreams, fol. D4r). Examples of partial colouring: Tscep-1520-L79 (see Fig. 5.38, and several woodcuts coloured with only skin colour); Herb-1547-L39 (one woodcut, in the chapter on salt, with only the inside of a bag of salt coloured red, fol. l3r). Margócsy, Somos, and Joffe 2018 also found many partially coloured images in Vesalius’ *Fabrica* (p. 24). They do not discuss whether images were coloured professionally or by readers.



Fig. 5.22. Hand-colouring, rubrication and some notes in the same red and blue inks throughout the volume.

Den groten herbarius (Utrecht: Jan van Doesborch, 1532), fol. M2r.

Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 I38Du 1536.

[Herb-1532-B16]

least one coloured woodcut.¹⁶³ Coloured images of plants also appear in other titles that have a herbal section: *Tregement der ghesontheyt* and *Tfundament der medicinen*.¹⁶⁴ Indeed, in the copy of *Tregement* in The Hague (Trege-1514-H04) only the woodcuts of plants are coloured, and none of the other images. Such a focus on plants is also visible in a copy of *Den groten herbarius* in Copenhagen (Herb-1514-K07), where all plants are coloured, whereas most of the woodcuts of other natural resources are not.

In most copies, the colours applied in plant images can be qualified as naturalistic, as they more or less resemble the colours of the living plants. Readers' and/or colourists' choices of colours thus reflect a similar concern with 'counterfeit,' truthful images as expressed in the preface of *Den groten herbarius* (see Chapter 3).¹⁶⁵ In many cases, the addition of colour makes a plant more easily recognisable. Like the addition of alternative names for the plant, this may have helped in ensuring which plant was being discussed. One lavishly coloured copy (Herb-1514-K07), however, shows greater concern with embellishment than with verisimilitude. The colourist – whether a reader or a professional – seems to have delighted in showing off his or her skilled use of a wide range of colours, regardless of whether they are naturalistic. A single peony flower is coloured with red, blue, pink as well as yellow petals, and the clary sage and several other flowers are similarly multicoloured (Fig. 5.23). The four woodcuts on the title page are all coloured in a different way than where they reappear within the book. The addition of colour in itself, even in partially coloured copies, may have conveyed that a book had value and importance to a reader.¹⁶⁶

The second subject where the use of colour, and especially naturalistic colour, stands out, is uroscopy. Both *Tfundament der medicinen* and *Fasciculus medicine* contain texts dealing with diagnoses on the basis of the colour of urine. In *Fasciculus medicine*, this section is illustrated with two wheel-shaped diagrams with urine flasks, all of which are accompanied by a description of the

163 This count includes two copies in which only a detail has been coloured in just one or two woodcuts. It does not include five – otherwise uncoloured – copies in which one or a few of the woodcuts have a kind of staining or blotting, located precisely inside the images, of which it is unclear whether it was once a colour, or some kind of dirt, or something else; see Appendix 4.

164 Trege-1514-H04; Tfund-1530-H04.

165 It has been argued, with respect to the *Herbarius Latinus* (Mainz: Peter Schöffer, 1484), that part of the edition was already coloured before the copies were sold, under the printer's auspices; Rautenberg 2018, 57. In the copies I examined of *Den groten herbarius*, the colouring is so diverse that there is no indication of colouring multiple copies identically before sale.

166 As Dackerman 2002, 9 observes with respect to hand-colouring around 1500, 'the appearance of the color itself was valued over the meticulousness of its application.'



Fig. 5.23. Multicoloured violets.
Den groten herbarius (Antwerp: Claes de Grave, 1514), fol. G4v.
 Copenhagen, The Royal Danish Library, 4°
 Farmakognosi (Cuba). [Herb-1514-Ko7]

colour at the outer edge of the wheel (Fig. 5.24).¹⁶⁷ In *Tfundament der medicinen*, the uroscopy treatise comprises five pages with illustrations, each showing a matula preceded by a heading that briefly describes its colour, then followed by a more detailed discussion of the colour and the ailments it indicates. The section closes with a sort of visual summary of all matulas together, in six rows of three (Fig. 5.25). As discussed in Chapter 3, the text in *Tfundament der medicinen* emphatically points to the didactic and diagnostic function of the images. The printed text thus clearly anticipates the manual addition of colour in the urine flasks, and so does the visual arrangement of the flasks both in *Fasciculus medicine* (the two wheels) and *Tfundament der medicinen* (the grid of flasks).

This anticipation turns out to be resolved in a substantial number of cases: seven out of the nine copies of *Tfundament der medicinen* I examined have coloured matulas.¹⁶⁸ Indeed, in six of these copies, the matulas are the *only* coloured woodcuts. The question who did the colouring is particularly pressing, and

¹⁶⁷ The first wheel (Fasc-1512, fol. 51r) contains eleven urine flasks, the second wheel (Fasc-1512, fol. 51v) nine flasks.

¹⁶⁸ The following analysis of hand-colouring in *Tfundament der medicinen* is also presented, slightly rephrased, in Van Leerdam 2023b. The copies with hand-coloured matulas are: Tfund-1530-Ho4 (coloured throughout), Tfund-1530-Go3a, Tfund-1532-Ko7, Tfund-1540-Ao4, Tfund-1530-Go3b, Tfund-1532-Yo6 (composite copy: quire D, with the section on urine flasks, is from the 1530 edition; see Appendix 2), Tfund-1540-B16. A copy of Tfund-1540 with coloured urine flasks was auctioned at Marc Van De Wiele in Bruges on 9–10 October 2015, lot 879; the auction catalogue includes a picture of the matulas on p. 72 (https://issuu.com/uitgeverijvandewiele/docs/catalogus_okt15_lr, accessed 3 November 2021).

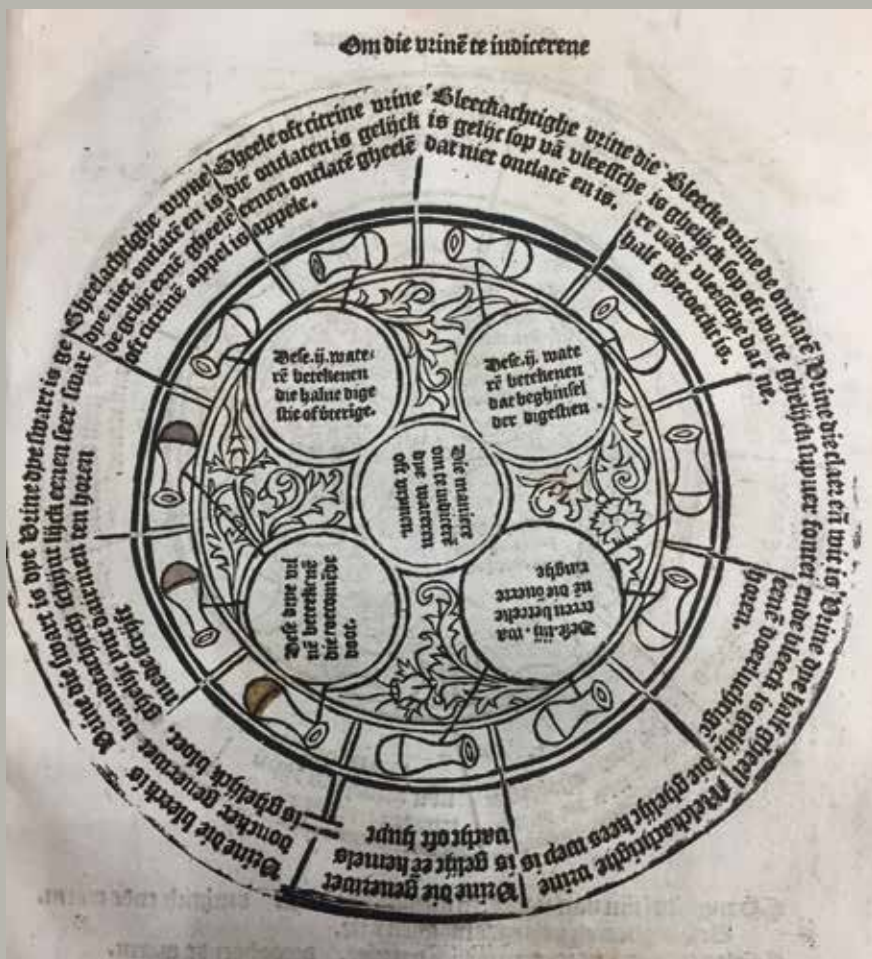


Fig. 5.24. Uroscopy wheel with partial colouring.

Fasciculus medicine (Antwerp: Claes de Grave, 1512), fol. 51r.

Copenhagen, The Royal Danish Library, 40 Med. 50850 (barcode: 20002334). [Fasc-1512-Ko7b]

puzzling, in this case. What stands out immediately on comparison is that in all seven coloured copies of *Tfundament der medicinen*, the empty upper parts of the urine flasks are coloured in a striking turquoise-greenish tone, representing the colour of the glass (Figs. 5.25, 5.26, and 3.11 on p. 169). Conversely, there are variations in how the different shades and substances of urine (some with specks and dots, or consisting of several layers in the flask) are represented among copies, although some copies also display clear similarities in this respect. The variations between copies indeed suggest that we see different colourists at work here. As discussed, it was quite common that books were coloured *after* they were sold, either by a professional colourist at the request of an owner or by owners themselves. If this happened to the copies of *Tfundament der medicinen*, then how do we account for the fact that in so many copies these matulas are the only coloured woodcuts, and that all of them have this similar, eye-catching shade of green? Alternatively, we may wonder if the flasks could have been coloured, at least in part of each print run, *before* the copies were sold, under the auspices of the printer. The practice of offering part of a print run pre-coloured was not unusual, though I have not found any other examples of it in the Dutch medical-astrological books.¹⁶⁹ It seems unusual, however, that only part of a book would be coloured in advance, in this case only the urine flasks. Moreover, this scenario would not explain the differences in urine shades across copies. While the question remains unanswered for now, the case nevertheless demonstrates how important it is to study multiple copies for a careful appreciation of colouring as a customisation practice that bears on the production as well as reception of illustrated books.

Although colour was a 'key diagnostic indicator' in uroscopy, as Mary Fissell has described it, uncoloured copies do exist, both of *Tfundament der medicinen* and of *Fasciculus medicine*.¹⁷⁰ In fact, only one of the nine copies I examined of *Fasciculus medicine* has a bit of colour, in just three of the flasks on the urine wheel (see Fig. 5.24).¹⁷¹ Several of the uncoloured copies do contain early modern traces of use, so we can assume that they were indeed read. As in the case of herbals, then, not all readers seem to have felt a practical need for coloured images. Possibly the textual descriptions of urine were sufficient for some readers. This is also suggested by the uroscopy treatise in *Den groten herbarius*, which is not illustrated at all. For other readers, coloured images may have worked as a mnemonic aid or an additional reassurance for identification.

169 Rautenberg 2018, 57 (see note 165 above); Chatelain and Pinon 2000, 259–261 on coloured copies of Pierre Belon, *Histoire de la nature des oyseaux* (1555).

170 Fissell 2011, 419.

171 Fasc-1512-Ko7b, fol. 51r. On hand-colouring uroscopy charts, see Hentschel 2014, 348–349; Dackerman 2011, 56–57.

Die kennisse van den Urine.

ende die Houde is inden linc/ si beduyt doch den loop
ende dan is die lincel/want die urine gace door den
caneerghaenich wech maer heeft hi bevinghe. so is si
lincel vā hincē die de sicce inden linc veronijue Die
urine wort somwilen lootachtich van die longhere
soo daghen dat gheschiet somwilen van die vliet des
houes/bis op die longre valt dat si darc af veruuy
het oft veel te vocht is. Dat suldo also bekennen dat
die urine bouen schuym/achich is/ ende hi heeft inde
linclicke zijde werdom/ Comer dat hē vander leuere/
soo is die urine lootachtich en diche/ en heeft in die
rechter side werdom/ So si lootachtich vande darmē
soo heeft hi onder den maetwecde/en is an.achich/
en heuyt imc/dā is die urine doudic en coot/ Som
wilen comer vanden melldarmen dan en mach hi niet
wel te stoel ghen/ Somwilen so si lootachtich/ ende
heuyt de doot/ en dan en sal die urine bouē niet luy
uee tū en al doudic. Maer sal die mensche geuefen
soo sal die urine bouē sumer woudic/ Somwilen so
si lootachtich/ vā dancere een voutwe hanc te vele ofte
te voemich heeft. so sal daer veel dinc op te bodē zyn.

Van die melcuerwiche urine.



So die urine melcuerwiche in een sicce/ dat beduyt
den doot/ somtijt also waemere hi wip en slaep/ en
zū sūne niet en heeft/ en de adem ont.achere wucht/
en vāsch slaep hi oft wel en is bi sine sūne/ en ademer
sacht/ dat en beduyt wip den doot/ want het is een
toenerlicht te geuefen/ So die urine melcuerwiche en
diche/ en veel sandre inden gronde so/ dat beduyt de
sicce/ Maer so die urine also gheoac/ en gheen zant
siden bodem/ dat beduyt een sicce/ die Colicheet/
dat is een sicce inden ondersten darm/ Dat is eenich
ghewere/ Dat suldo alsoo bekennen het is ghesvol
ken/ Maer comet vanden lincen/ soo enist wip zee ge
swollen/ en die urine doet hem mer/ Somtijt so dyc
urine melcuerwiche van die purgacie/ soo is si lincel/
ende doudic/ So die urine bleech en melcuerwiche/ en
houen lootachtich/ ende veel sandre darc in vliet/ dat
beduyt een twerighe indelinc/ ende ooch somtijt so
dat water te laden. **¶** Nu sal ich hier somwiche
veeren der urinen met hueren yppolasto/ matrice/
ende ghebaente na stellen maer af hier voic/ int lan
ghewere ghewech gheset is/ Om die selue urinen
lichtelijc te kennen onderscheiden/ ende daer af te
kennen een opecht vā velle ende oordeel te geuen so
suldo die urinen waer af hier die vnaalen metten ge
baenten volghen contentpleen ende anlicen tegen
en by die urine die v voren comen mach/ en doudic
dat indere maer/ soo dat gheschiet dat be groep bee
te kennen indere urinen clarelijc gheset is om die
urinen te onderscheiden/ ende daer wt dyc sicce te
kennen/ en die complexien der sicchen/ daer na dyc te
medien/ daren en medien bequaemelijc aduereu.

Die kennisse van den Urine.



**Hier epude dat Gorch vande Urine
wt Porras/ Saliennus/ Aulceu
na Theophilus/ en meer
andere schiltuers
der medicinen
en urine.**

*

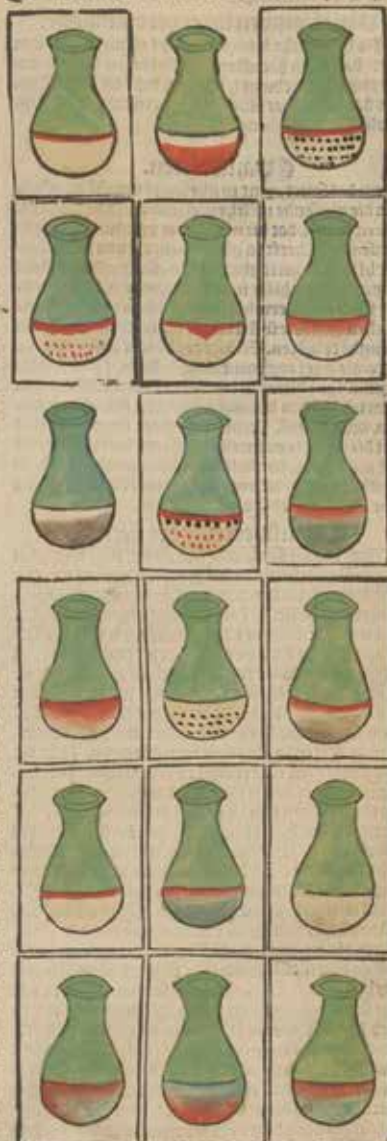
Fig. 5.25. Hand-coloured urine flasks, the glass represented in turquoise-green. *Tfundament der Medicinen ende Chyrurgien* (Antwerp: Willem Vorsterman, 1530), fol. D5r. Ghent, University Library, BIB. ACC.008275. [Tfund-1530-Go3b]

en dpe roude so inden liue/ si beduyt oock den loop
ende dat is die luttel/ want dpe wine gaet doos den
caneeghanch wech/maer heeft hy beuuinghe/so is si
luttel vā hirtē die dē siechē indē liue vreedwint. Die
wine wort somtijlen lootachtich van die longhere
seo daghen/ dat gheschiet somtijt van die vloet des
hooffs/ die op de longer vate/ dat si daer af veruuyt
oft veel te vocht is. Dat suldy also bekennen/ dat die
wine bouen scupmachlich is/ en hi heeft in die sine-
ker side weedom/ Comet dat hem vander seuce/ so
is die wine lootachtich en diche/ en heeft in die rech-
ter side weedom. Yo si lootachtich vanden daemen/
so heeft hi onder den nauel weedom/ en is anachtich
en ecint inne/ dan is die wine drooue en root/ Som-
tijlen comet vande inrekdarm/ dan en mach hy niet
wel te stoel gaen. Somtijlen is si lootachtich/ en be-
duyt den doot/ en dan en sal die wine bouē niet sup-
uer zijn en al drooue/ Maer sal die mensche ghesien
so sal die wine bouen supuer worden/ Somtijlen is
si lootachtich/ Wanneer een vrouwe haer te vele oft
te weynich heeft/ so sal daer veel dinc op tē bodē jē.

¶ Van die melcuerwige Wine.



Yo die wine melcuerwich in een sieckē/ dat beduyt
den doot/ somtijt als wannēer hy niet en slaep/ en
zij sinne niet en heeft/ en dē adem onsaechte sincht
en slaep hi calsch oft wel/ en is bi sine sinne/ en adt
saecht/ dat en beduyt niet den doot/ want het is een
toeruecht te gesien. Yo die wine melcuerwich/ en
diche/ en veel jaedts inden gronde is/ dat beduyt dē
steen/ Maer is die wine also ghedaen/ en gheen sint
inden bodem/ dat beduyt een sieckē/ die Colica heet/
dat is een sieckē inden onderstē daem/ dat is eenich
gheswoelen/ dat suldi also bekennen/ het is gheswol-
len/ Maer comet vanden steen/ so en si niet lere ghe-
swollen/ en die wine doet hem weē/ Somtijt is die
wine melcuerwich van die purgacie/ soo is si luttel/
ende drooue. Yo die wine biech en melcuerwich/ en
bouen lootachtich/ ende veel jaets daer in vliet/ dat
beduyt een sweeringhe indē liue/ ende ooc somtijt
dat water te laden. ¶ Nu sal ich hier sommighe
veruen der wine/ met hueren pposasio/ materie/
en ghedaente na stellen/ waer af hier voer/ int lange
wech ghenoech gheleert is/ Om die selue wine lich-
telich te kunnen onderscheyden/ en daer af te ken-
nen een oprecht vomisse ende oordeel te gheuen/ so
suldi die wine/ waer af hier die vinalen met dē ghe-
daenten volghen/ contempleren ende aensien teghē
en by dpe wine die v voren comen mach/ en doende
dat inder manieren/ so dat ghenoech int begrip der
tekenen inder wine/ clariēch gheleert is/ om die
wine te onderscheyden/ ende daer wt dpe sieckē te
kennen/ en die complexen der sieckē/ daer na dpe re-
medien/ curen/ en medicinē/ bequamelijc ordineren.



¶ Hier eynde dat boeck vande Wine/ w
Ppocras/ Galienus/ Aucenna/ The
ophylus/ en meer andere schi-
uers der medicinen ende
der Wine.



Fig. 5.26. Hand-coloured urine flasks, the glass represented in turquoise-green. *Tfundament der Medicinen ende Chyrurgien* (Antwerp: Willem Vorsterman, 1540), fol. D5r. Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 S985f 1540. [Tfund-1540-B16]

In the study of viewers' responses to images, colour is also an important yet little-studied source to gain a better understanding of early modern perceptions and interpretations of reused images. As the widespread practice of reuse within a single volume may sometimes continue to puzzle present-day scholars, some early modern responses to this phenomenon can be captured by comparing how different occurrences of a single woodcut have been coloured (see also Figs. 2.17 and 2.18 on p. 114). An insightful case is offered by *Den groten herbarius*, where, in all editions, the same woodblock appears twice, on two facing pages, to illustrate both the chapter on gold and on silver – and in the 1514 edition even three times, on three consecutive pages, also in the chapter on quicksilver.¹⁷² Consequently, readers cannot have overlooked that both images on the page opening are identical. The woodcut depicts a man who is pouring small lumps from a cup onto a table. The lumps are to be interpreted as gold, silver, or quicksilver, depending on the chapter. The colourist of a copy in Leiden (Herb-1514-LRB) evidently did his or her best to make all three images look different (see Fig. 3.26 on p. 192). Not only the lumps of gold, silver, and quicksilver, but also the man's clothes have been given slightly different colours in each of the images.¹⁷³ At the same time, the ground and the table are coloured identically in all three woodcuts. Thus, this way of colouring seems to emphasise that, within similar contexts, there is a difference in substances, the key topic of the text.

By contrast, in a copy in Antwerp (Herb-1532-A170), both woodcuts have been coloured virtually identically in all aspects, except for the man's trousers (Fig. 5.27). This apparently irrelevant detail might perhaps be interpreted as a subtle visual joke: it emphasises, in fact, that everything else in both images is the same.¹⁷⁴ A reader of a copy in London (Herb-1526-Lo1) also turned the images into a kind of 'spot the difference' game. He or she has drawn in a few additional lumps in both of the woodcuts: five in the one for gold, three in the one for silver (Fig. 5.28). They may well be considered doodles, but nonetheless two things are remarkable about them. First, the reader paid close attention to the shapes of the printed lumps, imitating in drawing the pointed and angular shapes that were occasioned by the woodcutting technique. Secondly, by adding different amounts of lumps, the reader created a subtle difference between the two identical woodcuts. In contrast to the trousers in the Antwerp copy, the

172 The block is not identical throughout all editions (there are instances of reuse as well as of copying), but each edition shows the same scene twice in succession.

173 In similar vein, the colourist of Herb-1532-B16 has also strived after differentiation, both in the lumps of gold and silver and in the man's clothes in both images.

174 An instance of apparently deliberate playing with highly subtle differences between woodcuts is also discussed in Orgel 2000a, 61 (on John Heywood's *The Spider and the Flie*, 1556).



Fig. 5.27. Gold and silver, hand-coloured nearly identically except for the man's trousers. *Den groten herbarius* (Utrecht: Jan van Doesborch, 1532), fols. e4v–f1r. Antwerp, Hendrik Conscience Heritage Library, Collectie Stad Antwerpen, G 142285 [C2-519 f.]. [Herb-1532-A170]



Fig. 5.28. Gold and silver, with hand-drawn added lumps. *Den groten herbarius* (Antwerp: Claes de Grave, 1526), fols. d4v–e1r. London, British Library, 546.i.8. © British Library Board. [Herb-1526-Lo1]

difference pertains in this case to the main subject, the gold and silver. This case shows how the reuse of images could invoke readers to play with notions of similarity and difference through colour (or drawing). These readers/colourists tapped into the potential of reused images to incite connections between text passages on different topics.

Red accents

So far, this chapter has shown in many ways how surveying multiple copies can bring patterns of use to light that would be difficult to recognise and evaluate on the basis of a single copy. I experienced the benefit of this approach in particular for the phenomenon of ‘rubricated’ images. This practice of adding

tiny red accents seems idiosyncratic at first sight, but it turns out to be strikingly pervasive across early modern books (see also Appendix 4). Once I started paying attention to it, I kept finding more and more examples, in my corpus as well as in other text types. Red details in images typically go together with rubricated text, applied in the same ink and therefore probably applied by the same person who rubricated the volume.¹⁷⁵ Red accents in the same colour as the rubrication sometimes also appear amidst other colours.¹⁷⁶ In some cases, red accents in images – as the only colour in a volume – are executed in red crayon or paint (also in volumes where the text is not rubricated).¹⁷⁷ The practice of image rubrication calls for a closer study of its scope and meanings than I can provide here, but I hope to point out some peculiarities and raise some questions that may guide further research.

Red details abound especially in the copy of *Tregement der ghesontheyt* kept in Berlin (Trege-1514-B05). They are present in nearly all woodcuts, applied in the same red ink as the text rubrication. In some of the woodcuts, the red accents easily make sense, for example where they represent candle flames in the woodcut illustrating the chapter on sleeping. More puzzling are the red dots in the illustration of bloodletting that depicts a patient sitting on a chair in a room with two men standing next to him (Fig. 5.29). One is holding his arm, the patient's sleeve rolled up, the other is about to make an incision in the arm. The meaning of the red dot on the arm is clear enough, but what to make of the red dots on the men's headcovers, the red stripes on the door in the background, or the red rims of the jugs and cans in the cupboard to the left? This is a typical phenomenon throughout the volume: while some of the red accents are clearly related to the main subject of an image, or to items that are actually red, others seem chosen much more randomly, but with a sharp eye for pictorial detail (see also Fig. 1.8 on p. 65 and Fig. 5.18). The rubricator who applied the red details seems to have had a particular fascination with food and drinks, fruits and

¹⁷⁵ So far, I have more or less haphazardly come across a dozen of copies, of different texts, where rubricated text is combined with red accents in the images in the same ink. They include Gregor Reisch, *Margarita Philosophica* (Strasbourg: Johann Schott, 1503, copy Washington, D.C., Library of Congress, Rosenwald 595); Jacob Wimpfeling, *De concubinariis avisamentum* (Utrecht: Jan Berntsz, c. 1515, copy The Hague, KB, National Library of the Netherlands, 225 G 7); Suster Bertken, *Een devoet boecxken van die passie ons liefs heeren* (Antwerp: Willem Vorsterman, c. 1520, ex. Lincoln Cathedral Library); *Lied von dem hungerigen in der not* (Speyer: [Anastasio Nolt] [c. 1528], copy Stuttgart, Württembergische Landesbibliothek, MCR 16 Lie 1). I thank Cécile de Morrée and Anna Dlabáčová who have drawn my attention to a number of copies; see also Dlabáčová 2020a, 204–205. Further examples are mentioned in Margócsy, Somos, and Joffe 2018, 24; Areford 2010, 53–54 and 86–87; Smith 1990, 136 (note 21). A more systematic search will undoubtedly yield many more examples.

¹⁷⁶ For example, in the volume in Bethesda, MD, containing Chyro-1536-B16, Herb-1532-B16 and Hantw-1535-B16b.

¹⁷⁷ Scaep-c1514-G03; Scaep-1516-B02; Tscap-1520-L01; Herb-1547-L39. See also Appendix 4.



Fig. 5.29. Letting blood, with various accents in red added by the same hand as the rubrication. *Tregement der ghesontheyt* (Brussels: Thomas van der Noot, 1514), fol. p5v. Berlin, Staatsbibliothek Preußischer Kulturbesitz, 4^o J1 407. [Trege-1514-Bo5]

flowers, rims (on hats, jars, fountains, ships), fire, mouths, and animal beaks.¹⁷⁸ This particular choice of detail contributes to the impression that this rubricator was not a professional but rather the owner of the book, who used the red ink to create a highly personalised copy.

The red details in the copy of *Distellacien* in The Hague (Dist-1514-Ho4) strongly resemble those in the Berlin copy of *Tregement der ghesontheyt*. As the textual rubrication of both volumes shows striking similarities, too, I would like to hypothesise that these copies may have belonged to the same owner.¹⁷⁹ In the *Distellacien* copy, the author figure sitting at his lectern has a red mouth. Red mouths also appear in the figurative border with hunting scenes that surrounds

¹⁷⁸ A similar interest is also apparent in the colouring of Scaep-c1514-Go3, where the only colours that were used are red crayon and a greyish shade of green. The reader-colourist applied the red crayon to accentuate a number of elements that are actually red, such as the fireplace in the calendar scene of February, but also, like in Trege-1514-Bo5, various items of food, headgear and buildings.

¹⁷⁹ They share not just a peculiar choice of details that were accentuated with red dots (with a special interest in mouths and animal beaks), but also a rather messy rubrication that may be attributed to a single reader. It includes wavy lines below the chapter titles that often do not cover the entire title. In both copies the colour of the rubrication ink varies (sometimes within a single line, as a gradient) from bright red to dark purplish red with a silvery shimmer.



Fig. 5.30. Mouths and animal beaks accentuated in red in an ornamental border.
Die distellacien ende virtuyten der wateren (Brussels: Thomas van der Noot, 1517), fol. av.
The Hague, KB, National Library of the Netherlands, KW 228 A 20. [Dist-1517-Ho4]

the coat of arms and printing privilege at the beginning of the book: all but one of the huntsmen and a woman, as well as some of the animals, have red mouths (Fig. 5.30), and two flowers in this border have a red heart. Furthermore, two of the still-heads illustrated in the text have a tiny red ball on top. The peculiar choice of details again suggests a rubricating reader rather than a professional rubricator. Another copy with red accents in the same colour as the rubrication is *Der scaepherders kalengier*, held in Washington, D.C. (Scaep-1516-Wo2). In the image of the zodiac man in this copy, one connecting line is marked in red: between the neck and the zodiac sign of Taurus.¹⁸⁰ This sign, or this body part, may have had a particular significance for this reader.

It seems typical of the red accents that some are clearly meaningful and others apparently more arbitrary. The application of red accents has received some scholarly attention in the context of religious prints. It has been pointed out how colour can be 'a necessary iconographic, compositional, or symbolic component,' for example in prints where red is used to indicate the blood from the wounds of Christ or martyr saints.¹⁸¹ Dackerman argues that such devotional prints were not finished until the red (representing blood) had been added. I found examples of the use of red for blood in medical books, too, as in the above-mentioned image of bloodletting in *Tregement der ghesontheyt* and in a tiny depiction of a wound in a copy of *Hantwerck* (Hantw-1535-B16b).¹⁸²

A striking yet understandable application of red is in human or animal figures with red mouths, in various cases indicating speech or at least the conveyance of a message. This type of addition appears to have been quite common, within as well as beyond my corpus. In addition to the author figure in *Distellacien* (Dist-1514-Ho4), many of the scholar images in the composite volume in Bethesda with *Chyromantia*, *Den groten herbarius*, and *Hantwerck* (Chyro-1536-B16, Herb-1532-B16, Hantw-1535-B16b) were also given red mouths, including the author portrait of Johannes Indagine at the beginning of *Chyromantia* (see Fig. 4.1 on p. 199). In a copy of Hieronymus Brunschwig's *Large Book of Distillation* of 1512 in German, the author/master in a *magister cum discipulis*

180 Scaep-1516-Wo2 furthermore contains red dots of rubrication ink – amidst less bright watercolours – in the stars in the image of Venus, in the tree in the image of Venus' children (apparently to represent fruits), and in the rim of a quay wall in the image of the children of the Moon. The rubrication ink is further used to fill up half-empty text lines with decorative patterns, which also testifies to this reader/rubricator's acute visual approach to the book.

181 Dackerman 2002, 29–33, quote on p. 30. See also Dlačová 2020, 204–205; Areford 2010, 36–54.

182 Hantw-1535-B16b, fol. D3v. An example outside of the Dutch corpus is the wound man on the title page of Hieronymus Brunschwig, *Cirurgia* (Strasbourg: Johann Grüninger, 1497), copy Copenhagen, Royal Library of Denmark, Inc. Haun. 924 fol. Inkunabelsamlingen.

woodcut has a red mouth, while his four students do not.¹⁸³ In a coloured copy of an entirely different text in Dutch, *Van die gheestlike kintscheijt Jhesu ghemoraliseert* (Antwerp: Gheraert Leeu, 1488) various speaking characters – humans as well as animals – are also depicted with red mouths.¹⁸⁴ However, why animals in decorative borders should have red mouths, too, as in copies of *Distellacien* (Dist-1514-Ho4) and *Chyromantia* (Chyro-1536-B16), is less evident.

The meanings of some red accents are by no means obvious, then. If we consider them as a kind of rubrication, we might expect that red would be applied to key elements (i.e. key in a story or in an argument or explanation). While this has happened in some cases, in many other cases the red accents come across as testimonies to a reader's wandering eye (or mind) rather than as functional signposts.¹⁸⁵ Precisely these cases provide a glimpse of what caught the attention, and suggest that early modern viewers' attention could be directed to quite different elements than those pertaining to what we might consider the essence. Further research into red accents may thus not only shed light on a widespread yet overlooked aspect of early modern reading culture, but may also contribute to a better understanding of early modern viewing experiences.

5.5 | Annotations as readers' interventions in book design

Like printed *mise-en-page*, annotations, too, convey messages through their layout and visual characteristics, in which similar dynamics of visual conventions are at work. Readers' interventions in – and interactions with – the printed layout show how they draw on visual conventions of book design for their own purposes and, indeed, how they create their own conventions. The visual appearance of annotations therefore has great potential as a source for enriching our understanding of early modern reading and viewing practices.

After the previous section has focused specifically on readers' interactions with images, the present section identifies and interrogates a range of other

¹⁸³ Munich, Bavarian State Library, Res/2 M.med. 36, fol. B1r, <https://www.digitale-sammlungen.de/en/view/bsb10197475?page=85> (accessed 23 April 2023).

¹⁸⁴ Ghent, University Library, BHSL. RES.1432, <https://lib.ugent.be/en/catalog/rug01:001781005/files/o> (accessed 23 April 2023). In addition, in this copy the mouth, nimbus, wounds, and sometimes even the entire body of the Christ child are accentuated in red. The cleavage of various female allegorical figures representing virtues is covered by opaque red as well.

¹⁸⁵ See also, for example, the red dots in the copy of *Margarita philosophica* (1503) in the Library of Congress in Washington, D.C. (Rosenwald 595): they include – again – red mouths (see Figs. 1.4 on p. 60, 2.14 on p. 108) and beaks, but also more puzzling details, for example in headgear and in the wheels of a mine cart (in the chapter on alchemy, *De metallorum transmutatione*; fol. E4v).

'visual modes of reading.'¹⁸⁶ It first discusses how multiple annotators co-inhabited the page as a site of knowledge-making, and the extent to which the visual characteristics of their annotations helped them distinguish themselves from other annotators. Next, I analyse how readers followed and even imitated printed layout elements. These marks not only show their sensitivity to book design conventions, but also how these conventions reinforce the status of the book as an object with an authority of its own. Subsequently, the analysis focuses on marginal symbols as one of the most typical graphic elements that readers added themselves, and for which they often developed their own conventions. The final section shows how readers extended the two-dimensional page layout into three dimensions through the ways in which they attach objects like pins and threads to the pages.

Readers sharing the space of the page

Traces of multiple annotators are often present within a single volume. How did they share the space of the page? Every annotator has their own singular ways of marking, not only in terms of handwriting but also in terms of their spatial conceptualisation and use of the page. The book thus becomes a site of knowledge-making that multiple annotators can co-inhabit, also across time.¹⁸⁷ How did early modern readers perceive marks made by other readers?

Individual styles of annotating have been addressed by scholarship to some extent, mainly for purposes of attribution. Idiosyncrasies sometimes enable us to establish what Heather Jackson has called a 'profile' of a reader, to recognise features typical of a specific reader.¹⁸⁸ Distinguishing between various annotators is often complicated, however, especially when there are only brief annotations to go by. Alternatively, we may shift the focus from questions of attribution to the question when and how early modern readers themselves responded to the notes of previous owners in a book. Did they distinguish between different hands? Were earlier notes considered an asset or rather an impediment to the authority or the practical usefulness of a book? Or, as surprisingly often seems to be the case, did they simply ignore them? Rather than answering these questions, my point here is to raise them in order to draw attention to a pervasive yet often overlooked issue where the visual qualities of annotations are at play.

¹⁸⁶ Sherman 2018, 38.

¹⁸⁷ Lavéant and Hansen 2019 have described this as an 'ecosystem of marks.'

¹⁸⁸ Jackson 2001, 149–150. Sherman describes how, upon opening a volume, it was his recognition of the particular shape of a manicule that literally pointed him to the identity of the owner, the Venetian humanist Bernardo Bembo. Sherman 2018, 25–26.

The joint presence of at least four annotators in the most extensively annotated copy of *Den groten herbarius* (Herb-1514-Bo2b) may serve to illustrate the pertinence of these questions for our understanding of early modern reading practices (Fig. 5.31). A neat and minuscule hand, likely from the second quarter of the sixteenth century, crammed long annotations in the margins and white spaces on many pages, in Dutch and Latin, including entire chapters copied out from the Latin *Macer floridus*.¹⁸⁹ The same annotator wrote many keywords in Latin in the margins to summarise the workings of recipes (e.g. *Ad oculos* in multiple instances), and inscribed the qualities (hot, dry, etc.) of plants inside their woodcuts. It was perhaps this same reader who also commented in Dutch on the verisimilitude of a few of the plant illustrations (see above and Fig. 5.12). In addition, the book contains marginalia in Dutch in two somewhat later sixteenth-century hands, one of which wrote synonyms for plant names, and another summarised keywords (e.g. *om goede tanden te krijghen*, fol. v5v). Although this copy contains multiple owners' marks on the final endleaf, these do not clearly match the hands of the annotations in the text. One curious reader profile in this copy, however, in yet another hand, can be linked to the name of Rombout de Vryese, even though we do not know who he was. Apparently a less experienced annotator around the end of the sixteenth century, Rombout used the margins to write his name and a handful of annotations in large letters in flawed Latin. Perhaps they are pen trials; they include a prayer-like phrase and a comment on water lizards that includes the word *ffeeeeeeeen* (Fig. 5.32).¹⁹⁰ We may wonder what he thought (if anything) of the elaborate *Macer floridus* annotations, for example. We may also wonder whether the annotator who added occasional keywords was ever able to retrieve these easily amidst the wealth of Latin and Dutch marginalia scribbled by the earlier sixteenth-century annotator. Within a single copy, then, we see several early owners of the book applying their own systems of annotating, each with their own interests and for their own purposes. While an illustrated herbal could be an intellectual showpiece for one reader, another might use it as a personal or institutional archive to gather relevant knowledge from different sources, or it could be an aid in finding or identifying a plant.

189 I am grateful to Carla de Glopper for advising me on distinguishing and dating the different hands in this copy, and to Mariken Teeuwen for helping me decipher and translate the Latin annotations and for identifying the source text. *Macer floridus* was a standard work of herbal medicine, written in Latin hexameters probably in the eleventh century. It appeared in print many times from 1477 onward.

190 Herb-1514-Bo2b, fol. E4r, in the upper margin (above the printed chapter on water lizards or *stincus*): [Ont?] Onghestadyghe dyeren acketyssen ofte slanghen gegneraty[...] dan g ffeeeeeeeen [E?]m stymentybus complechsye[...]. In the right margin: *Dominus vobuscom et com spiritu tuo o [...]*. Many thanks to Carla de Glopper, Sophie Reinders, Robert Stein, Mariken Teeuwen, and Mark Vermeer for the enjoyable time spent in attempting to crack these puzzling annotations.

112

Dese is de hant van den heyligen
 Hieronymus

ongeslechte en vā die quade vuchliche
 den die wt die oge lopt ¶ **S**arco colla
 colla en sal alleene int luf niet genomen
 worden want den ghenen die sarco colla
 sonder eenige andere medecine alleē in
 niet valt alle sine hant wt ¶ En dese ge
 reighen daer af grote cranchede ¶ En die
 edene hier af is wās her voort dingher
 knaghende alle die binnenste leden ¶ En
 als men sarco colla nutten wille so sal
 mens te voer bereid met olie de herua
 of met olio van rooßen ¶ **P**aulus scrift
 indē capitelē sarco colla sicut sarco colla
 en wit vā eperē en maect hier af ee plaes
 sere Dese beneet dat ouer uledich blo
 den der nosen alle opden slaep vanden
 hooftē gheleit wort ¶ Dese gomme ghe
 polueriseert en my rooswater vermēgt
 en bereit en daer na weder met rooswa
 tere vermēgt en bereyt Dit in die vlec
 hige ogghen ghedaen beneemt die vlec
 hen daer wt en maect die ogghen claer
 ¶ Den rooch van sarco colla van beno
 den opwaerts ghelaten is sere goet te
 ghen die pinen des eersdarms ¶ **T**heriac
 mon ghenaeint.



CLXXI
water cechdissen
Dat .L.L.L. lxxxij cap

Strincus latine
Hicenna scrift in sinen wreden
 boeck inden capitelē strincus dat
 strinci somnighe diechens sijn die men
 in die water beken vinde in Egipten en
 in lombardien ¶ En dese sijn ghelelt ghe
 lye die hupsterken anders dan datē gee
 ne vloghelen en hebben ¶ En si sijn die
 beste die inden mepe ghenanghen wor
 den en alle worpen oft iongen hebben
 En die grote sijn betere dan die cleyne
 ¶ **I**nden boeck circa instans bescrijft ons
 die meestere dat dese diechens hert en
 droghe sijn in den derden graet ¶ En dat
 si somnighe vis hens sijn ¶ En dat si den
 eechdissen oft Tacertis ghelijc sijn ¶ En
 die ouer die see ghenanghen wordē sijn
 die beste ¶ Dese vis hens worden gefont
 ten en daer na laer mensē droghe of dor
 re worden ¶ **H**icenna spreect int voer
 noemde capitelē dat si goet sijn de ver
 rouden sere alle mēter verticheyt hier
 af besmeert worden ¶ **D**at water daer
 strinci in ghesouren wordē vermeerder
 ende crachtich die menschen tot dat on
 hupsch werck oft ad coyum Ende vele
 meer dat vleesch van hare sterren als
 dat gheen wordē ¶ **D**ese vis hens ge
 ten met Dymargariton oft met Dya
 penidion vermeerderen seere dpe vlee
 schelijc beghereet ¶ **D**ese dperen heb
 ben in hare sterren een cleine vergijst
 oft serijn Ende dese dperen worden al
 tijt in die aporeken ghenonden want si
 worden tot vele medecine gebesich.

Fig. 5.32. Annotations by Rombout de Vryese, including the word (?) ffecececeen.
 Den groten herbarius (Antwerp: Claes de Grave, 1514), fol. E4r.
 Brussels, KBR Royal Library of Belgium, VH 6.696 A (RP). [Herb-1514-Bo2b]



Fig. 5.33. Two manicules and overlapping underlinings in a passage on the use of *meesterwortel* against different types of fevers.

Den groten herbarius (Utrecht: Jan van Doesborch, 1532), fol. d2v. Washington, D.C., Library of Congress, Rosenwald 1107. [Herb-1532-Wo2]

That it could be challenging for annotators to move around the pages without getting in each other's way becomes especially apparent in another copy of *Den groten herbarius*, kept in Washington, D.C. (Herb-1532-Wo2) and a copy of *Tfundament der medicinen* in Bethesda (Tfund-1540-B16). In each of these copies, at least two annotators have been active, and some passages have been marked twice, for example with two manicules or with combined or even overlapping underlinings (Fig. 5.33).¹⁹¹ In *Den groten herbarius*, the earliest of the two hands is a lighter colour of ink, so that the darker annotations of the second hand stand out more clearly. This must have been practical to this later annotator, who regularly wrote his/her marks over those of the predecessor and thus did not seem to find them very valuable. In *Tfundament der medicinen*, too, the second annotator used a darker ink than the first. And while both of them had a clear interest in the herbal section of the volume, each of them had a different focus: the first annotator underlined especially the names of herbs and their parts (e.g. 'root'), while the second annotator focused more on indications of efficacy. In this case, the later annotator not only used a darker shade of ink, but also underlined in a different way (e.g. using double lines, partial frames, vertical wavy lines, and underlining each word separately rather than with a continuous line). In both copies, then, the later annotators found ways to make their annotations distinct from those of a predecessor. The apparent lack of interest in, or at least engagement with, earlier annotations reinforces the impression that many readers took up these books out of particular, personal interests.

¹⁹¹ Overlapping underlinings occur on many pages in Herb-1532-Wo2, and in Tfund-1540-B16 they occur multiple times for example in the herbal treatise that starts on fol. F4r.

I have hardly encountered any cases where readers engaged in debate with each other in the margins, responding to each other's annotations.¹⁹² A rare example may be found in a copy of *Der vrouwen natuere* (Vrouw-1555-A91), where a reader affirmed the veracity of a passage that apparently another reader had struck through. Next to the erased passage, which states that a rash on the arms is a sign of excessive blood in the body, the reader wrote: 'Those things asserted here are very true, I have seen them myself.'¹⁹³

By approaching the page as a site where different readers were present together, we achieve a clearer view of the visual conventions that readers used, of whether they made an effort to distinguish themselves from other annotators, and of the care or even reverence – or lack thereof – with which they treated their books.

Following and imitating the printed layout

The visual aspects of readers' notes and marks discussed so far were an important tool for the customisation of books, providing readers with a multitude of opportunities to inscribe a book with their own, personally authorised content and to tailor it to their own practical needs. At the same time, these visual aspects often reveal an evident respect for the authority of the book as an object. I found a substantial number of cases where annotators followed and even imitated the printed layout. Conversely, the cases where readers' interventions more or less clash with a book's design – e.g. when they write upside down, or add pen trials haphazardly, or just use any blank space on the page¹⁹⁴ – are less numerous. Owners' marks typically evince how some owners approached their books with more respect than others did. While some owners combine their name with all kinds of pen trials, others have clearly made an effort to write as neatly as possible.¹⁹⁵

Various readers used woodcuts as landmarks on the page to attach their notes to. While these inscriptions predominantly concern keywords (and especially plant names), images sometimes also served for inscribing one's own

192 On such practices, see for example Hoff 2022, 44–45, 214–215; Hoff (forthcoming); Visser 2017, 93.

193 Vrouw-1555-A91, fol. C6v: *Verissima sunt ea que hic habentur siue legentur ego ipse sepi[sim]e vidi.* I thank Mark Vermeer for his help in transcribing and translating the Latin annotation.

194 Upside down: e.g. Dist-1517-Wo2, fol. h5v; Herb-1547-A17o, fol. B4r. Margins filled without particular attention to layout: Herb-1514-Bo2b. The sixteenth-century annotator who wrote various long notes in Latin in this copy regularly found that there was not enough room in the margin where (s)he had started: (s)he continued from the top margin into the side margin, or from side margin into bottom margin.

195 For example, Herb-1526-Lo1 contains many pen trials, including multiple trials *dit boeck hoort toe* without a name, on the last page, M4v. By contrast, Magdalena van Tuerenhout inscribed her name with great care, at various moments in her life, in Herb-1526-N53.

name. This practice was quite common in the context of devotional prints, where inscribing one's name on the image of a saint functioned as a means of invoking intercession and securing remembrance.¹⁹⁶ In the medical context, some readers specifically used images in an act of personalisation and perhaps, too, out of a will to be remembered. A certain Sebastiaen van Aeyssle distributed the three words of his name evenly between the four Renaissance-style pillars on the title page of a copy of *Chyromantia* (Chyro-1536-G12). Petrus Saxsi, annotating in the seventeenth century, wrote his name in a copy of *Hantwerck* (Hantw-1535-L01) not on the title page but inside the book, in the woodcut of a pair of tweezers, with 'Petrus' left of the tweezers and 'Saxsi' to the right (Fig. 5.34).¹⁹⁷ In a copy of *Tfundament der medicinen* (Tfund-1532-Y06), the coat of arms of an unidentified owner has been drawn below the printed coat of arms of the printer Willem Vorsterman, thus personalising the book by creating a visual parallel (Fig. 5.35).

The playful ways in which printed books could convey knowledge, discussed in Chapter 4, are mirrored to some extent in readers' playful engagement with the space of the page. Sherman has observed this phenomenon in drawings of manicules, which for example seem to emerge from an invisible



Fig. 5.34. Owner's inscription of Petrus Saxsi, written inside the woodcut of a surgical instrument.

Dits dat hantwerck der cirurgien (Utrecht: Jan Berntsz, 1535), fol. D1r.

London, British Library, General Reference Collection 549.k.4. © British Library Board. [Hantw-1535-L01]

¹⁹⁶ Schmidt 2002, 354–356.

¹⁹⁷ Hantw-1535-L01, fol. D1r. Saxsi also owned Herb-1526-L01, where he also inscribed his name on a page within the book (fol. n1v) as well as on the front flyleaf.



Fig. 5.35. Two hand-drawn coats of arms below Willem Vorsterman's printed mark. *Tfundament der Medicinen ende Chirurgien* (Antwerp: Willem Vorsterman, 1532), fol. E6v. New Haven, CT, Yale University, Medical Historical Library, call number: 16th cent+-. [Tfund-1532-Yo6]

body at the edge of the page.¹⁹⁸ Such manicules occur in copies of *Tscep vol wonders* (Tscep-1520-L79) and *Tfundament der medicinen* (Tfund-1530-Go3a). Visual play is also manifest in the tiny profile face that the rubricator of another copy of *Tscep vol wonders* (Tscep-1514-Lo4) drew against a printed initial I.¹⁹⁹ In a copy of *Hantwerck* (Hantw-1535-Go3), the woodcut of a scissor-like instrument was modified in a playful way: it has two triangular holes, as if the instrument has cut away the paper there (Fig. 5.36).²⁰⁰

Outright imitation of printed layout can be observed especially in cases where readers made corrections or additions. In the 1514 edition of *Den groten herbarius* the chapter number for *Orijn cruit* was erroneously left out, leaving a white space in its place below the chapter title.²⁰¹ One reader added the forgotten chapter number ("CCxvi") by hand in this white space, in elegant letters that clearly imitate the printed type (Herb-1514-Ko7). The reader thus made a deliberate effort to have the handwritten number resemble the other chapter numbers.²⁰² The reader of *Der scaepherders kalengier* (Scaep-c1514-Go3) who annotated the eclipse diagrams, commenting that there were no eclipses in 1535 (see



Fig. 5.36. Scissor-like instrument, the paper cut out between the blades.

Dits dat hantwerck der chirurgien (Utrecht: Jan Berntsz, 1535), fol. D1r.

Ghent, University Library, BIB.ACC.008519. [Hantw-1535-Go3]

198 Sherman 2008, 37.

199 Tscep-1514-Lo4, fol. c1r. This type of visual playfulness continued from manuscript culture into the print era.

200 Hantw-1535-Go3, fol. D1r. It is difficult to ascertain whether this was done in the early modern era, but the triangles were certainly cut out deliberately.

201 Herb-1514, fol. s1v.

202 This missing chapter number was also added by hand in Herb-1514-LRB, but there the letters do not imitate print. A reader of Herb-1514-Bo2a added *Salmaria* on fol. E5r to the chapter title of *Zoeghenwortele*, in neatly written letters flanked by curly lines.

...
orine te indicere. En noch een tractaet om die crachten van alle medicinen te ken-
nene / met vele andere goede leeringhen. .



Fig. 5.37. Ornamental borders elongated with hand-drawn blocks to match the height of the plant woodcuts.

Den groten herbarius (Antwerp: Claes de Grave, 1514), fol. A1r.

Washington, D.C., Library of Congress, Rosenwald 1128. [Herb-1514-Wo2]



Fig. 5.38. Annotations with adorned letters, hand-colouring by a reader (generic author portrait partially coloured).

Tscep vol wonders (Brussels: Thomas van der Noot, 1520), fol. f2r.
 London, Victoria and Albert Museum, National Art Library, 86.E.73. [Tscep-1520-L79]
 Photo: © Victoria and Albert Museum, London

Fig. 5.13), corrected the printed year xxxv into xxxvi by adding an i in the same size and style as the printed type, even adding tiny serifs like the printed i's have.²⁰³ A graphic addition was made by a reader of *Den groten herbarius* (Herb-1514-Wo2), who drew a small decorative block on each of the outer ends of the two vertically printed decorative borders on the title page (Fig. 5.37). Thus, this reader extended the height of the borders to align with the height of the plant woodcuts that they flank. Apparently, it annoyed him or her that the height of the printed borders did not match that of the woodcuts. The same annotator of *Tscep vol wonders* who made a manicule appear from the edge of the page (Tscep-1520-L79) gave his/her written keywords and *notas* particularly graphic qualities by adorning the letters with curls, saw-like edges and drawn fleurons, and positioned them in a well-balanced manner on the page, for example centred in the upper margin (Fig. 5.38). To this reader the book must have been quite a precious object.²⁰⁴

In one particularly fascinating case, an annotator shows a keen sense of the printed book design, adhering strictly and consistently to its format when adding his own annotations. The same, peculiar way of annotating occurs in no fewer

203 Scaep-c1514-G03, fol. d3r.

204 Herb-1532-B16 also contains a single adorned *nota*, in large, elegant letters that are drawn rather than written, apparently to mark a passage of particular interest (the passage, on fol. d2r, urges to take into account the hot or cold nature of the patient as well as of the remedy when administering remedies).

than three copies, which I believe may all have belonged to the same owner: *Den groten herbarius* in Rijksmuseum Boerhaave in Leiden (Herb-1514-LRB), *Tregement der ghesontheyt* (Treg-1514-Ho4) and *Fasciculus medicine* (Fasc-1512-Ho4) both kept in the KB, National Library of the Netherlands in The Hague.²⁰⁵ Judging from the handwriting – a neat hand probably from the first half of the sixteenth century – this owner may well have been the Willem Barentsoen who inscribed his name on the title page of *Den groten herbarius*. The herbal is the most heavily annotated of the three; Willem added dozens of recipes, *notas*, and notes on medicinal qualities of plants (Fig. 5.39), while in the *Fasciculus medicine* copy he added many *notas* and underlining and three recipes (Fig. 5.40), and in *Tregement der ghesontheyt* there are some underlinings and *notas* and two added recipes in the same hand (Fig. 5.41). Typically, Willem was apparently reluctant to use the margins for his annotations. Instead, he scribbled them in the white space at the end of a printed text column, or in the white space above or below a woodcut or chapter title, whereas there is plenty of room in the margins. As a result, some of his additions in the herbal are not positioned on the page of the chapter where they belong but somewhere close by, wherever there was some white space left *within* a column. For example, he did not write his annotation on the use of lavender water in the chapter on lavender, as that had no white spaces, but instead wrote it in the whitespace between the chapters on magnet stone (*lapis magnes*) and pearls (*lapis margarite*). Probably Willem found this a logical place because they all start with an L.²⁰⁶ In all his additions, also in *Tregement der ghesontheyt* and *Fasciculus medicine*, he has taken care not to exceed the width of the printed columns.

Paradoxically, censorship – crossing out sex-related terms and magical recipes – could also be conducted with an evident respect for the book as an object. In some cases, admittedly, these acts of censorship seem to testify to the spontaneous rage of an annotator, like the blackened and fiercely crossed-out passages in the Brussels copy of *Distellacien* (Dist-1517-Bo2; see above and Fig. 5.5 on p. 260). However, in the copy of *Tfundament der medicinen* that belonged to

205 There are various indications that all three copies may have been annotated by the same person: first, the layout of the annotations as I discuss here; secondly, the resemblance in handwriting; and thirdly, an idiosyncratic way of underlining text passages (especially in Treg-1514-Ho4 and Fasc-1512-Ho4): the annotator did not just draw lines *below* the text, but also vertical lines *alongside* the text, creating a kind of rectangular blocks around each of the printed lines of text. These blocks are often accompanied by *nota* in the margin. Fourthly, the urine treatise that was originally part of Fasc-1512-Ho4 is bound in Treg-1514-Ho4. Whereas this has been noted by earlier scholars, including Nijhoff and Kronenberg (NK 1223), to my knowledge it has not been suggested that the relocation of the urine treatise may have happened already in the early modern period and that both copies may have belonged to the same early owner.

206 As noted in Chapter 2, *Den groten herbarius* is arranged alphabetically by first letter only, as was common in early printed herbals.

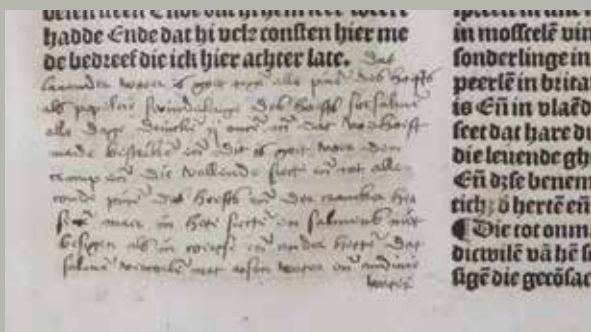


Fig. 5.39. Typical annotation (on lavender water), conforming to the length and width of the printed text columns, probably written by owner Willem Barentsoen. *Den groten herbarius* (Antwerp: Claes de Grave, 1514), fol. v2v. Leiden, Rijksmuseum Boerhaave, BOERH g 3301. [Herb-1514-LRB]

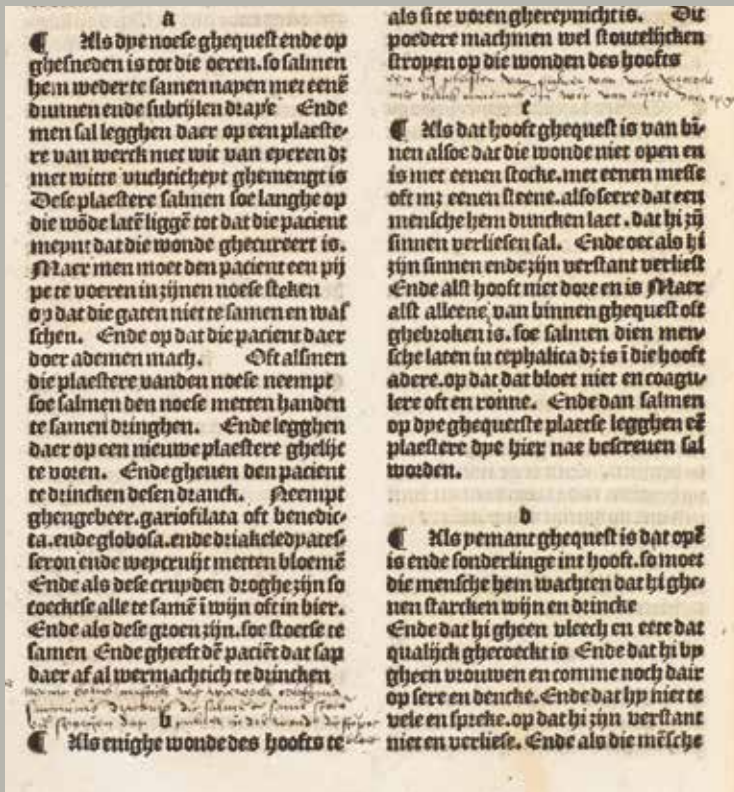


Fig. 5.40. Typical annotations, perhaps also written by Willem Barentsoen. *Fasciculus medicine* (Antwerp: Claes de Grave, 1512), fol. f4v. The Hague, KB, National Library of the Netherlands, KW 227 A 9. [Fasc-1512-HO4]



Fig. 5.41. Typical annotation (remedies against *terinck*, including staying cheerful to avoid melancholy), perhaps also written by Willem Barentsoen. *Tregement der ghesontheit* (Brussels: Thomas van der Noot, 1514), fol. c5v. The Hague, KB, National Library of the Netherlands, KW 228 A 18. [Treg-1514-HO4]

the Brussels sisters of St. Clare (Tfund-1540-Wo2), for example, only specific words (mostly related to genitals) that were deemed inappropriate were struck through very carefully, while the rest of the text in which they appear was not modified (see Fig. 5.17).²⁰⁷ This approach brings to mind how curse words are bleeped out in present-day videos: the bleep primarily serves to signal that an inappropriate expression is being used, while it often remains relatively easy to deduce from the context what is being said. Similarly, in the chapters pertaining to the male genitals in another copy of *Tfundament der medicinen* (Tfund-1530-G03a) only the chapter titles were struck through with neat lines, while the texts themselves were not censored. Rather than entirely hiding away or removing the offensive content, these modifications by readers seem to serve as a less compelling advice to skip a certain part of the book. The book is thus kept intact and it continued to be used, and judging from other annotations in the same colour of ink also by the censoring readers themselves.

Symbols

Readers interacted not only with printed visual and graphic elements, but they also added graphic elements of their own. Perhaps the best-known and best-studied symbol drawn by early modern readers is the pointing hand or manicule, a visual equivalent to *nota bene*. As Sherman observes, '[i]t is possible that, after a signature and a monogram, the manicule was the most personal symbol a reader could develop and deploy,' and he suggests that this may 'account for the trouble [early modern readers] took in drawing manicules.'²⁰⁸ The highly particular nature of manicules also comes to the fore in the volumes I examined, where they vary from crudely drawn fork-like shapes (Herb-1547-A170) to elegantly pointing fingers, sometimes even with hand-coloured puffed sleeves (Tscep-1520-L79). I would argue that it was not only because of the personal character of the manicule that several readers made such an effort in drawing them, as Sherman suggests, but also because these readers perceived the book as an object with an authority of its own, to be treated with reverence.

In addition to manicules, a range of other symbols appears as well. Their meanings and functions are often unclear.²⁰⁹ A complicating factor in their

207 See also Van Leerdam 2023b. Similar instances of censorship are also described in Margócsy, Somos, and Joffe 2018, 122, who also note that the censored passages are often still perfectly legible and that the black strokes even draw extra attention to these passages (some of which are indeed marked by a manicule).

208 Sherman 2008, 51–52.

209 On the vast variety of symbols added by readers, see also Blair 2010b, 314; Sherman 2008, 25–29.

interpretation is that in many cases it is not even clear to what text passage they pertain, particularly when they are written in between two text columns. Frequently used symbols such as + and x may have functioned as reading marks, apparently with connotations of approval (marking passages that were considered important), or, in the case of recipe texts where they are regularly found, perhaps even as indications of a recipe's effectiveness.²¹⁰ One annotator of *Den groten herbarius* had a particularly graphic way of marking recipes (Herb-1526-N53): this reader combined written keywords (in Dutch) with tiny marginal drawings of the body parts to which the recipes pertained. The simple, icon-like drawings include many eyes, but also ears, breasts, feet, penises, and a vomiting man (Fig. 5.42).

The meanings of other symbols are less evident. Basic shapes of the symbols I encountered are curls, possibly even initials in some cases, and combinations of straight or curved stripes and dots, for example resembling # or ≠ or ∴.²¹¹ A reader of *Tscep vol wonders* (Tscep-1535-Bo2) used an apparently quite sophisticated system of =- and #-like symbols in the treatise on *quinta essentia*, each symbol consisting of one or two horizontal lines and up to three vertical lines in various combinations (Fig. 5.43). It is noteworthy that similar basic shapes consisting of lines, curves, and dots appear across different copies and different texts, and not just in the Low Countries. The #-symbol, for example, also appears in a copy of *Tfundament der medicinen* (Tfund-1540-B16) and in a copy of the 1523 German *Der schapherders kalender*.²¹² In the calendar section of this latter copy, various saints' names have also been marked with ≠. A system resembling that in the copy of *Tscep vol wonders* (Tscep-1535-Bo2) is deployed by a reader of Ulrich von Hutten's *Guaiaicum* (Lyon: Claude Nourry, 1520), a treatise on the medicinal qualities of the wood *guaiaicum* against syphilis: the margins contain many signs consisting of a horizontal line crossed by one to four vertical lines.²¹³ The similarities between

210 For example, +es were added in Herb-1514-A04 to mark several recipes and in Fasc-1529-N01 to mark several descriptions of diseases. Melanie Panse also found several recipes marked with x in copies of Gersdorff's *Feldtbuch* and Brunschwig's *Cirurgia*; Panse 2012, 197, 198, 200, 203. Apart from indicating importance or effectiveness, perhaps readers used symbols to mark items they wanted to include in a future miscellany; such a function has been suggested by Marcy L. North in the context of Stuart verse collections in manuscript, North 2021.

211 Herb-1547-A170 contains multiple curly symbols in the margins, resembling initials. Herb-1532-W02 contains numerous symbols consisting of dots, triangles and/or stripes, including symbols resembling smileys ∴. Tiny, inconspicuous yet recurrent symbols consisting of a v- or j-like shape and multiple dots appear in Fasc-1512-A04 and also one in Herb-1547-A12 (fol. R4r).

212 *Der schapherders Kalender* (Rostock: Ludwig Dyetz, 1523), copy Copenhagen, Royal Library of Denmark, KB 52.313.

213 Ulrich von Hutten, *Guaiaicum. L'experience et approbation Ulrich de Hutten notable chevalier* (Lyon: Claude Nourry, 1520), copy Paris, Bibliothèque interuniversitaire de santé, https://archive.org/details/BIUSante_06306x02/page/n66/mode/thumb?view=theater (accessed 23 April 2023).

Dese wortele merparidane paritaria
 genaemt in wijn gesoden en gedrochen
 laereet den buyc en verdrift die pine w-
 ten buyche En is oec alsof goet den seni-
 nighen beten aent lichaem waer si sijn
 mogen. **D**ie also met bivoer gemengt
 en genomen doet wel otine maken. En
 gheeft den vrouwe haer stonde oft men-
 strua. **D**ie bloemen vande rosemarijn
 salmt in een witt doec binde en dan in
 wijn siede desen smozge oft des auonto
 gedronck beneemt vele siect en cran-
 cheden int lichaem En sonderlinghe den
 vrouwe aen haer borst. **D**ese bloeme
 gepolueriseert en in warme wijn geds-
 ke makē een volliche moet en sturcken
 die natuere en dat bloet. En behoede die
 mensche voor toevallige cranchheit. **F**lo-
 le vā rosemarine hout gebant of vande
 siec en gepolueriseert maken die tandē
 sniuer en wir en dode die wortē daer in
 ne also dit poluer in een sief doer gebon-
 den wort en also die tandē daer mede ge-
 wrent worden. **D**iet droet is int hooft
 die sal nemē die scorsen vande rosemarijn
 en makē daer af een roet en late dpe in
 die nootgaten gaen so geneekt hi. **D**ie
 wortele vā rosemarijn in arjn gesode en
 de voete daer mede gewallighe besceermē
 die mensche voor dat stedereijn in die voe-
 te Podagra genaemt. **D**ie nuchteren
 eret de bloeme vā rosemarijn in honich
 grare en met rogghē broet dpe to sekerē
 voor die droesen en voor die sweringhe d
 pestilencien en voor alle toevallēde crā-
 cheit. **J**ē dese bladerē vdiū de cancher
 daer op geleit. **J**ē wat mē eer met eenē
 seple die vā rosemarijn hout ghemaect
 is smact seer wel en her makē dpe mē-
 schen lustich en volliche. **D**ie niet lustich
 en is te eten de siede rosemarijn in wate-
 re en drincke dat oft menghe linen wijn

daer mede so wordt hi seer lustich. **D**ie
 gheswollen ware aende lichaem waert
 ware. **O**ft die die ghichte herst die siede de
 se bladeren in wazere en legge die in een
 dunnen linen doech ende binde dpe
 warm daer oppe hi sal te hant geneesen.
Die van herten groten doct lidende is
 die sal linen dranch menghen met wate-
 re daer rosemarine ende grare app-
 len inne ghesoden sijn so crichte hij bare
 sonder twijfele. **D**at poluere vanden
 bloemen alsoe doer ghesloren en in wep-
 he eperen gheten stact seere die natu-
 re der menschen en maect daer mede see-
 re goet bloet. **R**osemarijn cruit die oft
 viere hantdoellen ghedaen in een vachtē
 daer vint of selse vierendele wijnsinne
 gaen en daer inne ghedaen hagen buer-
 hen spaenderen en goede most den besē
 dese salmen daer inne laten ligghen ver-
 teren. **D**ers wijns gebroechē des mor-
 gens en des auonto eenengorden dronc
 maect in die mensche seer goet en schoon
 bloet en btengt grooten lud om te etene
 En hi maect den menschen seer volliche.
 En vdtijf alle die binne ghebrekē die
 vā quade vntichheit gecome sijn. **E**nde
 stact oec seer die mensche haer cranchheit
 En besceert die onmachtheit. **J**ē in de
 aporekē maect mē een eleuarium dat
 Dyanthos genaemt is. **D**it to oech goet
 tot alle dpe voerscreuene cranchheden en
 betere en natuerliker om te nemē. **J**ē
 rosemarijn crupt mer wilde boepe/ ofte
 pulegium siluestre oft met steen munte
 in wijn ende in boomolpe ghesoden doet
 der menschen lichaem swert als si daer
 mede ghetwallchen worden. En her doet
 wel sweten dpe watersuchtighen.
Rosemarijne ende whnurr mer wat
 pepers in wijn ghesoden is goet regghen
 dpe vallende siect. **E**pilencia ghenaemt



Karbide
 flouen

Epilencia
 ...

Fig. 5.42. Marginal drawings highlighting the efficacy of recipes.
 Den groten herbarius (Antwerp: Claes de Grave, 1526), fol. c3v.
 New York, Metropolitan Museum of Art, 44.7.33. [Herb-1526-N53]



Fig. 5.43. #-like symbols in the margins of the treatise on *quinta essentia*. *Tschip vol wonders* (Antwerp: Claes de Grave, 1535), fols. R3v–R4r. Brussels, KBR Royal Library of Belgium, II 47.705 A (RP). [Tscsep-1535-Bo2]

(basic shapes of) symbols across texts and regions call for further research on conventions of signs among early modern readers.

Symbols may have functioned for cross-referencing to personal collections of notes such as florilegia or commonplace books, as was a common practice of sixteenth-century note-taking.²¹⁴ This might explain why readers do not provide a key for their symbols in the printed books: it might have been present in a separate notebook. Alternatively, they may not have had a need for a key. As long as they understood their own system, it could be an effective and efficient way of annotating, even when they used highly idiosyncratic symbols.

214 On early modern note-taking: Leong 2018b; Cevolini 2016; Blair 2010a and 2010b; Moss 2005. Occasionally in my corpus, symbols written next to the printed text refer to written notes that are marked by the same symbol, similar to footnotes: e.g. Herb-1538-C01, fols. iv-iv2r; Herb-1547-A12, fols. R4v, S1r, S1v.

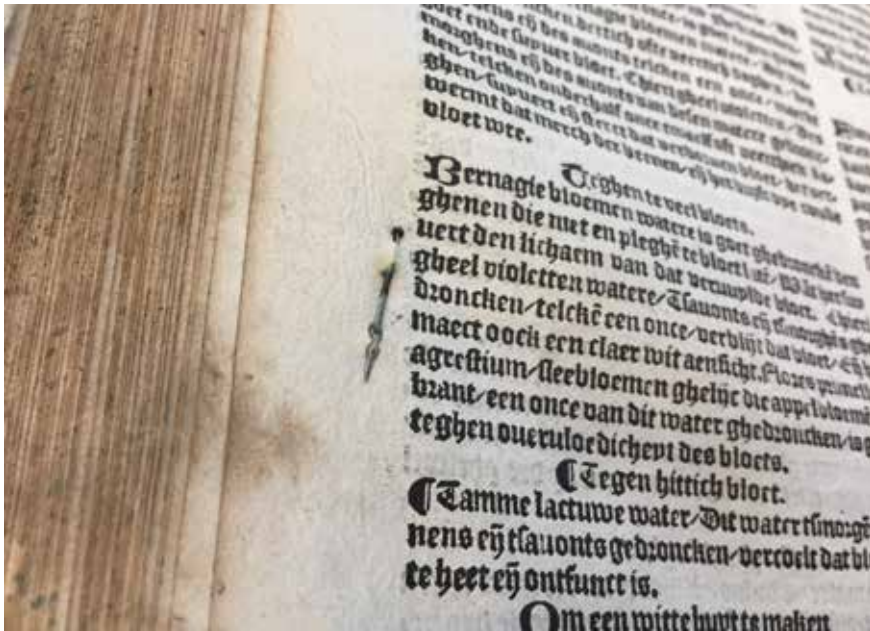


Fig. 5.44. A pin attached to the page.

Tfundament der Medicinen ende Chirurgien (Antwerp: Willem Vorsterman, 1532), fol. O3v.
Copenhagen, The Royal Danish Library, Fol. Pat. 19840. [Tfund-1532-Ko7]

Pins and threads

A particular type of readers' interventions in book design plays out not just on the space of the page but affects the book as a three-dimensional object. In a dozen copies I found (traces of) pins and threads attached to the pages.²¹⁵ Their use must have been much more embedded in early modern reading practices than has been acknowledged so far. In most cases, the actual pins are no longer there, but their former presence is evident from tiny, aligned holes with a rusty stripe between them and from their shape impressed in the paper (often also in the opposite page and even in underlying pages). A typical example is a copy of *Tfundament der medicinen* kept in Copenhagen (Tfund-1532-Ko7), in which not only many pinholes, but also three actual pins are still present (Fig. 5.44). Moreover, various pages in this copy have small threads sewn onto the paper with several stitches close to, and crossing over, each other. In all of the cases I have found, nothing is attached (anymore?) to the pins or threads. Therefore, their functions are not

²¹⁵ See also Van Leerdam 2021, 378–380 and Van Leerdam 2023b.

evident. They seem to have played various roles in the organisation of knowledge. Based on their positioning and on cases encountered in other volumes, two main possibilities arise: a function as paperclips or as markings.

Pins were used in early modern archiving and ordering practices as a flexible way to arrange papers, comparable to present-day paperclips.²¹⁶ It seems plausible at least for a few of the pins and threads in my corpus that they were used in such a way, even though whatever they pinned down is now lost.²¹⁷ On one of the pages of a copy of *Den groten herbarius* (Herb-1514-Ho4), three traces of pins are visible in the margin, placed in parallel and very close to each other.²¹⁸ Possibly these pins jointly held something that would otherwise tear loose. This object could well be something different than a written note. Especially for herbals like *Den groten herbarius* or other recipe collections it seems feasible that pins could also be used to attach dried plants to a page, although I have not come across any examples of such a practice.²¹⁹ Sewn threads, though lacking the flexibility of easily removable pins, may also have been useful for attaching something to a page. A thread sewn through the margin of a page of another herbal copy (Herb-1514-Bo2b) may, indeed, have been used to attach a dried plant: it is situated close to a stain on the paper that may have resulted from the leaf or flower of a plant that was attached by its stem (Fig. 5.45). Similar stain patterns are visible in a copy of *Den nieuwen herbarius* (the Dutch translation of Leonhart Fuchs' *De historia stirpium*) on the pages where three dried plants were recently found.²²⁰

Apart from a paperclip-like function, pins and threads also seem to have fulfilled various functions as markings. Some pins may have been used as bookmarks, to retrieve where one's latest reading session ended. This might explain why there are so many more pinholes than actual pins. Another possibility is that some pins and threads functioned as reading marks, a three-dimensional equivalent of keywords or pointing hands. Such a function is described by John

216 On the early modern use of pins as tools for flexible ordering: Giscombe 2018; Leong 2018b, 96–98; Walsby 2017, 371–373.

217 A copy of Leonhart Fuchs, *Den nieuwen herbarius* (Basel: Michael Isingrin, 1545 or later) at Utrecht University Library, ALV 162-459, still contains many paper slips with notes pasted on or, in two cases, pinned to the pages; Chen and Van Leerdam 2017a.

218 Herb-1514-Ho4, fol. E3.

219 The dried plants I have come across so far were inserted loosely between the pages, or pasted or sewn on the page. I thank Julia Heideklang and Sabrina Minuzzi for sharing their findings of dried plants in early modern herbals with me. For some examples: Chen and Van Leerdam 2017a; Olariu 2014, 54; Rautenberg 2018, 73 and Tafel VI (443).

220 They were found in Fuchs, *Den nieuwen herbarius* (1545 or later) at Utrecht University Library, ALV 162-459 when the copy was digitised in 2017, and are now preserved in separate envelopes. The pages (r1v–r2r and s2v–s3r) now contain small stains from the plants' stems and larger stains from the leaves. See Chen and Van Leerdam 2017a.



Fig. 5.45. A thread sewn through the page, a brownish haze in the woodcut, traces of a pin in the left margin.

Den groten herbarius (Antwerp: Claes de Grave, 1514), fol. k6v. Brussels, KBR Royal Library of Belgium, VH 6.696 A (RP). [Herb-1514-Bo2b]

Brinsley in his *Ludus Literarius; or, The Grammar Schoole* (1612), where he provides advice on how to annotate difficult passages, or passages of special interest. Brinsley advises underlining or ‘some prickes, or whatsoever letter or marke may best helpe to cal the knowledge of the thing to remembrance.’²²¹ Such a function seems all the more likely as the surviving pins are fixed so tightly and meticulously to the pages that we may wonder how something could ever have been attached to them without leaving a trace. One of the traces of pins in a copy of *Den groten herbarius* (Herb-1526-N53) is situated next to the only passage that is underlined in red and that was apparently considered of special importance.²²² Moreover, in various copies the pins and threads seem to have been situated at the beginning of a chapter or paragraph (see also Fig. 5.44).²²³

221 Quoted in Sherman 2008, 4. Maja van Leeuwen, in her PhD research conducted at Utrecht University, has found many pins that served as markings in seventeenth-century manuscript collections of sermons used in Dutch communities of *kloppen* (religious women who also called themselves ‘spiritual virgins’). I thank her for sharing her findings with me.

222 Herb-1526-N53, fol. E1v.

223 This seems to be the case for the majority of pins and threads in Tfund-1532-Ko7. In Tfund-1540-Wo2, too, various traces of pins suggest they may have functioned to mark specific recipes. See Van Leerdam 2023b.

Threads are known to have been used as structuring aids, sewn onto the edge of the paper and extending outside the book like tabs to mark the start of a new section.²²⁴ Such an application, however, differs markedly from the threads in my corpus, which do not extend and which are sewn with less neat stitches. Rather than signalling a book's overall structure (for which there are simply too few and they do not stand out enough), their purposes seem much more idiosyncratic, reflecting a reader's individual interests.

Important clues for the functions of pins and threads, then, seem to lie in their positioning on the page. While many are carefully pinned in the margin, exactly parallel to the printed text and frequently right at the beginning of a chapter or paragraph, some are tucked away in the inner margin or even pinned right through the text.²²⁵ The marginal ones may well have functioned as bookmarks or reading marks, while for the ones on the text or near the gutter a function as paperclip is more likely.

5.6 | Conclusion

This chapter has analysed reading practices from the perspective of actual readers from the sixteenth and seventeenth centuries, the earliest to leave their marks in the Dutch medical-astrological books under scrutiny. However piecemeal traces of use may appear, careful attention both to their content and form provides insight into early modern readers' engagement with illustrated books. This analysis has revealed a significant overlap between intended readers and use as envisioned by the book producers, and real readers and their reading practices. The books seem to have reached a diversified audience, consisting of professional as well as lay readers with an interest in health and nature. Their traces of use indicate that the themes addressed in the previous chapters – organisation, visualisation, and reliability of knowledge – are also at play in how readers customised their books.

Practically oriented annotations are predominant, and they pertain especially to medical recipes. Overall, the majority of annotations are in Dutch, which indicates that these readers actively used the vernacular in their knowledge practices. At the same time, Latin annotations and the common use of Latin phrases like *nota* suggest that at least part of the audience consisted of experienced or indeed learned readers. Annotations from the later sixteenth

224 Sawyer 2016; see also an example – with illustration – of a thread used as finding aid (in this case to retrieve handwritten marginalia) in Sherman 2008, xvii–xix.

225 For example in Herb-1514-A12, one pin is still present, pinned through the text (fol. b4).

or even seventeenth century in some two dozen copies indicate that medical knowledge from the early sixteenth century continued to be used, even when insights into such topics as botany and anatomy had altered or expanded drastically during the sixteenth century. Paradoxically, *Den groten herbarius* survives in a relatively large number of copies, while these also generally show more signs of wear and tear than the other works I examined. These heavily used volumes were cherished and preserved as personal, familial, or communal repositories of medical knowledge.

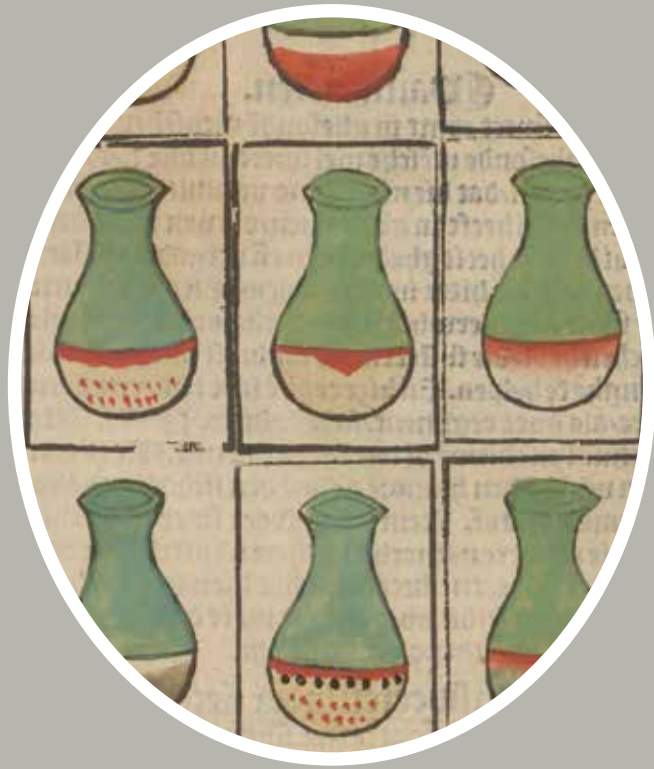
The extant traces of use point to selective reading as the dominant mode, although several readers apparently worked their way through an entire volume. The frequent annotation of navigational aids like indexes shows that readers actively intervened in the organisation of knowledge for later reference. Moreover, interests in specific ailments, in specific parts of a work, or in specific images come to the fore from how each copy has been annotated or modified selectively.

That annotating was not just a verbal, but also a profoundly visual – or, indeed, graphic – act, is substantiated by readers’ use of printed images to attach their notes to, and by their addition of drawings and symbols. Readers’ interactions with woodcuts may have left fewer traces than their interactions with texts, yet these traces are revealing of their viewing habits and of what caught their eye. Various types of annotations occur both for texts and for images, including rubrication, inscribing alternative names of medicinal substances, adding moralising quotations, occasional comments on veracity or reliability, and censorship. The practice of readers doing their own colouring merits closer study for its potential to shed new light on the reception of images, including early modern perceptions of image reuse.

A relatively large part of responses to images seem related less to medical-astrological knowledge production than to adornment, entertainment, distraction, or moralisation – even in books that *do* express overt instructive aspirations, like *Den groten herbarius*, *Tfundament der medicinen*, and *Fasciculus medicine*. A single image could evoke different kinds of responses: while one reader may have focused on the information it conveyed (for example when (s)he added a flower in a herbal image, or corrected text labels in a vein man), another reader may have been more keen on embellishment (adorning the plant image with lavish colours) or on sexual connotations (covering the vein man’s genitals).

Readers’ interventions in book design inform us of the extent to which they considered the book an authoritative object. Even traces as seemingly simple as a keyword written in the margin, or a corrected chapter number, reveal something of readers’ perceptions of the layout of the book, and to what extent they felt the need to follow this layout or, instead, the liberty to alter or personalise it by imposing their own visual conventions.

My analysis of a thematically coherent corpus shows, on the one hand, that annotators each have their own particular ways of marking and modifying their books. Attention to clusters of annotations is key, as it is often not a single characteristic but a reader profile as a whole that points to a reader's habits and interests, and that can indeed indicate that multiple volumes were annotated by the same person. On the other hand, such a substantial corpus allows for discerning patterns in practices of customisation that might seem idiosyncratic at first. These practices include the application of red dots, pins and threads, symbols, the use of woodcuts to attach annotations to, and the imitation of printed layout. Such practices are revealing of the visual conventions that readers recognised, deployed, or even devised for themselves. Early modern readers used a rich array not only of textual but also visual means to turn a book into a personally authorised resource of knowledge.



Detail of Fig. 5.26

Conclusion



Surgical instruments and gesturing scholars; nursing women and medicinal plants; personifications of planets and love fools; labours of the months and cosmos diagrams – how did such a variety of woodcuts guide readers in processes of knowledge transmission? In answer to the main question of this study, I have argued that woodcuts in early printed medical-astrological books not only communicate knowledge, they also communicate *about* that knowledge. They provide visual cues of how knowledge is to be classified in relation to other books, how it may be useful in daily practice, and why it is reliable. I have put forward an integral perspective on the roles of images in knowledge communication by asking not only what strategies, assumptions, and intentions of book producers these images reflect, but crucially also: how did actual readers engage with these illustrated books?

Two overarching conclusions emerge from this study. The first is that woodcuts – even, or perhaps especially, the crudely cut ones, the tiny ones, and the incessantly copied ones – fulfil important rhetorical functions in knowledge communication. My study has demonstrated how images shape three key mechanisms of knowledge transmission in particular: organising and visualising knowledge and conveying its reliability. They do so in close interaction with other paratexts and with the main texts, and as part of visual traditions that have their own dynamics as they travel easily across geographic and language borders. Therefore, in order to understand how images influenced the reading process, attention for the materiality of the book is crucial. Secondly, this study has demonstrated that materiality also yields important insights into the actual use of illustrated books and the customisation of medical-astrological knowledge by early modern readers. Their traces, whether markings, extensive annotations, quickly scribbled symbols, or hand-colouring, bring us as closely as possible to the concerns and perceptions of the earliest users of these books. Traces of use not only testify to readers' interests and reading practices, but also to their conceptualisation of the page as a visual space and, in some cases, specifically to what caught their eye in images. This visual aspect of early modern reading culture opens up new avenues for understanding the

historical role of information design in knowledge transmission. This concluding chapter will tie together the common threads that ran across the various chapters, addressing in particular the relations between producers' and readers' strategies.

Visual rhetoric, visual conventions, and traces of use

Visual rhetoric and the notion of visual conventions, which are important concepts in the field of information design studies, offer an auspicious framework of interpretation for the study of historical sources. As many conventions from the early printed book – and indeed from manuscript culture – continue to exist today, they seem so self-evident that we do not always reflect on how each of them conveyed meaning in its own way and how they functioned as signals for an intended interpretation. In fact, the visual rhetoric and visual conventions that book producers deployed reveal much about the knowledge and interests they presupposed among their intended audiences.

Charles Kostelnick's overview of rhetorical functions of design elements proved a conducive model for teasing out the communicative meanings of images in relation to other design elements. It has helped especially to understand what can be considered a hallmark of the visual rhetoric in vernacular medical-astrological books: the joint presence of narrative and analytical features. These books contain many images with narrative qualities, for example showing everyday activities such as eating or sleeping, medical consults, and scholars in conversation, that do not convey knowledge in themselves and are not *required* in order to be able to use the text. Yet, these images function as guides of interpretation through the rhetorical functions they fulfil: the ways in which they create interest, place emphasis, set a certain – playful, lively, engaging – tone, establish credibility, and signal the structure and cohesion within a text. Images with primarily analytical qualities – the typical epistemic images such as anatomical diagrams, images of plants and instruments – convey such rhetorical messages too, regardless of what knowledge they visualise or whether we consider that knowledge to be accurate. Attention to visual rhetoric is, thus, essential for understanding the roles of images in knowledge transmission. It provides an important addition to the long-standing scholarly interest in the subject matter of epistemic images and an instrumental framework for working towards syntheses in the thriving field of early modern visual epistemology.

The distinction made in this study between analytical and narrative features in images is not just a modern construct but appears to have been significant at the time. This is suggested by the explicit references to images in the main texts (*ghelijc dese figure bewijst*, etc.), which always pertain to predominantly analytical

representations and hardly ever to the predominantly narrative ones. Different kinds of visual language thus entail differences in image-text relations. Far from an exhaustive classification, the distinction is useful as a heuristic tool to unravel how different kinds of visual language were combined, frequently even within a single image. An important finding, elaborated below, is that the joint presence of analytical and narrative features in images within a single book helped to convey the accessibility and applicability of the presented knowledge. Together, the different types of images encouraged readers to influence their own health by taking into account the influence of the macrocosm on the microcosm.

By analysing readers' marks in a substantial group of individual copies, this study has brought to light patterns of use by early modern readers that would be difficult to recognise and evaluate on the basis of a single copy. This approach has also uncovered patterns in the visual conventions that readers deployed and indeed devised for themselves. Practices such as accentuating image details in red, attaching pins to the pages, marking with #-like symbols, using woodcuts as beacons for annotations, or imitating the printed layout may seem idiosyncratic at first, but within a larger corpus it becomes clear that they were more widespread than scholarship has acknowledged.

Illustrated books in sixteenth-century knowledge culture

The selected sources, a corpus of fifteen texts in Dutch in 51 illustrated editions in 120 individual copies, conveyed knowledge of medicine and astrology in the vernacular that was targeted at an audience of primarily non-specialists, including novice professionals. This corpus of mostly translated and compiled texts has offered a cross-section, condensed within the highly dynamic book market of the Low Countries, of how images and texts were presented that circulated more widely across Europe.

The great variety within the medical-astrological corpus, in terms of subject matter, material presentation and image use, demonstrates how the printing press made knowledge available to an increasingly large audience of different levels of expertise. The corpus also reflects how the interest in nature and the human body grew during the sixteenth century and became increasingly grounded in observation and empirical study, while medieval sources also remained influential. The visual rhetoric in the medical-astrological books alludes both to bookish knowledge and intellectual traditions (e.g. through author portraits, scholar figures, diagrammatic visual language, allegories) and to practical knowledge and the social contexts in which to apply it (e.g. through narrative scenes of application examples – eating, bathing, letting blood, etc. – playful scenes of interaction between women and men, diagrams displaying

functional relations rather than abstract principles). The increasing pursuit of experiential knowledge did not just emerge from professional concerns of naturalists and medical practitioners, but also from an intrinsic curiosity for knowledge of nature among a wide audience of literate citizens. Many of the studied works interweave practical instruction and entertainment, for example through the inclusion of verse passages or lively narrative images, and of visual and textual appeals to readers' curiosity.

These vernacular works on medicine and astrology provide testimony that the developments in the study of the natural world, in which the new medium of print played such an important role, went hand in hand with developments in visual culture. These developments concerned how images were made, circulated, and used. In the medical-astrological books, copies, adaptations, and re-publications abound, both of images and texts. This ubiquitous recycling urges us to rethink the influential idea put forward by William M. Ivins Jr., Elisabeth Eisenstein, and others that the innovative character of print in comparison to manuscripts lies especially in the production of *identical* copies (or Ivins' 'exactly repeatable pictorial statements') that would facilitate the exchange of knowledge. There is no question of identicalness when new renditions of an image or text are continuously being produced and multiple editions circulate at the same time. While the innovative nature of print certainly lies in its possibilities for multiplication, one could argue that for works like those studied here, 'identical' was hardly a more relevant concept than it had been for manuscripts. However, reuse and copying were now technically possible in distinctly easier ways than before print. Thus, new visual strategies emerged and earlier conventions evolved and came to be shared by new audiences of (vernacular) readers as images started to take on new roles in knowledge production, functioning, for example, as visual arguments or even as stand-ins for real objects. The medical-astrological corpus reveals that practices of reuse, copying, and combining different types of images need to be considered as constitutive aspects of the sixteenth-century knowledge culture in the Low Countries.

Accessible knowledge: Intended and real readers

Overseeing book producers' visual strategies, questions of accessibility come to light as a major concern: the decisions about images – whether taken by printers, illustrators, or compositors – testify to sustained and multifarious efforts to make the knowledge in these books accessible to a wide range of readers. These decisions have often been interpreted in terms of commercial, financial motives, emphasising the printers' keenness on saving costs and reusing materials

efficiently. Alternatively, intellectual motives of early modern authors also frequently constitute the basis of analyses of the images they included in their works. This study has shown that both types of explanations are insufficient, not only for a precise understanding of the factors at play in producing translations but especially for understanding the effects of images on readers.

The majority of editions in my corpus were not produced cheaply, but made with care. Even where images were copied and reused from other works, as happened often, there is usually an evident relation between image and text. Thus, book producers used generic or familiar visual language as a clever and innovative way of appealing to a wide audience. Moreover, time and again, printers invested in cutting new woodblocks (i.e. copies of previous blocks) for a new edition. Precisely because of the common practice of copying, these books played a quintessential role in the *dissemination* of knowledge, more so than in the creation of new knowledge on which current scholarship often focuses. Adaptations in images such as reductions in size, number, or level of detail compared to the – often German – source editions might make a publication cheaper and simpler to produce, as was the case for example in *Der dieren palley*, *Distellacien*, *Hantwerck*, and the Dutch abbreviated translation of *De sphaera* in *Der scaepherders kalengier*. Yet, these adaptations also made the publication more accessible (financially and/or intellectually) and thus made the knowledge it contains available to a larger audience.

These ‘reductive’ strategies in images should not merely be considered as a cheap solution for producers, but more importantly as part of a broader endeavour to enhance accessibility to non-expert readers. These strategies manifest themselves throughout the books: in audience appeals in title pages and prefaces, in providing translations or explanations for (Latin) jargon, in selecting only relatively simple diagrams from the source editions, in leaving out potentially upsetting content, in addressing the reader directly, in adding images with narrative and playful elements, and in accentuating practical usability. Accessibility was thus determined not only by whether a book was affordable, but also whether its content was understandable and usable, and its visual language familiar to the target audience.

It appears that these efforts sorted effect, as intended and real audiences seem to have overlapped considerably. Marks of ownership reveal diverse backgrounds and contexts of use, professional as well as non-professional. Annotations and owners’ marks point to a literate but not necessarily learned audience. Medical and astrological practitioners of various sorts will have been part of this audience, even though the overwhelming majority of owners do not identify themselves as such. Their marks of ownership suggest – and, in some cases, explicitly indicate – that their primary (professional) identity was

a different one. These inscriptions demonstrate that vernacular medical books aimed at instructing novice professionals regularly found owners outside of these target audiences. This observation underlines the diversity and complexity of the sixteenth-century health market. It also confirms book producers' apt assessment of health as a theme that potentially appealed to everyone. The vast majority of annotations are in Dutch, followed by a substantial number in Latin. At least part of the readers, then, must have had a learned background, yet most annotations – also those in Latin – are clearly related to practical use (especially curing all kinds of ailments) rather than to scholarly reading practices such as collation, cross-referencing, or theoretical discussion. At least some two dozen copies continued to be used as sources of knowledge – especially as collections of remedies – until well into the seventeenth century, as the handwriting of annotations as well as dated owners' marks suggest. The latest developments in such fields as botany, anatomy, astrology, and zoology were evidently not a central concern to every reader. Several of these early printed books continued to function for many decades as personalised, sometimes family-owned reference works.

Organisation of knowledge

The main aspects of knowledge transmission identified in this study – organisation, visualisation, and reliability of knowledge – interact in book producers' presentational strategies as well as in how early modern readers customised and used their books. For each of these three areas, I will now integrate the insights this study has yielded into image production and reading practices.

With respect to the theme of knowledge organisation, I have proposed that there are three interconnected domains of organisation where images play a role: the conceptualisation and intellectual ordering of Creation, the structure and coherence within a book established through design and visual language, and the classification of a book in terms of communicative genre. A recurring element in all three domains is a textual as well as visual rhetoric of completeness: 'countable schemes' in word and image suggest that it is feasible for human beings to comprehend the full extent of Creation and to get a grip on nature, including the human body. Such schemes are manifest in enumerations, image series, and diagrams that show the parts of a whole. Several schemes had been widely known since ancient and medieval times (the twelve months, the seven planets, the four complexions, etc.), while others were less conventional (e.g. the bones in the human body, the possible colours of urine). In their rhetoric of completeness a religiously determined worldview of a harmonious and well-organised Creation resonates, even though explicitly

religious references play a modest role in these books, mostly as a framework at the start and end. The implied message throughout of a fathomable macrocosm and microcosm demonstrates that these books, in addition to conveying practical instruction, also intend to stimulate knowledge of and admiration for the wonders of Creation.

Whereas theoretical foundations and practical manipulation of the natural world are often interwoven in the printed content, the annotations by early modern readers testify to a decidedly more practical than theoretical interest. The printed content certainly reflects a philosophically oriented curiosity that several recent studies have identified among sixteenth-century vernacular readers.¹ However, this mode of reading seems to have left fewer traces of use than reading for practical purposes. Comparable to the printed texts, in readers' annotations, too, an explicitly religious approach to medical knowledge surfaces only occasionally. Some readers add biblical quotes or moralising phrases to their books, most commonly at the beginning of the book or specifically linked to an image. Overall, both in the printed content and in annotations, a religious component in the organisation of knowledge is less prominently visible and remains more implicit than we might expect.

In the domain of layout, images and other paratexts jointly convey the impression of a searchable book that facilitates selective reading, even when individual elements do not always work according to present-day expectations. Images with and without a structuring function may occur in a single book, for example, and navigational aids such as indexes and chapter numbers may be quite cumbersome to use in practice. Readers made heavy use of such navigational aids, but like producers' solutions, readers' traces testify to conventions in the making. Readers annotate and extend indexes each in their own way, and they add folio numbers occasionally whereas corrections of chapter numbers are quite frequent. All of these observations underscore that we cannot apply our current standards of 'good design' to the sixteenth century, but that a present-day model of rhetorical functions of design elements is nevertheless fruitful for distinguishing between functions and for understanding the historical development of conventions.

In the third domain of knowledge organisation, images signal what kind of book the readers are dealing with, namely a book from which they can draw practical knowledge that can be applied in everyday life. The books persistently emphasise the practical usability of the knowledge they present, not only through the visual rhetoric of a searchable book, but also through the texts and the subject matter of the images. As part of endeavours to keep one's health,

1 Taape 2020, Van Dixhoorn 2018 and 2014.

some of the books studied here may also have been used as conversation pieces in the interaction between patient and healer. The range of narrative images depicting medical encounters may have evoked specific connotations in this context.

The iconographic and paratextual means to emphasise practical use have their counterparts in practically oriented annotations, which constitute the vast majority of readers' traces. Most of these annotations and markings are related to remedies, especially against everyday ailments. In terms of the third organisational domain of genre classification, distinctions between communicative genres are not only signalled by images and paratexts, but are possibly also reflected in the density of annotations. It is significant that some texts – most notably *Den groten herbarius* – are annotated more often and more intensively than others. Annotations are relatively rare in texts on specialist interventions in the human body (surgery, obstetrics, anatomy) and in texts with a substantially entertaining character (*Dat regiment der ghesontheyt*, *Den sack der consten*, *Der vrouwen natuere*). This suggests that readers may have used texts on these topics in different ways, and may have perceived them as different communicative genres, than texts on *materia medica* and health prescriptions, for example (even though they are sometimes combined in a single volume, like *Tfundament der medicinen*). While the book layouts generally accentuate possibilities for selective reading, both printed texts and annotations also provide indications of continuous reading. The predominance of signals of selective reading, then, does not exclude other reading strategies.

Visualisation of knowledge

The visualisation of knowledge, the second main theme of this study, was evidently a core function of epistemic images. To unravel what kinds of knowledge such images were thought to convey and what media-specific capacities were attributed to them, I have drawn on three types of sources that merit more sustained attention: the discourse of textual references to these images, modifications to copied images, and traces of use in images. Regarding the discourse on images, the corpus studied here demonstrates forcefully that truth claims and aspirations to lifelikeness are not only embedded in the well-studied term *contrafacta*, but also in more inconspicuous phrasings. The references in the printed texts are commonly concise and often without any evidently persuasive or polemical intention (typically something like 'as this figure shows'), yet underlying such phrasings is the notion that images are reliable and efficient visualisations of the real world. The knowledge-making processes they were considered to enable in particular are understanding, memorising, constructing,

and identifying. These processes were implied to take place not only in readers' minds, but to be integrated in practical acts such as letting blood, drawing up horoscopes, or establishing diagnoses. Predominantly analytical images are present especially in books that aim to teach practical skills, and these kinds of images were thus attributed an instructive role. Book producers not only took care to have image and text complement each other, but also to achieve spatial proximity between both. Their design solutions reveal that they considered this closeness on the page as a way to facilitate knowledge transmission, even though no theoretical reflection on this matter is known from this period.

The decisions book producers made in copying woodcuts for translated texts provide further insight into implicit ideas about the functioning of these epistemic images. In their copying strategies, printers consistently took care to preserve image-text connections as well as the information conveyed in the images, while at the same time they saw room for adaptations that affected overall tone and emphasis, often with an eye to enhancing accessibility and usability.

The extent to which actual readers used images for the intended purposes is difficult to assess, as the majority of images do not contain any traces of use. The extant evidence nevertheless offers precious clues. Two ways in which readers engaged with images as knowledge tools stand out: they annotated or captioned images for purposes of clarification, and they used them as visual landmarks on the page to attach additions of their own to. This use of images as beacons seems especially related to the purposes of memorising and identifying, while explanatory captions or additionally drawn lines point to the purpose of understanding. The images in my corpus that invite the reader to construct something – a distilling furnace, a horoscope, a diagnosis based on uroscopy – do not contain any evidence that readers followed up on this invitation.

In addition to image responses related to the medical content, the images in my corpus also turn out to contain quite a few traces that testify to other than medical interests. While the majority of annotations related to the printed *text* clearly respond to its subject matter, the traces of use related to *images* relatively often seem related to entertainment, adornment (perhaps for purposes of authority or appropriation), or moralisation. For example, readers attempt to copy woodcuts in drawing or they doodle additional details, they 'rubricate' details in red that caught their eye, they add moralising phrases, or they adorn their book with hand-colouring. These modifications provide insight into individual – and sometimes unexpected – viewing habits. Practices of hand-colouring, the most common type of image customisation, forcefully challenge distinctions between production and reception: the possible intervention of professional colourists as well as readers themselves urges us to assess carefully

who were involved in customising the early printed book. Whether or not the traces of use in images are related to medical subject matter, they often seem to point to specific interests of readers: in most copies, they appear only in a limited number of images. As yet, it remains unclear for most of these cases why annotators chose these particular images over others to leave their marks.

Reliability of knowledge

In addition to the organisation and visualisation of knowledge, images also play a role in invoking readers' trust in the presented knowledge. Reliability was a key concern in the complex and dynamic health market of the sixteenth century, where many kinds of practitioners competed and where their skills and methods were frequently contested. As I have argued, reliability is signalled both through the visual language *of* images and the textual discourse *on* images, with its constant suggestion of truthful representation of reality. An important way in which images conveyed reliability is by pointing to the authority of knowledge (e.g. by showing author portraits, scholars, and using scientific conventions such as diagrams and schematic representations of objects against blank backgrounds). Another, less straightforward way of conveying reliability is by stimulating readers to engage with the presented knowledge. Images showing dialogue and conversation frame knowledge transmission as an interactive process in which the readers may join, while playfulness in images and texts challenged readers to distinguish between serious and jestful elements.

I have proposed that the playful and sexually connoted scenes with women and couples that pervade these books did more than just please the audience: they appealed to a sense of in-group belonging. Through moralising allusions and double meanings familiar to readers, these images alluding to lust, deceit, and seduction enabled mechanisms of both self-mockery and mocking others. Rather than undermining the reliability of knowledge, such images may have enhanced readers' trust that the book in question had something to offer to them as members of a community. The perceived reliability of knowledge is thus intricately connected to, again, the perceived usefulness and accessibility of that knowledge: when readers can relate to the topics and situations that the book presents, based on their own experiences and their familiarity with the visual motifs, they will likely consider the book (and its makers) as trustworthy.

Most of the readers who left their marks seem to have trusted the knowledge provided in the printed books. The majority of annotations follow or elaborate on the books' content rather than question or contradict it. Book producers seem to have been right in estimating – and addressing through tongue-in-cheek images – that sexual connotations resonated strongly among

readers: annotations and other traces of use in text passages on genitals and in aphrodisiacal recipes, for example, as well as in images that display nudity, testify both to fascination and disapproval. That readers perceived the printed book as an object with an authority of its own has become apparent from the many instances I found where readers' interventions emphatically follow or even imitate the printed layout. Readers customised their copies not only in terms of content but also through appearance, thus turning their books into personally authorised repositories of knowledge.

Future knowledge

To what extent are the findings from this study typical of the market and the reading practices in the Low Countries, or do they reflect transnational phenomena? The manifold derivations from German sources – both texts and images – and the influence on the English book market make clear that books in Dutch were part of a European network of print culture and knowledge transmission in which both images and texts circulated extensively, and also independently from each other. I therefore want to advocate an international comparative perspective, which will advance the study of early print culture from case studies towards a more synthetic understanding.

Such an approach is desirable first and foremost for similar works in different languages (e.g. translations and adaptations of a single text; sources and copies). Questions emerging from the present study include: do readers use different versions of a text (in different languages, with/without images) in different ways? How do choices in image programmes in different renditions of a text compare in terms of content and visual rhetoric? To what extent are images adapted in processes of translation and how do modifications of images relate to modifications in texts? With respect to the latter question, phenomena of reduction (e.g. downsizing, leaving out details, leaving out entire passages or images) especially require a broader investigation: were printers, translators, illustrators, and/or compilers in the Low Countries particularly intent on reduction, or did this happen to a similar extent in other language areas? I would argue that, for all of these questions, closer comparison of editions in German, Dutch, and English is particularly pertinent. The apparently strong differences between Dutch and English medical books with respect to the incorporation of religious content also call for further inquiry: why is care for the soul so strongly interwoven with care for the body in English works, whereas Dutch medical works hardly speak of spiritual care?

All these types of comparative research would benefit greatly from the availability of a transnational database that enables us to track the use and

circulation of woodcuts. An inventory of woodblocks and their reuse like Ina Kok has made for the fifteenth-century Low Countries is highly desirable for the sixteenth century as well, especially on an international scale. Promising digital projects are under way to this end.² Digital search options are crucial for facilitating different kinds of research questions, including those on image-text relations and changing meanings in different contexts. A readily searchable overview of woodcuts will also facilitate the comparative study of woodcuts in relation to other media like paintings and applied arts. As my analysis of images of women and couples could only briefly touch upon, connotations of images will have been shaped across the boundaries of media.

This study also provides an impetus for comparisons across different text types, both of image-making and reading practices. We need to ask, for example, whether printers and other book producers participated in different transnational networks for different types of works. While the Dutch medical-astrological books testify to an overwhelming German influence, scholarship of Dutch prose romances and of rhetorician culture, for example, has uncovered a particularly strong influence of French-language material.³ Traces of early modern readers also demand further comparison across genres. For example, in studies of Dutch bibles, a number of strikingly similar practices come to the fore as those I found in medical-astrological books (e.g. the sustained use of a volume for decades after its publication, customisation of navigational aids, non-professional colouring, noting keywords in the margins), whereas other practices are decidedly different (e.g. turning a book into a family archive apparently happened less often in medical books – although I found some instances – than in bibles).⁴ Owners like Dignen van Hueculum, who possessed medical as well as religious books, may provide a key to studying the extent to which reading strategies depended on or rather transcended text types. Furthermore, various issues of recurrence and repetition of visual motifs merit broader comparative research: what does hand-colouring in identical images reveal of early modern viewers' perception of image reuse? How often did printers own multiple woodblocks at the same time of a single motif, for which motifs did this happen, and why?

2 Kok 2013. The project *Ornamento*, led by Alexander Wilkinson (University College Dublin), is currently developing such a transnational repository of early printed images and ornaments, using deep learning and image matching technologies and, crucially, mapping digitised items to USTC data; <https://ornamento.ucd.ie> (accessed 23 April 2023). Simultaneously, the project *1516* is extending the 15cILLUSTRATION database with images from the sixteenth century; <https://www.robots.ox.ac.uk/~vgg/research/1516/> (accessed 23 April 2023).

3 Van de Haar and Schoenaers 2021; De Bruijn 2019; Van Dixhoorn, Mareel, and Ramakers 2018, 8; Van Bruaene 2008, e.g. 19, 42, 47–50.

4 Hoff 2022, 271–271; Hoff 2021; Van Duijn 2017.

The findings for books in Dutch also raise questions about the relation between vernacular books and learned culture. To what extent did learned and lay readers use the same books and share the same knowledge? As can be observed from the use of Latin in annotations, there must have been some overlap between learned and lay audiences. Moreover, contemporary discussions among anatomists and naturalists about the usefulness, reliability, and validity of images in conveying knowledge echo faintly in my corpus. Yet, such characteristics as the pervasive appearance of narrative scenes and the use of only relatively simple diagrams seem to point to differences from the ways in which images were used in the vanguard of scientific developments. These differences apparently increased in the second half of the sixteenth century. Several texts in my corpus, including *Den sack der consten*, *Der scaepherders kalengier*, and *Thuys der fortunien*, have long afterlives and continued to be printed in the seventeenth century or even longer, when insights into medicine and natural history, and the study of these fields with the help of images, had already changed drastically. Annotations by seventeenth-century readers in early sixteenth-century books also suggest their continued appeal at a time when more recent knowledge on the same subjects was also available. These long afterlives may constitute a fruitful basis for further diachronic research into a possible shift in – or perhaps parting of – lay and learned readership.

Finally, the conclusions from this study as well as the suggestions for future research drive home the urgency of further integrating book historical, literary, and art historical approaches. While endeavours in this direction are increasingly being undertaken, decades of disciplinary separation still leave tenacious boundaries in place between pictorial and textual studies, between historical and present-day media, and not least between images within and outside of books. Integrated, interdisciplinary approaches as I have pursued in this study are necessary to advance our understanding of visual communication as a key aspect of premodern knowledge dynamics.



Detail of Fig. 3.8

APPENDIX 1

The Corpus of Dutch Medical-Astrological Books, c. 1500–1550



Titles, Editions, Copies

This appendix describes how I selected the source base for this study and provides a brief description of each of the fifteen examined titles with a focus on their edition history, subject matter, and images. For each title, it also lists the editions and individual copies (indicated by their code, see ‘Codes used for examined editions and copies’ at the beginning of this study). For further details about individual copies, see Appendix 2. The titles are ordered chronologically according to their earliest surviving edition.

- **editions listed between curly brackets**): not included in this study.
- **[bibliographical details between brackets]**: these are not stated in the edition itself but reflect consensus among scholars. If an edition contains only a printer’s mark without stating the printer’s name, I nevertheless provide the name without brackets.

Selection methods

As described in the Introduction, the selection of the corpus is based on four criteria: the titles were published in Dutch, multiple editions appeared (often also in other languages) between 1500 and 1550, they contain multiple woodcut images within the text, and they present medical-astrological knowledge. I established this corpus by firstly making an inventory of which titles were published before 1550, and which of these are illustrated. Such an overview is not readily available.¹

¹ While Kok 2013 provides a complete overview of all woodcuts used in books from the Low Countries in the fifteenth century, unfortunately nothing similar exists for the sixteenth century as yet.

I used Ria Jansen-Sieben's *Repertorium van de Middelnederlandse artesliteratuur* and the USTC to find editions in Dutch printed before 1550, pertaining to human nature and the cosmos.² As neither of these resources mention anything about the presence of images, I used the STCN, NK, library catalogues, digitised copies, secondary literature, and library collections to find the editions and to check whether they contain illustrations.³ This inventory resulted in a selection of fifteen texts in 51 editions. I made an overview of individual copies of these editions in public collections, based on the information in ISTC, GW, USTC, STCN, NB, and library catalogues.⁴ This was my point of departure for the systematic study of presentational features and users' traces. Along the way, I included some two dozen additional copies that were digitised during my research, or that I only found in catalogues when preparing a research visit.

Of the eventual total of 120, I have inspected 97 copies page by page and, if available, I also used their digital reproductions.⁵ For 23 copies, I have consulted only digital reproductions and/or descriptions.⁶ I visited the national libraries and various other collections – mostly university libraries – in the Netherlands, Belgium, England, Denmark, and the United States, and I have used reproductions from the Bibliothèque nationale de France in Paris and the Staatsbibliothek in Berlin.⁷ For the page-by-page examination, I drew up

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- 2 Jansen-Sieben 1989. I conducted combined searches in the USTC for language (Dutch) and subject ('astrology and cosmology,' 'calendars and prognostications,' 'medical texts,' 'science and mathematics'). For corrections and additions to Jansen-Sieben's overview, I used the bibliographical resources mentioned hereafter as well as Jansen-Sieben's own corrections to be found on the website of the Werkgroep Middelnederlandse Artesliteratuur, <https://wemal.nl/aanvullingen-op-het-repertorium> (accessed 23 April 2023).
 - 3 I drew up a list in Excel of all the relevant editions I found, marking whether they are illustrated within the text, on the title page and/or at the end only, or not at all.
 - 4 My selection eventually did not include any incunabula (for which I consulted the ISTC and GW); see note 88 in the Introduction.
 - 5 Many but far from all copies are available in online reproductions or printed facsimili. In the early stages of my project, I also greatly benefited from the reproductions collected in the 1990s by Hanneke de Bruin, which are now kept in the KB, National Library of the Netherlands in The Hague.
 - 6 See Appendix 2. For the study of image-text relations, reproductions were in many cases sufficient, but the study of users' traces generally requires examining the original works. For example, in digital reproductions, annotations in the inner margins are less visible, or it may be unclear whether a small line in a margin is written in pen by a reader or if it is simply a fibre in the paper. In many printed facsimili the pages have been 'cleaned' entirely, showing only black printing on spotless white paper (e.g. in the facsimili of *Den sack der consten* (Braekman 1989), *Der vrouwen natuere ende complexie* (Braekman 1980), *Den herbarius in dyetsche* (Vandewiele 1974)).
 - 7 The library visits were planned pragmatically, guided by the available research budget and by a focus on locations where several copies could be studied during one visit. I was able to visit collections in the U.S. in 2019 with short-term fellowships of the Renaissance Society of America and the Bibliographical Society of America. Unfortunately, due to COVID-19, intended visits to Stockholm, Ghent, Leuven and Munich could not take place.

a checklist, which I filled out for all examined copies, paying attention to noteworthy physical features (e.g. clean or damaged, contemporary binding, other texts in the same volume), owners' marks, rubrication, colouring and drawing, and annotations (type, subject matter, date, language, single or multiple hands, relating to text or images, location within the volume).⁸

My inventory and analysis of readers' traces has used the typology and terminology of the *Material Evidence in Incunabula* (MEI) database as a starting point.⁹ MEI offers an international standard for describing early printed books, which, I believe, is no less applicable to sixteenth-century books than to incunabula. However, its rather fine-grained typology produces instances of overlapping and ambiguity when applied to my corpus: is a Latin plant name written in a Dutch herbal a 'translation,' as MEI suggests, or a 'keyword'?¹⁰ Is a reader's evaluation of a recipe's effectiveness a 'personal note' or a 'supplement'? Moreover, a number of visual and graphic phenomena in which I was particularly interested are difficult to capture in MEI's categories. It does not include categories for symbols, colouring, or annotations specifically related to images, for example. For these reasons I have not attempted to strictly classify all traces I encountered, but rather used MEI's typology as a heuristic checklist when inspecting individual copies, as a point of departure for identifying and comparing various annotating practices.

Dat regiment der ghesontheyt

- **Regi-c1510:** Antwerp: Jan van Doesborch, [c. 1510], 4°, <http://ustc.ac.uk/editions/436786>, NK 4397, NB 13336
- **Regi-c1515:** Utrecht: Jan Berntsz, [c. 1515], 4°, not in USTC, NB nor NK

Copies consulted: Regi-c1510-Wo2, Regi-c1515-Xo1

Other copies: -

8 I used categories from the Material Evidence in Incunabula (MEI) database as a starting point, but adapted and extended them in some respects, cf. Chapter 5.

9 MEI (https://data.cerl.org/mei/_search) was developed in the context of the '15cBOOK-TRADE' project, led by Christina Dondi at Oxford University. The database is conceived by Cristina Dondi, developed by Alex Jahnke of Data Conversion Group, University of Göttingen, hosted and maintained by CERL (Consortium of European Research Libraries). The typology is presented, with examples, at <https://15cbooktrade.ox.ac.uk/reading-practices> (accessed 23 April 2023).

10 To explain the category 'Translation,' MEI provides two examples of images in a Latin herbal where readers added the plant names in English; <https://15cbooktrade.ox.ac.uk/reading-practices>.



Fig. 4.21 | p. 227

Dat regiment der ghesontheyt is a bilingual – Latin and Dutch – version of the widespread verse text *Regimen sanitatis*, which originated in the thirteenth century and was translated in many European vernaculars. In Van Doesborch's edition of c. 1510, Latin verses and their Dutch translations alternate, and small woodcuts are interspersed throughout. The verses provide advice on how to stay healthy, paying attention to the months of the year, the *sex res non naturales* or external factors affecting the body's well-being (air, food and drink, exercise and rest, sleeping and waking, excretion and repletion, passions of the soul), bathing, letting blood, and the signs of the zodiac.¹¹ The text itself attributes the work to the medical school of Paris.¹² As the title page explains, the booklet will teach people how to conduct themselves in order to stay healthy and retain their strength (*Dit boecxkens leert hoe hem een mensche regieren sal [...] Op dat hi ghesont mach bliuen ende niet vercrincken*).

The Dutch version is very similar to German bilingual versions of this text, as noted by Piet J.A. Franssen.¹³ Not only are the Dutch verses nearly identical to the German ones, they also resemble each other in layout, with the Latin verses printed in a somewhat larger type and with the vernacular verses indented below the Latin ones. I found an especially strong resemblance between Van Doesborch's edition and a German edition printed by Mathis Hüpffuff in 1506.¹⁴ This edition or perhaps a reprint will likely have served as Van Doesborch's source. An important difference, however, is that the German editions are commonly unillustrated, while Van Doesborch's version contains two dozens of small woodcuts that depict, among other things, sleeping, eating, bathing (Fig. 4.21 on p. 227), a financial transaction, and a series of roundels with the signs of the zodiac.¹⁵ They generally function as structuring devices, indicating where a new subject starts. Hüpffuff's 1506 edition only has a woodcut on the title page, with a very similar bathing scene to that on Van Doesborch's title page.

Franssen describes the second known edition in Dutch, printed by Jan Berntsz around 1515, as having the same woodcuts as Van Doesborch's edition,

11 On the *sex res non naturales*: LexMA-O, 'Res non naturales'; Arikha 2007, 99; Van Winter 2014, 66.

12 Regi-c1510, fols. A2r, C6r.

13 Franssen 1990, 58. The German tradition is still wanting closer study.

14 *Regimen sanitatis* (Strasbourg: Mathis Hüpffuff, 1506), 4^o, [https://www.ustc.ac.uk/editions/688785, VD16 R 564](https://www.ustc.ac.uk/editions/688785_VD16_R_564).

15 The scene with two figures with coins at a table is interpreted by Van Winter 2014, 65 as the payment of debts, while Post et al. 1960, nr. 113 interpret it as a medical doctor receiving a honorarium.

with three exceptions (and the printer's mark).¹⁶ Where Van Doesborch's edition has a woodcut of a man with a jug at a table, that of Berntsz has a scene of a man and a woman at a table, which, as Franssen notes, also occurs in *The parson of Kalenborowe* (Antwerp: Jan van Doesborch, 1520s?). The other two differences concern woodcuts of a blowing windcloud and a sun, which have been replaced in Berntsz' edition with a sun and a moon.

Literature: Franssen 2017b; Van Winter 2017; Van Winter 2014; Duntze 2007, 107–109; Franssen 1990, 58; Jansen-Sieben 1989, 59; Vermeulen 1986, 103; Föhl and Benger 1986, 284, 629–630; Post et al. 1960, nr. 113.

Der scaepherders kalengier

- **Scaep-1511:** Brussels: Thomas van der Noot, Saint Anthony's Eve 1511, 4°, <https://www.ustc.ac.uk/editions/441129>, NK 0717, NB 6343 (*Der scaepherders calengier*)
- **Scaep-c1514:** Antwerp: Willem Vorsterman, [c. 1514], 4°, <https://www.ustc.ac.uk/editions/403070>, NK 1258, NB 6344 (*Der scaepherders Kalengier*) [no name, only printer's mark]
- **Scaep-1516:** Antwerp: Willem Vorsterman, 1516, 4°, <https://www.ustc.ac.uk/editions/436942>, NK 1259, NB 6345 (*Der scaepherders Kalengier*)
- **{Scaep-1520:** Antwerp: Adriaen van Berghen, 1520, 4°, <https://www.ustc.ac.uk/editions/437082>, NK 1260, NB 6346}¹⁷
- **{Scaep-1521:** Antwerp: Adriaen van Berghen, 1521, 4°, <https://www.ustc.ac.uk/editions/442019>, NK 0720, NB 6347; no copies known}
- **{Scaep-1532:** Antwerp: Symon Cock, 1532, 8°, <https://www.ustc.ac.uk/editions/430332>, NB 6353}
- **Scaep-1539:** Antwerp: Symon Cock, 1539, 8°, <https://www.ustc.ac.uk/editions/437980>, NK 3296, NB 6355 (*Der schaepherders Kalengier*)
- **Scaep-1544:** Antwerp: Hendrick Peetersen van Middelburch, 1544, 8°, not in USTC nor NB
- **Scaep-1546:** Antwerp: widow of Jacob van Liesvelt, 1546, 8°, <https://www.ustc.ac.uk/editions/408473>, NB 6359
- [multiple later editions]

Copies consulted: Scaep-1511-P01, Scaep-c1514-G03, Scaep-1516-B02, Scaep-1516-W02, Scaep-1539-A04, Scaep-1544-G12, Scaep-1546-B02

Other copies: Scaep-1520-K19 (missing), Scaep-1520-A170, Scaep-1532-K08

The editions of *Der scaepherders kalengier* are part of a vast and complex international tradition that has not been well studied. The so-called 'calendars

¹⁶ Franssen 2017b, 3.

¹⁷ The woodcuts in this edition are close copies of those in Vorsterman's editions (c. 1514, 1516), except for a different title page image. In 2022, the Hendrik Conscience Heritage Library in Antwerp acquired and digitised a previously unknown copy (Scaep-1520-A170). The copy in Cologne (Scaep-1520-K19) has gone missing, but the title page and several woodcuts are reproduced in NAT V, 13–19. See also Delen 1934, 27.

of shepherds' must have been true bestsellers in the early age of print, with dozens of editions in French, English, Dutch, and German.¹⁸ The first edition appeared in French in 1491, titled *Kalendrier des bergiers*.¹⁹ Editions in English appeared from 1503 onwards.²⁰ The earliest known Dutch edition is from 1511, while the work appeared in German from 1519 onwards.²¹ Calendars of shepherds continued to be published until well into the seventeenth century, also in the Low Countries. The edition history is complicated firstly by the myriad editions, several of which have been lost. Secondly, the selection of texts and images varied from edition to edition, testifying to all kinds of mutual as well as external influences.²² Thirdly, some editions have a different title, like the Low German *Eyn nyge kalender* of 1519.

The Dutch editions of *Der scaepherders kalengier* are collections of separate texts on a variety of topics related to the microcosm of the human body and the macrocosm of the heavens and the planets. All editions are lavishly illustrated. The Dutch editions include a calendar, instructions how to calculate the dominical letter and the golden number (indispensable aids to calculate, respectively, the day of the week for each date and the dates of the moveable feasts), various tables related to time calculation and feast days (Fig. 5.9 on p. 271), sections on eclipses, bloodletting, the four complexions, a seasonal regimen, the nature of the planets and their children, the nature and influences of the twelve signs of the zodiac and their 'houses,' and a translation of *De sphaera* by Johannes de Sacrobosco (c. 1230).²³ The woodcuts are copied from edition to edition with similar subject matter but significant differences in style. They include calendar scenes (activities of the months; Fig. 0.1 on p. 20), a zodiac man, a vein man (Fig. 2.12 on p. 105, Fig. 5.11 on p. 276), diagrams for the golden number and

18 And from the seventeenth century onwards also in Danish, see Dal and Skårup 1980.

19 Guy Marchant published the *Kalendrier des Bergiers* on 2 May 1491 (2°, <https://ustc.ac.uk/editions/70062>, ISTC ico0053800, GW 05906, FB 8270) and later that same year he published an extended reprint titled *Compost et Kalendrier des Bergiers* (2°, <https://ustc.ac.uk/editions/70063>, ISTC ico0053900, GW 05907, FB 8269).

20 *The kalendayr of the shyppars* (Paris: Antoine Vérard, 1503), 4°, <https://www.ustc.ac.uk/editions/182526>, FB 59896. See Driver 2003, 200.

21 The earliest known German edition is *Eyn nyge kalender* (Lübeck: Hans Arndes, 1519), 4°, <https://ustc.ac.uk/editions/656292>, VD16 N 2132. In 1523 another German edition appeared under the title *Der schapherders kalender* (Rostock: Ludwig Dietz, 1523), 4°, <https://ustc.ac.uk/editions/634410>, VD16 ZV 13793. On *Eyn nyge kalender*: Elbing 2021.

22 Various copies, including single survivors of various editions, must have been lost during the twentieth century, see Hoogendoorn 2018, 1394–1396. A further complication to the edition history is that the printed texts mention years (notably in the explanation of how to calculate the golden number) that suggest that there have been other, now-lost editions.

23 On Sacrobosco's *De Sphaera*: Pantin 2020; Crowther and Barker 2013; Hamel 2006; Gingerich 1999; Thorndike 1949. A census of printed copies is being established at the Max Planck Institute for the History of Science in Berlin, <https://sphaera.mpiwg-berlin.mpg.de> (accessed 23 April 2023). See also Chapter 2.



Fig. o.1 | p. 20



Fig. o.2 | p.20



Fig. 2.9 | p. 102



Fig. 2.12 | p. 105



Figs. 2.22–2.23 | p. 117



Fig. 4.19 | p. 224



Fig. 5.9 | p. 271



Fig. 5.11 | p. 276



Fig. 5.13 | p. 278

the dominical letter (Fig. 2.9 on p. 102), the phases of the moon (Fig. 5.13 on p. 278), an armillary sphere, a cosmos diagram (Fig. o.2 on p. 20), the zodiac belt (depicted as an actual belt with representations of the twelve signs on it), and personifications of the planets and their children (Figs. 2.22–2.23 on p. 117, Fig. 4.19 on p. 224). The preface explains the title: the book presents an illiterate yet wise shepherd, ‘who was not a cleric and did not know an a from a b’ but who has a ‘natural understanding’ of matters of life and death, who will teach the reader how to live healthily up to an age of at least 72 years.²⁴

Der scaepherders kalengier can be regarded as a kind of almanac, although especially the early editions are more luxurious in execution (larger – quarto – size, sturdy paper) than almanacs. From the 1530s onwards, they probably became cheaper: they were printed in octavo, on thinner paper. Nevertheless, they

²⁴ Scaep-c1514, fol. a1v. See also Johnston 2020 on printed German *Bauern Practica* where the figure of the farmer similarly embodies natural knowledge that is accessible to anybody.

continued to include extensive medical-astrological treatises, eternal calendars, and long-term overviews of the golden number and eclipses, all of which suggest that these books were not intended to be thrown away after a year.

While a transnational study of calendars of shepherds is as yet a desideratum, I found a significant distinction between the French and English editions on the one hand, and the Dutch and German ones on the other.²⁵ Whereas the English and French editions have a strong religious emphasis, focusing not just on the health of the body, but also the health of the soul, the Dutch and especially the German editions are oriented almost exclusively towards astrology and medicine. Recurrent parts of the French and English editions are the so-called vision of Lazarus, about sins and the tortures in hell, and the so-called tree of virtues with explanations of the ten commandments and Our Lord's Prayer, among other things. Astrological and religious-didactic content alternate throughout the book. As Martha W. Driver has evocatively described the English tradition: 'the calendar and astronomical charts [are] wrapped around the many religious, devotional, and *memento mori* texts like newspaper around fish and chips, the religious matter being central and integral to the whole.'²⁶ In the Dutch and German editions, by contrast, all of this religious instruction has been rigorously removed.

Literature: Van Leerdam (in preparation); Hoogendoorn 2018, 1394–1396; Van Winter 2017; Van 't Land 2014; Franssen 1990, 67; Jansen-Sieben 1989, 26–28; Vermeulen 1986, 130–131; Braekman 1985; Dal and Skårup 1980; Post et al. 1960, nr. 131; Delen 1934, 27.

On Calendars of Shepherds in other languages: Elbing 2021; Kiening 2020, 24, 46–47, 174–175; Hübner 2015; Yoshikawa 2013; Davis 2009; Driver 2003; Deschaux 1981; Sommer 1892.

Fasciculus medicine

- **Fasc-1512:** Antwerp: Claes de Grave, 26 May 1512, 2^o, <https://www.ustc.ac.uk/editions/400312>, NK 1223, NB 17559
- **Fasc-1529:** Antwerp: Claes de Grave, 1529, 2^o, <https://www.ustc.ac.uk/editions/437444>, NK 3265, NB 17560²⁷

25 Van Leerdam (in preparation). Research funded with a fellowship from the Tiele-stichting (2022).

26 Driver 2003, 211.

27 A third, undated edition is said to have existed (<https://www.ustc.ac.uk/editions/438221>, NK 3266, NB 17558), attested in a fragment of five leaves in the KB, National Library of the Netherlands, but I have not found it there. I thank KB curator Marieke van Delft for her help in looking for this edition. See also Coppens 2009a, 50, 121 (nr. 13), who does not specify the fragment's whereabouts.

Copies consulted: Fasc-1512-A04, Fasc-1512-B02, Fasc-1512-H04, Fasc-1512-K07a, Fasc-1512-K07b, Fasc-1512-P27, Fasc-1529-B02, Fasc-1529-H04, Fasc-1529-No1, Fasc-1529-W02

Other copies: Fasc-1512-L05

The 1512 edition in Dutch of the *Fasciculus medicine* was one of the Antwerp printer Claes de Grave's first publications. The Dutch translation is somewhat of an anomaly in the edition history of this text. After its first appearance, in Latin in 1491, the *Fasciculus medicine* was translated into Italian and Spanish and reprinted several times in each of these three languages in the first decades of the sixteenth century. Apart from these, Dutch is the only vernacular in which a full edition is known.²⁸ We do not know why De Grave chose to introduce this text to the Low Countries, but we do know that he was granted a printing privilege from the Council of Brabant, which he proudly states in the 1512 edition.²⁹ De Grave reprinted the work in 1529 without any substantial changes. In 1567, the work was published again, but under another title and a different author name: Joachim Hubrechts van Bieselingen, *Het licht der medecijnen ende cyrurgien*, published in Antwerp by Jan II van Ghelen.³⁰ Hubrechts presents the text as his own.

The *Fasciculus medicine* comprises a collection of medical treatises on the four temperaments, letting blood, women's ailments, the reproductive organs, surgery, ointments and plasters, a list of diseases and their cures, pestilence, anatomy, and urine. The preface to De Grave's editions is written in the first person by the Dutch translator, Petrus Antonianus, who identifies himself and says he has made this translation from Latin into Dutch in honour of the city of Antwerp and for the profit of the common people. He also says he has improved the text and has added a number of other treatises. The unillustrated title pages to both editions sum up the contents. The uroscopy treatise at the end may have been an optional addition, and/or may have circulated independently.³¹

28 Parts of the work, including several of its woodcuts, were transmitted in German and French editions, but no editions of the full work in these languages are known; Coppens 2009a, 5.

29 Coppens 2009a, 42; Verheyden 1910, 203–204, 208–209. The privilege is on fol. r6r of Fasc-1512: *Gheprent met preuilegie, also dat niemant dit boeck na prenten en sal oft sal doen na prenten binnen sesse iaren, op die pene die in die preuilegie ghehouden is* ('Printed with privilege, meaning that no one is to reprint this book or have it reprinted within six years, under the penalty specified in the privilege').

30 Coppens 2009a, 50.

31 Such a practice of optional addition is attested for Hieronymus Brunschwig's *Cirurgia* (1497), where an anatomy treatise is bound in some copies but not in others; see below in the discussion of *Hantwerck*.



Fig. 2.11 | p. 104



Fig. 3.21 | p. 185



Fig. 4.11 | p. 213



Fig. 5.24 | p. 296

This is suggested by the fact that the colophon in the 1512 edition precedes the uroscopy treatise, and that the treatise is lacking from the copies Fasc-1512-Lo5,³² Fasc-1512-P27, and Fasc-1512-Ho4 (the uroscopy treatise from this latter copy is bound in Trege-1514-Ho4; both copies may have belonged to the same owner, see Chapter 5). Moreover, the text of the uroscopy treatise has been copied in a sixteenth-century medical miscellany (Oxford, Bodleian Library, ms Ashmole 189), while this manuscript does not contain any other parts from the *Fasciculus medicine*.³³

The 1512 and the 1529 editions have the same illustration programme, consisting of ten full-page woodcuts. Their iconography has been studied extensively by Christian Coppens, who notes that the Italian edition of 1494 served as a model for a number of the woodcuts, while the text was translated from the Latin edition of 1491.³⁴ He concludes that the images of the vein man, female reproductive organs (Fig. 2.11 on p. 104), wound man, ‘disease man’ (a standing, naked figure flanked on both sides by an alphabetical list of diseases), uroscopy scene (Fig. 4.11 on p. 213), and urine diagram (Fig. 5.24 on p. 296) have been copied after the Italian edition of 1494 (with slight modifications; the Dutch edition has two urine diagrams while the Italian has one). The images of the zodiac man and of a plague patient in bed show more substantial differentiation from the Italian source. Coppens observes that the Dutch editions also contain a diagram of a skeleton that has no counterpart in the Italian edition (Fig. 3.21 on p. 185).³⁵ Conversely, a dissection scene in the Italian edition has been left out entirely in the Dutch editions. All of the ten woodcuts

32 The online library catalogue notes that quire s is among the missing folios in this copy; quire s makes up the uroscopy treatise. I have not examined this copy in Leuven.

33 Chardonnens and Kienhorst 2018 provide incipits and explicits of the texts in this manuscript, the uroscopy treatise on p. 28. They note that the text must have been copied after a printed source, as the copier has included the privilege *cum gratia et privilegio*, but they have not identified the uroscopy treatise in *Fasciculus medicine* as its source.

34 Coppens 2009a, 43–50.

35 Coppens 2009a, 47–48 traces its origins and reuse; see the discussion below on *Den groten herbarius*.

precede the treatise to which they are thematically related. Apart from the two narrative scenes of a woman presenting a urine sample to a physician and of a plague patient in bed, all images are diagrams, containing connecting lines and textual labels and in four cases an explanation of the labels on the subsequent pages (the vein man, female anatomy, wound man, disease man). The other four diagrams (zodiac man, skeleton, two urine wheels) function largely independently from the running text.³⁶ All woodcuts have a caption that mentions their subject and in some cases also their number, e.g. ‘The fifth plate of Anatomy’ (*Die vijfde tabule vander Anothomie*).

The work is attributed to a Johannes de Ketham in the colophon of the Latin edition of 1491. This name continues to cause confusion and discussion in the literature. Karl Sudhoff (1853–1938) identified him as Johannes de Kirchheim (c. 1415–1470), who was a *lector* at the university of Vienna.³⁷ Coppens has argued that this identification cannot be correct and that the name ‘Johannes de Ketham’ may have been copied incorrectly in the transition from manuscript to print, or that the name did not refer to the author or compiler but to the owner of the manuscript on which the printed edition was based.³⁸ Ketham, whoever he may have been and whether or not he was the compiler of the *Fasciculus medicine*, certainly did not write any of the treatises in the book because all of them are already older.³⁹ Nonetheless, Ketham continues to be mentioned as the author of the *Fasciculus medicine* unquestioningly in various studies and reference works.⁴⁰

Literature: Houtzager 2014; Coppens 2009a; Coppens 2009b; Lie 2008, 464–465; Besamusca and Sonnemans 1999, nr. 36; De Nave and De Schepper 1990, 96–97; Jansen-Sieben 1989, 99–100; Vervliet 1978, 50–51; Van Dongen 1965:22; McD. 1962; Post et al. 1960, nr. 146.

On the Latin and Italian editions: McCall (s.d.); Pantin 2013, 25–26; Carlino 1999, 74–81; Roberts and Tomlinson 1992, 34–37; Sudhoff 1924; Choulant 1920, 115–122.

Den groten herbarius met al sijn figueren

- **Herb-1514:** Antwerp: Claes de Grave, 17 June 1514, 2^o, <https://www.ustc.ac.uk/editions/400329,NK1051,NK0339,NK0594,NK0596,NB9173>⁴¹ (*Den groten herbarius met al sijn figueren*)

³⁶ Carlino 1999, 14 observes that the images in *Fasciculus medicine* are ‘completely separate from the text.’

³⁷ Sudhoff 1924, 41–43.

³⁸ Coppens 2009a, 6–7; Coppens 2009b, 169–170.

³⁹ McCall (s.d.).

⁴⁰ Including the USTC and NB.

⁴¹ A variant of this edition is said to have existed that was for sale in Antwerp in the print shop of Claes de Grave; De Backer et al 1993, 90; Choulant 1858, 73. Pleij 1988, 209 states without further substantiation that De Grave was Van der Noot’s *compagnon*.

- **Herb-1526:** Antwerp: Claes de Grave, 18 June 1526, 2°, <https://www.ustc.ac.uk/editions/437309>, NK 1052, NB 9174 (*Den groten herbarius met al sijn figueren*)
- **Herb-1532:** [Utrecht]: Jan van Doesborch, 18 January 1532, 2°, <https://www.ustc.ac.uk/editions/400523>, NK 3145, NB 9171 (*Den groten herbarius Met alden figueren der Cruyden*)⁴²
- **Herb-1533:** Antwerp: Claes de Grave, 20 June 1533 (reissue of Herb-1526 with added treatises on preparing medicines and on syphilis⁴³), 2°, <https://www.ustc.ac.uk/editions/437651>, NK 1053, NB 9175 (*Den groten herbarius met al sijn figueren der cruyden*)
- **Herb-1538:** Utrecht: Jan Berntsz, the last day of August 1538, 2°, <https://www.ustc.ac.uk/editions/421086>, NK 1054, NB 9192 (*Den groten herbarius met alden figueren der cruyden*)
- **Herb-1547:** Antwerp: Symon Cock, 1547, 2°, <https://www.ustc.ac.uk/editions/402819>, NK 0597, NB 2645 (*Den groten herbarius met al sijn figueren der Cruyden*)

Copies consulted: Herb-1514-A04⁴⁴, Herb-1514-A12, Herb-1514-Bo2a, Herb-1514-Bo2b, Herb-1514-Ho4, Herb-1514-Ko7, Herb-1514-LRB, Herb-1514-N53, Herb-1514-Wo2, Herb-1526-Lo1, Herb-1526-N53, Herb-1526-Uo1, Herb-1532-A170, Herb-1532-B16, Herb-1532-Wo2, Herb-1533-B16, Herb-1533-N53, Herb-1538-Co1, Herb-1538-Ho4, Herb-1538-Lo1, Herb-1547-A170, Herb-1547-A12, Herb-1547-Go3, Herb-1547-Lo1, Herb-1547-L39, Herb-1547-N53, Herb-1547-Uo1

Other copies:⁴⁵ Herb-1532-Go4, Herb-1532-Lo5,⁴⁶ Herb-1532-Mo3, Herb-1532-Oo1, Herb-1533-P31, Herb-1538-N18, Herb-1547-Do9

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- 42 Franssen 1990, 36–37, 72, and 199 assumes that Van Doesborch had already published a now-lost edition of *Den groten herbarius* around 1520. He bases this assumption on a statement on the title page of Herb-1532 that the work is *weder verdruct* ('printed again') and on the fact that the *Grete herball* (London: Peter Treveris, 1526) uses the same woodblocks as Herb-1532. Franssen believes it more likely that Treveris reused material by Van Doesborch than the other way round. The USTC lists an edition of 1522 (<https://www.ustc.ac.uk/editions/443649>), but this seems to be incorrect: of the two copies mentioned of this edition, the one in Oxford is in fact the 1532 edition, while the one in Ghent is listed by mistake. I thank the staff of the University Library of Ghent for checking this. In other words: so far there is no evidence of a 1522 edition.
- 43 With the exception of the title page and the added treatises at the end, all pages in Herb-1533 are identical to Herb-1526, as becomes clear from a close comparison of the typesetting. All particulars, like the positioning of quire signatures, woodcut initials with wormholes (e.g. fol. p4r), and the woodcut of *wijnsteen* (cream of tartar) erroneously printed upside down (fol. F2v), are the same. Apparently, Herb-1526 had not yet sold out by 1533 and De Grave presented it as a new edition with a new title page and two additional treatises. See also Van Leerdam 2021.
- 44 The copy listed in NB and USTC (<https://www.ustc.ac.uk/editions/400329>) in the collection of the Nederlandse Maatschappij ter bevordering van de Geneeskunde is, in fact, this copy held at Allard Pierson, University of Amsterdam. The KNMG library is housed in the Allard Pierson.
- 45 I have looked for the copies listed in the USTC in Leiden University Library (Herb-1526 and Herb-1532) and KB, National Library of the Netherlands (Herb-1533) but have not been able to find them there.
- 46 Bound with Tfund-1530-Lo5b, according to the online library catalogue. Previous shelfmark SJ Bibliotheek Berchmanianum Nijmegen a 11.527/1-2; 83B1.

The first edition of this voluminous herbal in Dutch appeared in 1514, published by Claes de Grave in Antwerp (Figs. 5.2 on p. 249, 5.37 on p. 316). He set the standard for the subsequent editions in Dutch, of which there were at least five until 1547. All six editions are in folio, set in two columns, and all of them contain 435 short, numbered chapters on plants and other natural resources that have medicinal qualities. Each chapter is preceded by a small woodcut, the width of a text column, and then gives a brief characterisation of a plant's qualities, its appearance, the workings of its various parts, and medicinal recipes for its application. In the 1532 and 1538 editions, many dozens of small half figures depicting scholars are interspersed throughout the chapters and the woodcuts of plants are flanked by decorative borders (Figs. 2.7 on p. 98, 4.4 on p. 203).⁴⁷ Short additional treatises at the end of the book, increasing in number in each new edition, deal with such topics as uroscopy, anatomy (the full-page woodcut diagram of a skeleton that Claes de Grave reused from his *Fasciculus medicine* of 1512, with the bones named and counted), the preparation of ointments and plasters and other medicines ('Anthidotarius for barbers and others'), and cultivating trees (for farmers (*lantbouwers*) and gardeners).⁴⁸ These additional treatises have a modest number of woodcuts that vary from edition to edition, but all of them are narrative scenes of people preparing or administering medicines, performing uroscopy, and planting a tree.⁴⁹

Den groten herbarius draws on three different traditions, for its text, its images, and its title. The title bears most resemblance to the French *Le grant herbier*, of which the earliest known editions date from the 1490s.⁵⁰ The text is a translation of the German *Gart der Gesundheit* (the Garden of Health, also called the 'smaller *Ortus*'), attributed to Johannes de Cuba (Johann Wonnecke von Caub, 1430-1504) and first printed in Mainz by Peter Schöffer in 1485.⁵¹ The woodcuts in *Den groten herbarius* derive from another famous herbal first printed in Mainz: the Latin *Hortus sanitatis* (Jacob Meydenbach, 1491).⁵² The latter contains books on plants as well as land animals, birds, fish, stones, with a total of over a thousand woodcuts. Roughly half of these depict plants. In *Den groten herbarius*, not only plants, but

47 On the scholar figures, see Chapter 4 and Van Leerdam 2019a.

48 The treatise on trees in Herb-1538 and Herb-1547 is a translation of Johann Domitzer, *Ein neues pflanzbüchlein* (1529, published multiple times that year). The Dutch translation leaves out the preface. On the skeleton diagram, see below.

49 In Herb-1547 the additional treatises do not have any illustrations.

50 The French text is largely based on the *Circa instans* attributed to Platearius. The oldest known edition dates from c. 1486-1488 and is titled *Arbolayre* (Besançon: Pierre Metlinger). The subsequent editions bear the title *Le grant herbier*. Anderson 1977, Chapter 13.

51 Johannes de Cuba, *Gart der Gesundheit* (Mainz: Peter Schöffer, 28 March 1485), 2°, <https://www.ustc.ac.uk/editions/740764>, ISTC ig00097000, GW M09766.

52 *Hortus sanitatis* (Mainz: Jacob Meydenbach, 23 June 1491), 2°, <https://www.ustc.ac.uk/editions/740923>, ISTC ih00486000, GW 13548.



Fig. 2.7 | p. 98



Fig. 3.21 | p.185



Fig. 3.26 | p. 192



Fig. 4.4 | p. 203



Fig. 4.7 | p. 207



Fig. 5.2 | p. 249



Fig. 5.14 | p. 280



Fig. 5.37 | p. 316

also some two dozen of the woodcuts depicting stones and other resources have been copied. This combination of text from the *Gart der Gesundheit* and images from the *Hortus sanitatis* had already appeared in *In disem buch ist der herbarij: oder krüuterbuch: genant der gart der gesuntheit*, published by Johann Prüss in Strasbourg in 1507 (henceforth: *Herbarij*).⁵³ This edition, or perhaps a now-lost one that was very closely related, must have been the direct source for *Den groten herbarius*.

The author of the preface – commonly identified as Bernhard von Breydenbach (c. 1440-1497), who is assumed to have commissioned the *Gart* – explains that initially he could not finish the work because he had no reliable images of foreign plant species. For that reason, he asked an accomplished painter – commonly identified as Erhard Reuwich of Utrecht – to draw those plants after nature during a pilgrimage they jointly undertook to the Holy Land.⁵⁴ The Dutch editions of *Den groten herbarius* have a literal translation of this prologue, including the truth claim about the images. This claim thus gains a different meaning, as it is now attributed to an entirely different set of illustrations.⁵⁵

53 As noted by Habermann 2001, 246. *In disem buch ist der herbarij: oder krüuterbuch: genant der gart der gesuntheit* (Strasbourg: Johann Prüss, 1507), 2^o, https://www.ustc.ac.uk/editions/668945_VD16_W4358. Habermann does not link the *Herbarij* to *Den groten herbarius*.

54 The preface of the *Gart der Gesundheit* is translated in English in Arber 1912, 19–22; see also Sinclair Rohde 1922, 67–69. On the involvement of Bernhard von Breydenbach and Erhard Reuwich: Bakker 2018; Baumann and Baumann 2010, 111–113. LexMA-O, ‘Gart der Gesundheit.’

55 See Chapter 3 and Van Leerdam 2021, 370.

The choice to include images deriving not from the *Gart der Gesundheit* but from the *Hortus sanitatis* was probably part of Claes de Grave's strategy to appeal to a wide audience. In contrast to the *Gart der Gesundheit*, the *Hortus sanitatis* contains not just images of plants, but also lively narrative images of people engaged in processing or extracting natural resources, and of animals. Claes de Grave, then, chose to copy a set of illustrations for *Den groten herbarius* with not just epistemic value, but also a certain entertainment value (Figs. 3.26 on p. 192, 5.14 on p. 280). Apparently he preferred the arrangement of texts and images from the German *Herbary* over copying another illustrated Dutch herbal, *Den herbarius in dijtsche*, which had been published only three years before *Den groten herbarius*, in 1511, and which contained only plant images and no narrative images.⁵⁶ It was an influential choice in any case: De Grave's illustration programme was largely followed in all subsequent Dutch editions of *Den groten herbarius*.

The influence of De Grave's choice of illustrations extends even further, to the English herbal tradition: close copies of his woodblocks were used in *The grete herball* of 1526.⁵⁷ This Dutch influence is not always recognised in studies of the English herbal.⁵⁸ The copied blocks were subsequently reused in *The vertuose boke of Distyllacyon* (1527) and in the 1529 edition of *The grete herball*.⁵⁹ The blocks then must have travelled back to the Low Countries, as they reappear in Jan van Doesborch's 1532 edition of *Den groten herbarius*.⁶⁰ Jan Berntsz, who worked together with Van Doesborch in the 1530s and took over much of his material after Van Doesborch's death in 1536, used the same woodblocks in his 1538 edition.⁶¹ In the 1547 edition, finally, Symon Cock reused part of the woodblocks from De Grave that he had apparently come to possess (including the skeleton diagram), and he had the other blocks made as close copies after De Grave's editions (Fig. 4.7 on p. 207).⁶²

56 *Den herbarius in dijtsche* (Antwerp: Govaert Bac, 1511), 4°, <https://www.ustc.ac.uk/editions/436830>, NK 1049, NB 14633.

57 *The grete herball* (London: Peter Treveris, 1526), 2°, <https://www.ustc.ac.uk/editions/518472>, ESTC S124207. The text of *The grete herball* is a translation of the French *Le grant herbier*. The illustrations in *Le grant herbier* also derive from the *Hortus sanitatis*, but they do not include the narrative images of people in action. Like De Grave, then, Peter Treveris apparently saw a commercial advantage in adding such images. Even when Franssen is right in assuming that a lost edition by Jan van Doesborch (rather than De Grave's) was the source for Peter Treveris (see note 42 above), the fact remains that the woodcuts in *The grete herball* derive from a Dutch example.

58 It is not mentioned, for example, in Givens 2006; Blunt and Raphael 1979, 119 and 163 incorrectly state that the woodcuts in *The grete herball* are copied after the French *Le grant herbier*.

59 Brunswig, *The vertuose boke of Distyllacyon* (London: Lawrence Andrewwe, 1527), English translation of Brunswig's *Small Book of Distillation*, 2°, <https://www.ustc.ac.uk/editions/501983>, ESTC S106740. *The grete herball* (London: Peter Treveris, 1529), 2°, <https://www.ustc.ac.uk/editions/518471>, ESTC S124207.

60 Vervliet 1978, 200.

61 Vervliet 1978, 198; Franssen 1988.

62 Coppens 2009b, 193.

Errata for images in the 1514 and 1532 editions testify to the care with which the printers followed their model for the plant illustrations. In the 1514 edition, Chapter 11 on *aristologia longa* starts with a printed remark that the images of *aristologia* (Chapter 10) and *aristologia longa* are swapped; the mistake was apparently already noticed during the printing process.⁶³ At the end of the 1532 edition, a substitute image is presented for the erroneous image in Chapter 96 on *ridderspooren* or *consolida*.⁶⁴

The complex origins of the skeleton diagram have been traced by Christian Coppens, who argues for a closer comparison of its appearances in the various editions of *Den groten herbarius*.⁶⁵ A 1501 edition of the *Hortus sanitatis*, printed by Antoine Vérard, likely served as De Grave's model, and Vérard, in turn, copied the skeleton after Brunschwig's *Cirurgia* of 1497.⁶⁶ My comparison of the six editions of *Den groten herbarius* shows that De Grave's editions of 1514, 1526, 1533, and Cock's edition of 1547 have the same block (which De Grave also used in his *Fasciculus medicine* of 1512 and 1529; Fig. 3.21 on p. 185). This is evident from, among other things, minute damages to the woodblock in the right heel, the lower left arm, and the connecting line below the left armpit. Van Doesborch's 1532 edition has a close copy, which was, in turn, reused by Berntsz in 1538. The skeleton diagram in *The grete herball*, by contrast, bears closer resemblance to the German and French examples that Coppens mentions, with one arm slightly raised.⁶⁷

All editions in Dutch are arranged to allow for targeted searching. The chapters are organised alphabetically, though only by first letter (see Chapter 2). Two alphabetical indexes precede the preface: one by Latin plant names and one by their Dutch names. A further index lists medicines, ordered by their qualities (e.g. medicines that purge, medicines that stimulate sweat, fruits, animals, roots). Finally, the book contains an index of remedies against many diseases and ailments, ordered from head to feet, with corresponding chapter numbers where these remedies may be found. This index is preceded by a lengthy appraisal of its usefulness and an instruction how to use it, literally translated from the German *Gart der Gesundheit*.⁶⁸

63 Herb-1514, fol. b2r: *Die fgure vander eender hoelwortele staet voer die andere* ('The figure of the one hoelwortele is in the place of the other').

64 Herb-1532, fol. X4v: *Item dese figuer hier achter gedruet sal staen in litera m i int xcvi. capittel voor die andere die daer gheset is* ('the figure printed hereafter should be in litera m i [i.e. fol. m1r] in the 96th chapter [on *ridderspooren* or *consolida*] instead of the one that is printed there').

65 Coppens 2009a, 47–48, 98 (note 159).

66 See also Herrlinger 1970, 54, 59 on the relation between Brunschwig's skeleton and the single-sheet print of a skeleton from 1493 designed by the Parisian medical scholar Richard Helain.

67 Coppens 2009a, 47–48.

68 See Chapter 2.

Literature: Van Leerdam 2021; Chen and Van Leerdam 2017b; Coppens 2009a, 48; Cuijpers 1998, 287–288; De Backer et al. 1993, 89–90; De Nave and De Schepper 1990, 203; Franssen 1990, 72, 87–88; Jansen-Sieben 1989, 83–85; Vervliet 1978, 200–201; Post et al. 1960, nr. 121; Nissen 1966, nrs. 2289–2294; Becher and Klebs 1925, nrs. 40–44; Choulant 1958, 73.

On the related herbals in other languages: Rudolph 2020;⁶⁹ Bakker 2018; Baumann and Baumann 2010; Keil 2010; Givens 2006; Habermann 2001, chapter 8; Anderson 1977, chapters 12–14; Sinclair Rohde 1922, 65–74; Arber 1912, 18–34, 40–46; Choulant 1858, 20–75.

Tscep vol wonders

- **Tscep-1514:** [Brussels]: Thomas van der Noot, 17 June 1514, 2°, <https://www.ustc.ac.uk/editions/407305>, NK 1875, NB 27555 (*Tscep vol wonders*) [no name, only printer's mark. Colophon states that the book is for sale in Antwerp, at *onser lieuer vrouwen pant*, which was Claes de Grave's address]
- **Tscep-1520:** [Brussels]: Thomas van der Noot, [1520], 2°, <https://www.ustc.ac.uk/editions/402892>, NK 1876, NB 27556 (*Tscep vol wonders*) [no name, only printer's mark]
- **Tscep-1535:** Antwerp: Claes de Grave, 17 April 1535, 4°, <https://www.ustc.ac.uk/editions/437805>, NK 1877, NB 27557 (*Tschip vol wonders*)

Copies consulted: Tscep-1514-Bo2a, Tscep-1514-Bo2b, Tscep-1514-C75, Tscep-1514-Ho4, Tscep-1514-Lo4⁷⁰, Tscep-1514-Wo2, Tscep-1520-Go3, Tscep-1520-Lo1, Tscep-1520-L79, Tscep-1535-Bo2

Other copies: -

This astrological compendium was probably compiled by the printer Thomas van der Noot himself, who addresses the readers in the preface and throughout the book in the first person. In the preface, he explains the title's ship metaphor. While people enjoy the sight of a foreign ship filled with precious commodities lying in the harbour without knowledge of what is inside, their joy increases when they see what is inside the ship. In the same way, Van der Noot explains, this book is pleasant to look at, but even more pleasurable is to read in it about the fruits it carries.

All three editions consist of 180 numbered chapters that are listed in a table of contents at the beginning. The woodcuts in both editions by Van der Noot (1514 and 1520) are identical, with four exceptions. In the first place, the woodcuts on the title pages are similar in subject matter (a physician and an astrologer standing on a ship, Fig. 2.2 on p. 83) but they are different blocks. Secondly, the preface

69 Unfortunately I have not been able to consult this study of the *Gart der Gesundheit* of 1485.

70 The copy listed in the USTC in the collection of the Maatschappij der Nederlandse Letterkunde is, in fact, this copy held at Leiden University Library (<https://www.ustc.ac.uk/editions/407305>).



Fig. 2.2 | p. 83



Fig. 2.17 | p. 114



Fig. 2.18 | p. 114



Fig. 4.12 | p. 214



Fig. 5.38 | p. 317

of the 1520 edition is preceded by a full-page image of the creation of Adam and Eve, which is not in the 1514 edition. Thirdly, a small woodcut showing a bloodletting scene in the 1514 edition is lacking from the 1520 edition. Fourthly, a large image of a man who is distilling water from herbs is also lacking from the 1520 edition. Claes de Grave's edition of 1535 has copies after Van der Noot's 1514 edition.⁷¹ The first 39 chapters of the work explain fundamentals of astrology. They include, among other things, a series of woodcuts showing personifications of the seven planets that appears twice (discussed in Chapter 2, Figs. 2.17–2.18 on p. 114). Chapters 40 to 88 deal with the human body, the four complexions, disease and medicine (head, stomach, liver, heart, veins), and seasonal regimens. Illustrations show purging (vomiting and defecating; Fig. 4.12 on p. 214), personifications of the four complexions, a head, a heart, and bloodletting. Chapters 89 to 101 contain an astronomy treatise by 'the famous master ipocras' (Hippocrates) that provides prognoses of diseases when the moon is in each of the signs of the zodiac. It is illustrated with a generic author portrait at the beginning, showing a scholar sitting in his study, and a series of the zodiac signs in roundels (Fig. 5.38 on p. 317). Chapters 102 to 180 contain an adapted translation of *De consideratione quintae essentiae* by the fourteenth-century Franciscan alchemist John of Rupescissa (1310–1362).⁷² Apart from a woodcut at the beginning, showing a man engaged in distilling plants, this text is not illustrated.

In the preface, Van der Noot not only elaborates on the metaphor of the ship but also draws on another metaphor. He expresses his anger about 'fierce animals' (*felle dieren*) who have stolen the fruits that he had collected so diligently from various orchards, both Latin, French and German (*so wel wt die*

71 Tscep-1535 includes scenes of bloodletting and distilling, while the scene with Adam and Eve is lacking. Therefore, Tscep-1514 rather than Tscep-1520 must have served as the source. The bloodletting scene in Tscep-1535 (fol. J1v) is not copied after Tscep-1514 but after Trege-1514, however, also printed by Thomas van der Noot.

72 Marissens 2011, 25–37; Van Gijzen 1993, 134. In *Tscep vol wonders* the treatise is presented without an author name. It is conceivable that Van der Noot used Hieronymus Brunschwig's *Large Book of Distillation* (1512) as a source, which also draws on Rupescissa's *quinta essentia* treatise; see Taape 2014, 241–245.

latijnsche ende walsche als wten ouerlanschen).⁷³ The passage apparently refers to other printers who plagiarised him or ran off with his material even before he was able to publish it, but the exact circumstances are not known.⁷⁴ The incident might have been the reason why Van der Noot applied for a privilege from the Council of Brabant in 1511/12.⁷⁵ In his preface to *Tscep vol wonders* he expresses his gratitude to the representatives (*stehouders*) of the ‘honourable, highest flying eagle of the Roman Empire and of the most noble Burgundian lion,’ to whom he complained about his situation, for surrounding his orchard with such strong enclosures (*stercken thuynen*) that all animals are kept out, no matter how fierce they are. The privilege (the Burgundian-Habsburg coat of arms and the words *cum gratia et privilegio*) is printed below the colophon at the end of the book. The same allusive preface is included in the 1520 reprint; it is doubtful whether the accusations were still topical by that time. Even more curiously, the preface is again copied verbatim in the 1535 edition by Claes de Grave.

Literature: Van Leerdam 2017; Van Dixhoorn 2014; Marissens 2011; Van Gijsen 1993; Jansen-Sieben 1989, 99, 101; Pleij 1988, 219; Vermeulen 1986, 117–118; Pleij 1982, 23–25; Vervliet 1978, 110–111; Post et al. 1960, nr. 122; Kronenberg 1935; Delen 1934, 30–31.

Tregement der ghesontheyt

- **Trege-1514:**⁷⁶ Brussels: [Thomas van der Noot], 7 September 1514, 2^o, <https://www.ustc.ac.uk/editions/407304>, NK 1453, NB 20870

Copies consulted: Trege-1514-Bo5, Trege-1514-Bo2, Trege-1514-Ho4, Trege-1514-Lo4⁷⁷

Other copies: Trege-1514-ML⁷⁸

Despite the resemblance in title, this work contains an entirely different text than *Dat regiment der ghesontheyt*. The prose text published by Thomas van der Noot is attributed at the beginning to the ‘famous medicine master of the city of Milan,’ Magninus Mediolanensis (d. 1368).⁷⁹ Van der Noot also proudly mentions that the text is now translated for the first time from Latin into Dutch.

73 Tscep-1514, fol. a1r.

74 Van Gijsen 1993, 131; Pleij 1988, 219; Pleij 1982, 24–25.

75 Pleij 1982, 21–22; Verheyden 1910, 209.

76 An unillustrated edition in octavo of *Tregement der ghesontheyt* was published by the widow of Jacob van Liesvelt in 1554 in Antwerp (<https://www.ustc.ac.uk/editions/416151>).

77 The copy listed in the USTC in the collection of the Maatschappij der Nederlandse Letterkunde is in fact this copy held at Leiden University Library (<https://www.ustc.ac.uk/editions/407304>).

78 Copy mentioned in Ijpelaar and Chavannes-Mazel 2015, 59. The USTC also lists copies in Uppsala University Library and the Bodleian Library in Oxford, but I have not been able to trace these. I thank curator Helena Backman in Uppsala for helping me look for a copy in their collection.

79 Trege-1514, fol. a2r.



Fig. 1.8 | p. 65



Fig. 5.18 | p. 286



Fig. 5.29 | p. 303

The work's 115 numbered chapters, listed in the table of contents at the beginning, start off with explanations of health in relation to 'basics' such as the four complexions and the ages of man. These are followed by chapters addressing different body parts from the head down, and chapters on women's health and childbirth, the four elements, the non-naturals, an extensive section on edible plants and fruits, and further chapters on meat and other foods and drinks, clothing, travelling, and various diseases and remedies, with special attention for letting blood and purging.

Van der Noot's edition is illustrated with a series of nineteen large woodcuts that each take up half a page, and a few dozen smaller images, the width of a single column, which appear mostly in the section on plants. The large woodcuts depict narrative scenes of main subjects of the text, such as sleeping, eating, nursing, bathing, the four elements, and travelling (Figs. 1.8 on p. 65, 5.18 on p. 286, 5.29 on p. 303). Their consistency in size and style suggest that they were designed specifically for this edition, which is quite exceptional within my corpus.⁸⁰ There are indications, however, that Van der Noot's illustrator also drew on existing images. Details in the woodcut representing the element water bear unmistakable resemblance to details from the title page woodcut of Hieronymus Brunschwig's *Small Book of Distillation* of 1500, notably in the figure of a drinking man sitting with one leg stretched, the three stags at the water's edge of which one is standing upright against a tree, and the diving duck in the pond (Figs. 1.8–1.9 on p. 65). While Van der Noot's woodcut is not a close copy, the similarities are too striking to be a coincidence.

Of the smaller woodcuts in *Tregement der ghesontheyt*, the 27 images of plants and fruits are reused from Claes de Grave's edition of *Den groten herbarius* that was printed in the same year (Herb-1514).⁸¹ The two small woodcuts showing the four complexions are the same blocks that Van der Noot used in *Tscep vol*

⁸⁰ They are attributed to the Master of Thomas van der Noot; Vervliet 1978, 104; Delen 1934, 31.

⁸¹ De Grave and Van der Noot seem to have had some sort of cooperation that allowed for such a quick exchange of newly cut blocks. See also above, note 41.

wonders. All images in the book are positioned at the beginning of the relevant chapter. As there are not many structuring paratexts, apart from the table of contents at the beginning and whitespaces between chapters, the images play a significant role as structuring aids.

Literature: Van Dam 2008, 54–55; De Nave and De Schepper 1990, 231; Jansen-Sieben 1989, 96; Vermeulen 1986, 118; Pleij 1982, 28–29; Vervliet 1978, 104–105; Elaut 1963–1964; Delen 1934, 31.

Den roseghaert vanden bevruchten vrouwen

- **Rose-1516:** Brussels: Thomas van der Noot, 8 March 1516, 4^o, <https://www.ustc.ac.uk/editions/436941>, NK 1831, NB 26924, Daniëls/Moes 1 (*Den roseghaert vanden bevruchten vrouwen*)
- **Rose-1528:** Antwerp: Symon Cock and Jacob van Liesvelt, 1528, 4^o, <https://www.ustc.ac.uk/editions/407338>, NK 3821, NB 26925 (*Den roseghaert vanden bevruchten vrouwen*)
- **Rose-1529:** Antwerp: Michiel Hillen van Hoochstraten, 1529, 4^o, <https://www.ustc.ac.uk/editions/407345>, NK 1832, NB 26926, Daniëls/Moes 2 (*Den Roseghaert vanden bevruchten Urouwen*)
- **Rose-1530:** Antwerp: Willem Vorsterman (for sale at Leiden, Bartholomeus Jacobsz), 1530, 4^o, <https://www.ustc.ac.uk/editions/421032>, NK 1833, NK 01066, NB 26927, Daniëls/Moes 3 (*Den roseghaert vanden bevruchten vrouwen*)
- **Rose-c1540a:** Antwerp: Symon Cock, [c. 1540], 8^o, <https://www.ustc.ac.uk/editions/403292>, NK 1835, NB 26929, Daniëls/Moes 5 (*Den Rosegaert van den bevruchten vrouwen*)
- **Rose-c1540b:** Antwerp: Jan I van Ghelen, [c. 1540],⁸² 8^o, <https://www.ustc.ac.uk/editions/407398>, NK 1834, NB 26928, Daniëls/Moes 4 (*Den Rosegaert vanden bevruchten Urouwen*)
- **Rose-c1551:** Kampen: Steven Joessen, [c. 1551–1556],⁸³ 8^o, <https://www.ustc.ac.uk/editions/421388>, NB 26931
- **Rose-c1555a:** Kampen: Steven Joessen, [c. 1555–1560],⁸⁴ 8^o, <https://www.ustc.ac.uk/editions/421387>, NB 26930, Daniëls/Moes 7 (*Den Rosegaert vanden bevruchten Vrouwen*)
- **Rose-c1555b:** Kampen: Steven Joessen, [c. 1555–1560],⁸⁵ 8^o, not in USTC nor NB (*Den Rosegaert vanden bevruchten Urouwen*)
- **{Rose-1555:** Antwerp: Jan Roelants, 1555, 8^o, <https://www.ustc.ac.uk/editions/408920>, NB 26749}

82 Dating according to NK.

83 Dating according to University of Amsterdam online library catalogue.

84 The University of Amsterdam online library catalogue dates this edition to 1551–1560. The condition of the woodcuts (worm holes) indicates that it must be later than Rose-c1551. For this reason, I keep to a date of c. 1555.

85 The National Library of Medicine (Bethesda, MD) online catalogue dates this edition ‘not before 1551?’. The woodcuts are close copies of Joessen’s earlier editions (Rose-c1551 and Rose-c1555a), slightly less in quality, with stiffer lines. For this reason, I believe this edition must be somewhat later than Rose-c1555a, but I will keep to a date of c. 1555–1560.

- **Rose-c1560a:** Leiden: Jan Mathijsz (for sale at Amsterdam, Hendrick Aelbertsz), [c. 1560],⁸⁶ 8°, <https://www.ustc.ac.uk/editions/421619>, NB 26933, Daniëls/Moes 6 (*Den Rosegaert vanden beuruchten vrouwen*)
- **Rose-c1560b:** Leiden: Jan Mathijsz (for sale at Amsterdam, Hendrick Aelbertsz), [c. 1555–1560],⁸⁷ 8°, <https://www.ustc.ac.uk/editions/425837>, NB 26932 [not in Daniëls/Moes] (*Den Rosegaert vanden beuruchten Urouwen*)
{multiple later editions}

Copies consulted: Rose-1516-G03, Rose-1528-A04, Rose-1529-A04, Rose-1529-B02, Rose-1530-A04⁸⁸, Rose-1530-A170, Rose-c1540a-A04, Rose-c1540a-G03, Rose-c1540b-A04a, Rose-c1540b-A04b, Rose-c1551-A04, Rose-c1555a-A04, Rose-c1555b-B16, Rose-c1560a-A04, Rose-c1560a-G03, Rose-c1560b-A04, Rose-c1560b-B16

Other copies:⁸⁹ Rose-c1540a-H89, Rose-c1540a-U03 (not found in catalogue), Rose-1555-A170

The text is a translation of Eucharius Rösslin's *Der Swangern Frauwen und hebammen Rosegarten*, first printed in Strasbourg in 1513, the earliest printed work to make practical knowledge of obstetrics available on a large scale.⁹⁰ Rösslin (c. 1470–1526), town physician in Worms and Frankfurt am Main, wrote a true bestseller. Over forty editions in German and at least nine translations appeared in the sixteenth century, of which at least sixteen editions in Dutch.⁹¹ Rösslin is commonly thought to have drawn on the work of the second-century Greek physician Soranus, but Monica H. Green has argued that the *Rosegarten* more closely resembles the *Practica* of the Italian physician Michele Savonarola (c. 1385–1466).⁹² Thomas van der Noot was quick in publishing the first Dutch translation, already three years after the *Rosegarten*'s first appearance in German. Van der Noot's edition was extended in subsequent editions in Dutch with both theoretical background and further practical advice.⁹³ In Cock's edition of c. 1540 (Rose-c1540a), moreover, *Dat profijt der vrouwen* was added, a text that provided not only remedies against all kinds of women's ailments, but also

⁸⁶ Dating according to University of Amsterdam online library catalogue and NB.

⁸⁷ NB and USTC date this edition 1555, as does the library catalogue of the National Library of Medicine in Bethesda (MD). The University of Amsterdam online library catalogue dates it to c. 1560.

⁸⁸ The copy mentioned in the USTC in the collection of the Nederlandse Maatschappij ter bevordering van de Geneeskunde is, in fact, this copy held at Allard Pierson, University of Amsterdam, where the KNMG collection is housed.

⁸⁹ The USTC mentions a copy of Rose-1530 at Oxford University College Library, but I have not been able to find it in the library catalogue.

⁹⁰ Rösslin, *Der Swangern Frauwen und hebammen Rosegarten* (Strasbourg: Martin Flach, 1513), 4°, <https://www.ustc.ac.uk/editions/634586>, VD16 R 2848.

⁹¹ Jansen-Sieben 1989, 62–65. The work continued to be reprinted in Dutch until into the eighteenth century.

⁹² Green 2009.

⁹³ Bos 2017, 17; Rietveld-De Jong 2008, 232; Franssen 1990, 34.



Fig. 3.8 | p. 153

cosmetic recipes, for example for improving facial skin.⁹⁴

After the preface, the *Roseghaert* includes twelve numbered chapters addressing such topics as the position of the baby in the womb, what the mother should do before and during birth, medicines that facilitate birthing, all kinds of things that can go wrong during birth and what to do about them, miscarriages, stillbirths, caring for and

nursing newborn babies, and curing diseases in newborn babies. The illustration programme, which Van der Noot closely copied after the German source edition, is exceptionally constant throughout all Dutch editions. This is all the more striking considering the large number of editions. The eighteen woodcuts of Van der Noot's 1516 edition are copied over and over again. All of these images are located in the first four chapters. They display unborn babies in various positions in the womb (Fig. 3.8 on p. 153), and a birthing stool. The schematic representation of babies in bulb-shaped wombs against blank backgrounds follows a visual tradition that goes back as far as late Antiquity.⁹⁵

A large woodcut at the beginning of Chapter 4 in the German edition has not been copied by Van der Noot and, consequently, is also lacking in the other editions in Dutch. It shows a scene with a woman in labour sitting on the birthing stool, her hand on her belly, supported by a woman standing behind her, while a midwife sits facing her and puts her hand under the pregnant woman's skirt to examine her. Perhaps Van der Noot left the scene out because he considered it too confronting or too explicit; his epilogue also expresses a concern for 'villains' who might use the book with the wrong intentions.⁹⁶

Literature: Bos 2017; Rietveld-De Jong 2008; Lie 2008, 462–463; Franssen 1990, 34; Jansen-Sieben 1989, 64–67; Franssen 1988, 181–182; Vermeulen 1986, 120; Van Dongen 1965:8; Van Dongen 1968:51–52; Daniels and Moes 1899.
On th German edition: Panse 2012, esp. 37–38; Green 2009.

94 Rietveld-De Jong 2008, 232; Franssen 1990, 34; Franssen 1988, 178–182. *Dat profijt der vrouwen* was also published as a separate work.

95 This iconography was influentially spread through manuscripts of Muscio's *Gynaecia* from the fifth or sixth century, which in turn was based on Soranus' *Gynaikēia*; Green 2009, 171–180.

96 See also Chapter 3; further examples of anxieties about 'indecent readers' in Newman 2018. Van der Noot asks his reader to use the book with honesty and discretion *op dat niet en come in handen der vileynen diet lieuer lesen soudē den vrouwen te verwijtē dan tot onderstande* ('lest it falls in the hands of villains who would prefer to read it to disgrace rather than to understand women,' Rose-1516, fol. n6r). Later editions even warn against 'children and villains' getting a hold of the book.

Die distellacien ende virtuyten der wateren

- **Dist-1517:** Brussels: Thomas van der Noot, the last day of April 1517, 2°, <https://www.ustc.ac.uk/editions/400365>, NK 505, NK 0366, NB 6070 [no name, only printer's mark]⁹⁷

Copies consulted: Dist-1517-B02, Dist-1517-Ho4, Dist-1517-Lo1, Dist-1517-W02

Other copies: Dist-1517-B39, Dist-1517-W03

A year after the *Roseghaert*, Thomas van der Noot published another translation of a German bestseller: the so-called *Small Book of Distillation* by Hieronymus Brunschwig (c. 1450–1512), a surgeon and apothecary in Strasbourg.⁹⁸ Its first edition appeared in 1500, in German, under the Latin title *Liber de arte distillandi de simplicibus*.⁹⁹ Before Van der Noot's Dutch translation, further editions in German were published in 1505 (under the title *Medicinarius*), 1509, and 1515.¹⁰⁰ Unlike the first edition, these second and later German editions consist of the same three main parts (books) as Van der Noot's Dutch translation. Reflecting an order of procedural logic, the first book is an introduction to craft practices, explaining what distilling is, how it is done, and what instruments are required. The second book is a register of ailments, ordered from head to feet, that can be cured with distilled waters described in the third book. The third book is a herbal, describing medicinal plants and providing recipes for distilled waters for each plant. In

⁹⁷ An edition in-quarto bearing the same title, *Die discelacien [sic] ende virtuyten der wateren*, printed by Van der Noot around 1520, has existed, but according to Nijhoff-Kronenberg the 1520 text was altogether different (NK 725; NB 6071; Hoogendoorn 2018, 1009; Jansen-Sieben 1989, 50). The only known copy, in the British Library in London, was destroyed during World War II. Its title page is reproduced in NAT .X.19, showing the same woodcut of a distilling scene which Van der Noot also used in Tscap-1514 at the beginning of the treatise on *quinta essentia*. Willem Vorsterman also published three editions of this smaller work on distilling (c. 1520, c. 1531, c. 1540 or later), of which the edition from c. 1520 has survived in two copies (Hoogendoorn 2018, 1009–1010; facsimile Wittop Koning 1976). Vorsterman's edition does not contain any illustrations, apart from a copy of Van der Noot's distilling scene, printed both on the title page and on the final page following the colophon (fols. air and f4r), and a woodcut of the Last Judgement at the end of the register (fol. a3v).

⁹⁸ On the uncertainty of Brunschwig's year of birth: Belkin 1986, 180–183.

⁹⁹ Brunschwig, *Liber de arte distillandi de Simplicibus. Das buch der rechten kunst zu distillieren die eintzigen ding* (Strasbourg: Johann Grüninger, 8 May 1500), 2°, <https://www.ustc.ac.uk/editions/743719>, ISTC ibo1227000, GW 05595.

¹⁰⁰ *Medicinarius Das buch der Gesuntheit Liber de arte distillandi Simplicia et Composita [...]* (Strasbourg: Johann Grüninger, 1505), 2°, <https://www.ustc.ac.uk/editions/675452>, VD16 B 8718. *Liber de arte distillandi simplicia et composita. Das nüü buch der rechten kunst zu distillieren* (Strasbourg: Johann Grüninger, 1509), 2°, <https://www.ustc.ac.uk/editions/672785>, VD16 B 8719. *Das buch des lebens, das distilierbuch, das buoch der rechten kunst zu distillieren unnd die wasser zu brennen* (Strasbourg: Johann Grüninger, 1515), 2°, <https://www.ustc.ac.uk/editions/627117>, VD16 B 8720. Taape 2014, 239 and Forbes 1948, 110 consider the 1509 edition the second edition, but it is, in fact, the third, as the work had already appeared for the second time in the *Medicinarius* of 1505.

the first edition of the *Small Book of Distillation*, the second and third book appear in reverse order, with the herbal before the register of ailments.¹⁰¹

Various scholars do not specify which edition Van der Noot used as the source of his Dutch translation; in some cases, they do not even specify whether it was the small or the large book of distillation.¹⁰² Brunschwig's *Large Book of Distillation*, first published in 1512, also starts with a book that explains the basic techniques and instruments of distilling, but it does so in a much more elaborate way than the *Small Book*.¹⁰³ This part of the book also contains more illustrations of instruments than the *Small Book*. Furthermore, the *Large Book* contains several additional books.

A close comparison of the various editions reveals that Van der Noot must have used one of the later editions of the *Small Book of Distillation* as his source, although I have not been able to establish whether it was the one from 1509 or 1515. There are two crucial aspects where the Dutch version matches these later editions, and differs from the first edition of 1500 as well as the *Large Book of Distillation* of 1512. In the first place, this is the order of the three main books, as mentioned above, which was changed in the *Medicinarius* and subsequent editions. Secondly, Brunschwig adapted the register of diseases in the *Medicinarius* and following editions because, as he explains, in the first edition it was not convenient to use, containing unnecessary repetitions and redirections.¹⁰⁴ The adapted arrangement of the register also appears in the Dutch edition. The *Medicinarius* of 1505 can be ruled out as Van der Noot's source: in this edition, the two-page woodcut of a brick mould for building a distillation furnace does not include any text, whereas a verse text is printed inside the form in the 1509 and 1515 editions, which is translated literally in the Dutch edition.

Van der Noot did not follow the third (or later) edition of the *Small Book of Distillation* in all respects, however (see also Chapter 3). The substantive *Buch des lebens* by Marsilio Ficino (1433–1499) on how scholars can live a healthy and long life (a translation in German of *De vita libri tres*), which publisher Johann Grüninger included both in the 1509 and the 1515 edition, is left out in the Dutch

101 Also noted by Franssen 1990, 76.

102 Franssen 1990, 36 and 76 seems to confuse the small and the large book of distillation; Post et al. 1960, nr. 132 unquestioningly assumes that Van der Noot used the *editio princeps* (1500) of the *Small Book of Distillation*. Forbes 1948, 110 seems to assume that the Dutch translation is based on the *Large Book of Distillation*.

103 Brunschwig, *Liber de arte Distillandi de Compositis. Das buch der waren kunst zu distillieren* (Strasbourg: Johann Grüninger, 1512), 2^o, <https://www.ustc.ac.uk/editions/672784>, VD16 B 8698.

104 Ed. 1509, fol. A1v: *das vor gedruckt distillier buch hat gehebt ein hinder register, gar nahe so weit begriffen als das buch, vnd das zwei mal vssgelegt on not. Vnd hat dan wider gewisen in das recht buch. Das selbig ist hie erspart vnd ein nūw register gemacht leichtlicher zu verston vnd behender zu finden [...].* See also Taape 2014, 21.



Fig. 3.1 | p. 138



Fig. 3.10 | p. 166



Fig. 3.14 | p. 177



Fig. 3.16 | p. 179



Fig. 5.6 | p. 263



Fig. 5.30 | p. 304

edition. Moreover, the third book of Brunshwig's *Small Book of Distillation*, the herbal, is not illustrated in the Dutch edition, contrary to the German and English editions. Van der Noot may have preferred the *Small Book of Distillation* for his translation over the more elaborate *Large Book of Distillation* in order to provide a more accessible book, both in terms of content and of price, which could appeal to a larger audience including less specialised readers.

In addition to a woodcut on the title page (Fig. 3.16 on p. 179), on its reverse (Fig. 5.30 on p. 304), and two at the end of the table of contents, all of the two dozen woodcuts in the Dutch edition are situated in the first book. They are mostly small images, the width of a single text column, depicting different shapes of flasks, pans and ovens (they are discussed in more detail in Chapter 3; see Figs. 3.1 on p. 138, 3.14 on p. 177). A striking exception to this small size is a full-size woodcut of a mould for baking bricks to build a distillation furnace (Fig. 3.10 on p. 166), which takes up an entire page opening in the first book. The title page woodcut of a man collecting water from a large distillation furnace, which takes up more than half a page, reappears in the first book. At the end of the table of contents, a smaller image of a furnace from the first book is reused, and below it is an image of a scholar in his study (a stock image used as an author portrait; Fig. 5.6 on p. 263).¹⁰⁵

¹⁰⁵ Van der Noot used the same woodcut of the scholar in his study in Tscep-1514 and Tscep-1520.

In 1527, a translation in English appeared of the *Small Book of Distillation*, titled *The vertuose boke of Distyllacyon of the waters of all maners of herbes*.¹⁰⁶ Its preface states that it was translated from Dutch, and it uses Van der Noot's woodcuts of distilling instruments. These blocks must have travelled to England, then, at some point between 1517 and 1527.¹⁰⁷

Literature: Hoogendoorn 2018, 169; Van Dixhoorn 2014, 116–117; Franssen 1990, 36 and 76; Jansen-Sieben 1989, 50; Vermeulen 1986, 121; Forbes 1948, 110–111; Post et al. 1960, nr. 132.

On the German editions: Taape 2021; Taape 2014; Rankin 2014; Habermann 2001, 487–501; Belkin 1986; Anderson 1977, chapter 15; Forbes 1948, 109–116; Sigerist 1946, 33–36; Klein 1911, IX–X; Choulant 1858, 75–85.

Thuys der fortunen ende dat huys der doot

- **Thuys-1518:** [Antwerp]: Jan van Doesborch, 7 February 1518, 40, <https://www.ustc.ac.uk/editions/437024>, NK 1150, NB 16045
- **Thuys-1522:** Antwerp: Willem Vorsterman, 1522, 4°, <https://www.ustc.ac.uk/editions/437206>, NK 3222, NB 16046
- **Thuys-1531:** Utrecht: Jan Berntsz, September 1531, 4°, <https://www.ustc.ac.uk/editions/421042>, NK 1151, NB 16047
- **Thuys-c1540:** [Utrecht]: [Jan Berntsz?],¹⁰⁸ [c. 1540], 4°, <https://www.ustc.ac.uk/editions/424869>, NK 4243, NK 0661 bis, NB 16048
- {multiple later editions}

Copies consulted: Thuys-1518-A12, Thuys-1522-Bo2, Thuys-1531-Go3¹⁰⁹, Thuys-1531-Ho4, Thuys-c1540-Ho4

Other copies: -

In *Thuys der fortunen*, lavishly illustrated throughout in all editions, the first section is a book of fortune: a kind of interactive horoscope that could be played

¹⁰⁶ Brunshwig, *The vertuose boke of Distyllacyon* (London: Laurence Andrewe, 1527), 2°, <https://www.ustc.ac.uk/editions/501983>, ESTC S106740.

¹⁰⁷ Franssen 1990, 36 assumes that Jan van Doesborch has played a role in this transition. Unlike in the Dutch edition, the herbal section in the English *Vertuose boke* is illustrated, with the same blocks that were used a year earlier in *The grete herball* (1526). Further research is required to establish the connections between the German, Dutch, and English editions and their printers.

¹⁰⁸ This edition, which survives in a single copy from which the last pages including the colophon are missing, is commonly attributed to Jan Berntsz. We may wonder, however, whether it was printed rather by someone else; see below.

¹⁰⁹ Braekman 1980–1981, 6 (note 2) has identified this fragment, consisting of one folded sheet, bound in *Die alder excellenste Chronyke van Brabant* (Antwerp: Jan van Doesborch, 1518). However, the sheet is not from Thuys-1518 as Braekman asserted, but from Thuys-1531, and must therefore have been bound with the chronicle in or after 1531. It is the fold-out sheet that makes up quire N, containing the ten ages of man on a full opening, the ‘house of Death’ on the reverse on one half, and the diagram of the human brain (with sixteenth-century annotations) and the text of fol. N1r on the other half (printed transversely).

as a fortune-telling (group) game.¹¹⁰ The reader rotates a pointer on a dial at the beginning of the book (Fig. 5.20 on p. 288) and is then led along a wind direction, a zodiac sign (e.g. Fig. 4.18 on p. 223), a month of the year, and a famous woman, each of which directs him/her to the next section, to finally arrive at a wise ‘master’ who provides personal life advice.¹¹¹ This section, which constitutes roughly one third of the book, is followed by a miscellaneous collection of ‘many good teachings’ (*veel goeder leeringhen*) relating to health, human nature, and astrology, providing information on such topics as bathing, food, the ages of man, the planets and zodiac signs, and the weather. Both sections are clearly distinguished from each other, but their thematic connection – founded on the relations between microcosm and macrocosm – was apparently considered to be so strong that they appear together in all editions. The preface states that the work is intended to divert melancholy that brings diseases, and a kind of disclaimer at the end again emphasises that ‘it is done to comfort those overcome by melancholy’ and that one should not believe too firmly in the influence of the planets, because everything is in God’s hand only; the planets merely cause inclinations, from which man is free to deviate.¹¹²

Books of fortune in which the reader’s path through the book was determined by fate (rotating a wheel, or throwing dice, for example) were popular throughout Europe, in print since 1482, but already in manuscript form before that date.¹¹³ It has been suggested that *Thuys der fortunien* originates in the context of the chambers of rhetoric, and that its first publisher, Jan van Doesborch, may also have been the compiler.¹¹⁴ The work – in its successive editions – will have circulated much wider than among the rhetoricians, however. Editions continued to be published virtually unaltered in the seventeenth century.¹¹⁵

110 That books of fortune were used as a group game is not only apparent from their arrangement, but also from title page images of Italian editions that show a group of people around a table with an opened book of fortune; for example, Lorenzo Spirito, *Libro de la ventura di Lorenzo Spirito. Con somma diligentia reuisto et corretto & nouanecche ristampate* (Venice: Mattio Pagan, 1557). I thank Laura Carnelos for drawing my attention to these title pages.

111 The preface provides an instruction of how to find one’s way through the book of fortune: ‘If you want to find your fortune in this book, then you have to turn the man, in the circle placed here before, on the outside of the book. With his hand he will direct you to one of the twelve winds that are in the circle’ (*Als ghi wilt v auontuere suecken in dit boeck, so suldi in dese voergestelden cirkel den man drayen buten dat boeck, ende hi sal v metter hant wijsen op een vanden .xij. winden dye in den cirkel staen*), Thuys-1518, fol. Azr. For a further discussion of the book of fortune, see Chapter 4.

112 See also Chapter 1.

113 The earliest known printed version is Lorenzo Spirito’s *Libro dela ventura* (Perugia: Stephan Arndes, Gerardus Thomae, and Paulus Mechter, 1482). On books of fortune in print and manuscript: Schmidt 2017, 325–332; Heiles 2017; Kiliańczyk-Zięba 2016; Braekman 1980–1981.

114 Braekman 1980–1981, 7, repeated in Bleyerveld 2000, 268 (note 74).

115 The 1611 edition (Rotterdam: widow of Jan van Gelen, 1611) contains largely the same images as the editions from the first half of the sixteenth century (partially even printed from the same blocks).

The edition of c. 1540 is commonly attributed to Jan Berntsz, but I see reasons to doubt this attribution. Firstly, some of the woodcuts are admittedly the same blocks as in Berntsz's 1531 edition, but others are clearly copied after this edition, in a lower quality and a cruder style. Apparently, the earlier blocks were not available when the edition of c. 1540 was printed. A very similar combination of reused and closely copied blocks from Berntsz is found in Jan Roelants' *Chyromantia* edition of 1554. Roelants also closely copied images after Berntsz in his editions of *Der vrouwen natuere*. Secondly, the typesetting in the book of fortune section in *Thuys der fortunen* of c. 1540 is less well-balanced than in Berntsz's 1531 edition, suggesting a different printer. It does not adhere to a layout of one wise woman or master per page, but instead uses smaller images, fewer decorative borders, and it lets the text continue across pages just as page space allows it. The possibility that the edition of c. 1540 was printed by Jan Roelants or someone else requires further study.

In the book of fortune in *Thuys der fortunen*, the female and male characters range from biblical, classical, and literary figures (e.g. Lucretia, Delilah ('Dalida,' Fig. 4.24 on p. 232), Blancefleur, Hali, Avicenna) to humorous allegories like Alberoyt ('All Penniless'), Lichtvoet ('Lightfoot'), and Schoonbedroch ('Sweet Deceit,' Fig. 4.13 on p. 216). As Yvonne Bleyerveld has observed, the female characters all have been either a victim of love or they have caused the downfall of a man.¹¹⁶ While some of the woodcuts, like that of Schoonbedroch, seem to have been designed specifically for this work, others are stock images, like the figures that Van Doesborch uses to depict Hali, Mesue, and the Monk.¹¹⁷ The pointer on the dial at the beginning has not been preserved in any of the surviving copies from the first half of the sixteenth century, but it has been reconstructed by Willy L. Braekman and it is still present in a copy of a later edition, from 1606.¹¹⁸ The large title page woodcut showing personifications of Lady Fortuna, Good Fortune (*Gheluck*) and Misfortune (*Ongheluck*) was later used by Jan van Doesborch as printer's mark.¹¹⁹

A typical feature of the editions of *Thuys der fortunen* are diagrammatic arrangements of woodcuts on full page openings or even fold-out sheets (see also Chapter 2). In addition to a cosmos diagram, they represent the 'house of Fortune' (displaying interrelations between the planets and the favourable

116 Bleyerveld 2000, 70. The women and masters slightly vary from edition to edition. For example, Van Doesborch's 'Avicenna' has been replaced in the other editions by 'Alberoyt'; see also Franssen 1990, 235 (note 96).

117 See also Franssen 1988, 177. The figure of the Chess Player (Fig. 4.20 on p. 225) may have been designed for *Thuys der fortunen*, judging from its size and style, but it is also reused in other editions, including of *Der vrouwen natuere*; see Chapter 4 and Fig. 4.17 on p. 220.

118 Braekman 1980–1981, 7; Berger [s.d.], and Chapter 5.

119 Franssen 1990, 138–139.

or detrimental inclinations that they cause, Fig. 2.21 on p. 116), the ‘house of Death’ (stating the most common causes of death for each of the four complexions, e.g. the melancholic is likely to die of disease, the phlegmatic of excess), and the ten ages of man related to ten animals (Fig. 2.8 on p. 100).¹²⁰

The texts and images in the book’s largest section, on health and astrology, derive from a variety of sources.¹²¹ Piet Franssen has observed an ‘undeniable relation’ with parts of *Tscep vol wonders* and some influence from *Der scaepherders kalengier* and *Dat regiment der ghesontheyt*.¹²² The text on the influences of the planets strongly resembles that of *Tscep vol wonders* and the woodcuts are the same blocks, that continued to be reused in all four editions and thus must have been exchanged among various printers (see Chapter 2 and Fig. 2.19 on p. 114). The image of a zodiac man in the 1518 edition is copied after *Der scaepherders kalengier* of 1511 (Fig. 2.1 on p. 78).¹²³ The illustration to the text on bathing prescriptions is reused from *Dat regiment der ghesontheyt* (Fig. 4.21 on p. 227).

Van Doesborch also seems to have drawn on the tradition of German calendars for various parts of *Thuys der fortunien*. There are various resemblances to a calendar printed by Mathis Hüpffuff in 1515, for example in the month regimen where a classical master provides advice for each month.¹²⁴ The images of the wind directions at the beginning of *Thuys der fortunien* also bear some similarity to a depiction of ‘the four winds and their nature’ in Hüpffuff’s calendar. Even more striking is that a seemingly simple stock figure of a physician with a urine flask also turns out to resemble in detail a figure in the German calendar (Figs. 1.5–1.6 on p. 61).

Another possible German influence that has been overlooked in studies of Dutch practical texts is Gregor Reisch’s *Margarita philosophica* (first edition published by Johann Schott, Freiburg-im-Breisgau, 1503), an encyclopedic work on the seven liberal arts, natural philosophy, and moral philosophy with many illustrations.¹²⁵ A text in *Thuys der fortunien* on different shapes of ‘fiery impressions’ in the sky caused by vapours in the air (present from the 1522 edition by Willem Vorsterman onwards, and also in *Der dieren palleys* of 1520), with images

120 The ten ages do not yet occur in *Thuys-1518* (at least not in the only surviving copy of this edition), but Van Doesborch did include them in *Dier-1520*, and they subsequently appeared in *Thuys-1522*, *Thuys-1531*, and *Thuys-c1540*.

121 A closer study of these sources, and of the exchange between German, Dutch, and English sources is desired, as Franssen already observed (Franssen 1990, 67).

122 Franssen 1990, 66–67.

123 The block from *Thuys-1518* was reused in *Thuys-1522* and *Thuys-1531*; *Thuys-c1540* has a different zodiac man.

124 *Diser Kalender zeygt dir clarlich [...]* (Strasbourg: Mathis Hüpffuff, 1515), 4°, <https://www.ustc.ac.uk/editions/640826>, VD16 D 1461.

125 Gregor Reisch, *Margarita Philosophica* (Freiburg im Breisgau: Johann Schott, 1503), 4°, <https://www.ustc.ac.uk/editions/675099>, VD16 R 1033. See Chapter 2.



Fig. 1.5 | p. 61



Fig. 2.1 | p. 78

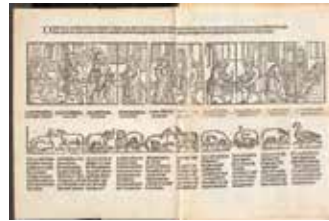


Fig. 2.8 | p. 100



Fig. 2.19 | p. 114



Fig. 2.21 | p. 116



Fig. 4.13 | p. 216



Fig. 4.17 | p. 220



Fig. 4.18 | p. 223



Fig. 4.20 | p. 225



Fig. 4.21 | p. 227



Fig. 4.24 | p. 232



Fig. 5.20 | p. 288

of these shapes, probably derives from *Margarita philosophica* or from one of the various Calendars of Shepherds in French and English in which this illustrated text also occurs.¹²⁶ It has not yet been established exactly through which source it entered the Dutch books. Further images deriving from *Margarita philosophica* are a diagram of the human head in profile in which the locations of the senses in the brain are indicated, and a diagram of a standing half figure with an opened belly in which the intestines are shown and labelled. Both of these images recur in various other works in Dutch.¹²⁷ The cosmos diagram on a fold-out

¹²⁶ Reisch, *Margarita philosophica* (1503), fols. D4v-D5v. Calendars of Shepherds: see, for example, *Icy est le Compost et kalendrier des bergiers nouvellement reffait et autrement compose...* (Paris: Guy Marchant, 18 July 1493), fols. 16v-m1r; *The kalendayr of the shyppars* (Paris: Antoine Vérard, 1503), fols. 13r-13v; see also Murdoch 1984, 259–260 on a manuscript copy of the *Calendrier des bergiers* in which these images also appear.

¹²⁷ See Chapter 2.

sheet in *Thuys der fortunēn* also bears resemblance to the image of that subject in *Margarita philosophica*.¹²⁸

The editions of *Thuys der fortunēn* thus testify to a clever reuse of image motifs deriving from other works that nevertheless fit well in this context. As a consequence of this compilatory character of the image programme, the woodcuts vary greatly in size and style. These differences continue to exist in subsequent editions, where the woodblocks are either reused or copied in detail.

Literature: Berger (s.d.); Meeus 2015, 348–353; Pleij 2007, 616; Bleyerveld 2000, 67–71; Franssen 1990, 66–67, 131, 162, 226 (note 1); Jansen-Sieben 1989, 27; Franssen 1988, 172, 177; Vermeulen 1986, 104; Brackman 1980–1981; Vervliet 1978, 198–199; Renger 1969, 73–76; Delen 1934, 23; Delen 1923.

*Der dieren palley*s

- **Dier-1520:** Antwerp: Jan van Doesborch, 15 May 1520, 2°, <https://www.ustc.ac.uk/editions/410142>, NK 1667, NB 15890

Copies consulted: Dier-1520-Bo2a, Dier-1520-Bo2b, Dier-1520-Ho4, Dier-1520-Lo1a, Dier-1520-Po1

Other copies: Dier-1520-Lo1b (misaid)

*Der dieren palley*s is an abbreviated translation of the chapters on animals from the *Hortus sanitatis* (first edition Mainz 1491). According to Franssen, Van Doesborch probably used the 1517 edition printed by Renatus (Reinhard) Beck in Strasbourg as a source.¹²⁹ Somewhat later, perhaps in 1521, Van Doesborch also published an English edition (translated by Laurence Andrewe, published in London) with largely the same text, woodcuts and layout as the Dutch edition.¹³⁰

The work is divided into books on land animals (166 numbered chapters), birds (some 120 chapters, only part of which are numbered), and fish (106 numbered chapters), with 452 woodcuts in total.¹³¹ Each book is preceded by the

128 The most noteworthy difference is that in the image in *Margarita philosophica* the figure of Atlas is superimposed on the diagram (fol. m2v); the diagram itself, however, and the typical shapes of its xylographic text labels, strongly resemble those in *Thuys der fortunēn*.

129 Franssen 1990, 72–73. *Ortus sanitatis* (Strasbourg: Renatus Beck, 1517), 2°, <https://www.ustc.ac.uk/editions/681827>, VD16 H 5122.

130 *The noble lyfe & natures of man, of bestes, serpentys, fowles & fisshes yt be moste knowen*, Laurence Andrewe transl. (Antwerp: Jan van Doesborch, [after 1520]), 2°, <https://www.ustc.ac.uk/editions/437179>, NK 1901, NB 1062/1063, ESTC S121156. There is no agreement on the date of the English edition, see Houwen 2004, 64–65. The USTC states 1521, while Franssen 1990, 73 keeps to ‘after 1520.’

131 Houwen 2004, 65.



Fig. 1.10 | p. 68



Fig. 2.3 | p. 84



Fig. 2.4 | p. 91



Fig. 2.8 | p. 100



Fig. 2.15 | p. 108



Fig. 3.5 | p. 148



Fig. 3.6 | p. 148



Fig. 4.2 | p. 201



Fig. 5.19 | p. 287

same title page woodcut that shows a variety of creatures in the sky, on land, and in the water. A blank space in the middle leaves room for printed text, which is different for each of the books (Fig. 2.3 on p. 84). The work starts with information on human beings, because, as the text explains, they are the summit of Creation (Fig. 2.4 on p. 91). The brain and the intestines are discussed, illustrated with the same woodcuts deriving from *Margarita philosophica* that also appear in *Thuyser fortunen* (Fig. 2.15 on p. 108). A double page shows an overview of the ten ages of man coupled to ten animals, which subsequently also appeared (using the same woodblocks) in *Thuyser fortunen* of 1522, 1531, and c. 1540 (Fig. 2.8 on p. 100).¹³² The subsequent chapters on animals each start with an image of the animal and then describe its appearance, some typicalities of

¹³² The texts accompanying the ten animals in *Der dieren palley*s are shorter, mentioning only the animal and the age, without the verses that explain the links between the animals and the ages in *Thuyser fortunen*.

its behaviour and/or habitat, and its medicinal qualities (*operationes*). Domestic, exotic, and mythical animals are all treated alike (Figs. 1.10 on p. 68, 3.5–3.6 on p. 148, 5.19 on p. 287).¹³³ The book on land animals also contains several small half figures of scholars, which often accompany a chapter's section on *operationes* where authorities are quoted (Fig. 4.2 on p. 201). The book on birds and other flying animals starts with the illustrated passage on the three parts of the sky and the shapes of 'fiery impressions' that also appears in *Thuys der fortunien* from 1522 onwards.

Many of the woodcuts of animals were cut specifically for *Der dieren palleyes*, copied after the *Hortus sanitatis*; they are consistent in size and style. Some woodcuts were reused from other works, not only those in the above-mentioned parts on human beings and on aerial vapours, but also, for example, in the chapter on the beast Pilosus: its image is reused from *Van die wonderlicheden en costelicheden van Pape Jans landen* (Antwerp: Jan van Doesborch, 1506).¹³⁴ The title page woodblock was modified during the printing of *Der dieren palleyes*: three scholar figures that appear at the top of the title page are missing on the title pages of the individual book parts, printed from the modified block. This modified block was subsequently used for the title page of *The noble lyfe*.

It seems that some errors made during the printing process were already corrected by hand before the copies left the print shop. On two pages (fols. S3v and S4v), lines of printed text were erroneously omitted at the bottom of a column. These forgotten lines have been printed on separate strips of paper and pasted below the columns in question. They are still present in most copies I examined.¹³⁵ Moreover, an incorrect quire signature 'O' on fol. P2r has been corrected into a P through an added pen line in various copies, all in exactly the same way.

Literature: Jaritz 2015; Houwen 2004; Hazelzet 1994 20–21 and 72–73; Franssen 1990, 72–73; Jansen-Sieben 1989, 47; Vermeulen 1986, 105.

¹³³ See also Houwen 2004, 67–68, and Chapter 2 on the work's organisation, and Chapter 3 on the claimed lifelikeness of the images and on their didactic functions.

¹³⁴ See also Houwen 2004, 66.

¹³⁵ In Dier-1520-P01, the paper slip at the bottom of S3v has been partially torn off and the paper slip on S4v has partially come loose and has folded. In Dier-1520-H04, the paper slips have disappeared but a rectangular glue stain is still visible on both pages. To my knowledge, the practice of applying such strips with printed corrections has not been studied, so we do not know how common it was. A similar slip of paper is pasted in *The noble experyence of the vertuous handy warke of surgeri* (London: Peter Treveris 1525), the English translation of Hieronymus Brunschwig's *Small Book of Distillation*, in the copy of the British Library, fol. D3r, to correct an erroneous chapter heading (reproduced in *Early English Books Online*).

Den sack der consten

- **Sack-1528:** [Antwerp]: Jacob van Liesvelt, 1528, 4°, <https://www.ustc.ac.uk/editions/437394>, NK 1843, NB 31888
- **Sack-1537:** Antwerp: Willem Vorsterman, 1537, 4°, <https://www.ustc.ac.uk/editions/437907>, NK 1507, NB 31889
- {multiple later editions}

Copies consulted: Sack-1528-A04, Sack-1537-L01

Other copies: -

Den sack der consten is an early, illustrated example of a book of secrets – a type of book that was commonly not illustrated.¹³⁶ It is a collection of practical as well as amusing and mock recipes, tips and tricks for all kinds of domestic and medical issues. It includes recipes and instructions to catch fish at night, to pull an egg through a golden ring, to remove unwanted hair, to make an ever-burning light, to know if a pregnant woman will have a boy or a girl, a mock recipe against toothache (with ingredients such as ‘a handful of vanity’ and ‘a little ignorance’), and much more. The preface of the 1528 edition says that the book contains ‘some silly things for the youngsters and some other things’ (*som wat sots voor die ionghers ende som anders*), thus explicitly including young readers among its target audiences.¹³⁷ In 1621, the Antwerp bishop Malderus placed the work on a list of books deemed unsuitable for use in schools, implying that it was read there until that time.¹³⁸

Two editions are known from the first half of the sixteenth century, both of which survive in a single copy. In 1529, Willem Vorsterman also published a translation in French: *Le sacq des Ars et sciences*.¹³⁹ The existence of that edition makes it likely that Vorsterman already published a (now-lost) edition in Dutch around that time, as also suggested by Peter M.H. Cuijpers.¹⁴⁰ The only surviving copy of the 1537 Dutch edition misses the title page, but considering the work’s strong similarity to the 1528 edition it is likely that this edition was also titled *Den sack der consten*. Vorsterman’s 1537 edition contains

¹³⁶ The standard work on books of secrets is still Eamon 1994. The present analysis of *Den sack der consten* also appears in Van Leerdam 2023a.

¹³⁷ Sack-1528, fol. A1v.

¹³⁸ Braekman 1989, 16.

¹³⁹ *Le sacq des Ars et sciences* (Antwerp: Willem Vorsterman, 1529), 4°, <https://www.ustc.ac.uk/editions/80711>, NK 3829; see also Braekman 1989, 23. Like both Dutch editions, this French edition survives in only one copy (Paris, Bibliothèque nationale de France, RES P-R-341). It includes the same recipes as Sack-1528, but in a different order, and nearly all of the woodcuts are different. The woodcut on the title page is a close copy of that of Sack-1528.

¹⁴⁰ Cuijpers 1998, 291.



Fig. 4.17 | p. 220

eighteen recipes that were not yet included in Van Liesvelt's 1528 edition, and its woodcuts are nearly all different from those in the 1528 edition.¹⁴¹ The work continued to be printed (with further alterations) in the later sixteenth century and even in the seventeenth and the eighteenth centuries.¹⁴² According to the 1528 title page and preface, the content of the book is *ghecopuleert* ('copulated,' i.e. compiled) from Latin, Italian, French, and German sources. Willy L. Braekman has observed that various recipes were taken from

Thomas van der Noot's unillustrated book of secrets *Tbouck van wondre* (1513) and from Hieronymus Brunschwig's *Distellacien* (1517).¹⁴³

None of the illustrations in the 1528 and 1537 editions seem to have been made specifically for this work: they are true stock images, reused or copied from other works and again reused in later works.¹⁴⁴ The selections of images are largely different in both editions. They depict, among other things, single figures of men and women, and scenes of eating, people lying in bed (a sick person in some images, a couple making love in others), riding on horseback, making music, playing chess, and cooking fresh-caught fish (Fig. 4.17 on p. 220). The 1537 edition also contains various images of animals and a number of blocks from Thomas van der Noot's *Tscep vol wonders* of 1514 and 1520 (the image of purging, and of the phlegmatic and melancholic complexions).

According to Braekman, the images 'serve in the first place as decorations; their illustrative value can be qualified at best as minimal and highly vague.'¹⁴⁵ This observation seems to miss the point of the book, however. It is true that the images are not related to the texts in any literal sense, but they are related in spirit. The recipes themselves are a hodgepodge, too, without any clear coherence. Precisely this varied mix of texts and images lends a kind of overall coherence in tone and style that recalls present-day lifestyle magazines.

141 Braekman 1989, 57–58 on the added recipes in the 1537 edition and 18 on the woodcuts.

142 Braekman 1989, 16–24.

143 Braekman 1989, 13–14. Braekman confuses Brunschwig's *Distellacien* (1517) with the same-titled work that Van der Noot published in 1520 (see above, note 83); he refers to this edition of c. 1520 (which does not mention Brunschwig anywhere) as a source for *Den sack der consten* but the examples he provides are from the 1517 translation of Brunschwig.

144 They include images (copied or reused) that also appear in *Ulenpiegel* (a lost edition; see Geeraedts 1986, 60–61), *The parson of Kalenborowe* (Antwerp: Jan van Doesborch, 1520s?), *Frederick van Jenuen* (Antwerp: Willem Vorsterman, 1531), Dier-1520, Scaep-c1514, and various editions of *Der vrouwen natuere*, among many others.

145 Braekman 1989, 17 (my translation).

Together, the texts and images convey a lively and attractive impression of a merry and healthy life, that must have appealed to a wide audience.

Literature: Van Leerdam 2023a; Cuijpers 1998, 291–292; Brackman 1989; Jansen-Sieben 1989, 87; Geeraedts 1986, 60–61, 69, 72.

Tfundament der medicinen ende chyrgien

- **Tfund-1530:** Antwerp: Willem Vorsterman, the second day of the harvest month [August] 1530, 2^o, <https://www.ustc.ac.uk/editions/437521>, NK 1971, NB 28786 (*Tfundament der Medicinen ende Chyrgien*)
- **Tfund-1532:** Antwerp: Willem Vorsterman, 23 March 1532, 2^o, <https://www.ustc.ac.uk/editions/425753>, NK 3914, NB 28787 (*Tfundament der Medicinen ende Chyrgien*)
- **Tfund-1540:** Antwerp: Willem Vorsterman, 17 March 1540, 2^o, <https://www.ustc.ac.uk/editions/438121>, NK 1972, NK 01135, NB 28788 (*Tfundament der Medicinen ende Chyrgien*)
- {One later edition}¹⁴⁶

Copies consulted: Tfund-1530-Ho4, Tfund-1530-Go3a, Tfund-1530-Go3b¹⁴⁷, Tfund-1532-Ko7, Tfund-1532-Yo6¹⁴⁸, Tfund-1540-Ao4¹⁴⁹, Tfund-1540-A170, Tfund-1540-B16, Tfund-1540-Wo2

Other copies:¹⁵⁰ Tfund-1530-Go3c, Tfund-1530-Lo5a,¹⁵¹ Tfund-1530-Lo5b,¹⁵² Tfund-1530-M88, Tfund-1532-So7

146 *Tfundament der medicynen ende chyrvrgien* (Rotterdam: Matthijs Bastiaensz, 1622), 4^o, <https://www.ustc.ac.uk/editions/1011167>. A copy of Tfund-1530 is listed in the catalogue of the Bruges Janshospitaal and in the USTC (<https://www.ustc.ac.uk/editions/437521>), but my on-site examination of the volume has proven that it is this 1622 edition. It is smaller, in quarto, and contains fewer woodcuts than the sixteenth-century editions. The anatomical diagrams are copied after Vorsterman, but the skeleton is now holding a walking cane. A half-figure of an astronomer was printed apparently from the very same block that was used earlier in Chyro-1536.

147 This copy (Ghent University Library BIB.ACC.008275) was catalogued as being the 1540 edition but my comparison to other copies, both of the 1530 and 1540 editions, shows that it is the 1530 edition. The catalogue entry has been adjusted.

148 The photos that were kindly sent to me by Christopher Zollo of the Medical Historical Library at Yale University revealed that this is a composite copy: the uroscopy treatise with images of urine flasks is from Tfund-1530, while the title page and colophon are from Tfund-1532.

149 This copy represents a variant of Tfund-1540; see below. The copy of Tfund-1540 mentioned in the USTC in the collection of the Nederlandse Maatschappij ter bevordering van de Geneeskunde is, in fact, this copy held at Allard Pierson, University of Amsterdam, where the KNMG collection is housed.

150 The USTC mentions a copy of Tfund-1530 in the Royal Library in Brussels, but I have not found it there. The same applies to a copy of Tfund-1540 in Uppsala University Library. Curator Helena Backman kindly looked for the copy in Uppsala for me.

151 Shelfmark: BRES: Tabularium - Magazijn DPB202.

152 Bound with Herb-1532-Lo5. Shelfmark: Maurits Sabbebibliotheek, GBIB: Godegeleerdheid P58/F* 2 HERB 1532. Previous shelfmark SJ Bibliotheek Berchmanianum Nijmegen a 11.527/1-2; 83B1.

This large and varied volume was compiled by a Petrus Sylvius from Antwerp, who identifies himself in the preface but about whom nothing is known. He must have been a medical professional.¹⁵³ The book's target audience, also explicated in the preface, are novice physicians, surgeons, and apothecaries and Sylvius repeatedly states that the work is intended 'for the common good.' Its instructive character for aspiring practitioners particularly comes to the fore not only in its preface, but also, for example, in the uroscopy treatise (discussed in Chapter 3) and in the presence of a list of common substances found in pharmacies, a list of subjects a physician should know about (which, of course, all happen to be addressed in this book), and an explanation of weight measures commonly used in recipes.

The compilation includes practically all contemporary medical-astrological knowledge, covering the division of the year (calendar, dominical letter, Easter date, etc.), letting blood, the signs of the zodiac, the influence of the planets and signs of the zodiac (including horoscope diagrams), uroscopy, extensive sections on various medications and herbs, distilling herbal waters, medicinal waters (without illustrations), women's diseases, a treatise on *pocken* (syphilis) and other diseases by master Giovanni da Vigo (1450–1525), female fertility, children's diseases, various plague treatises, beneficial waters for other than medicinal purposes (including an ink that will prevent mice from eating the paper), surgery (including horse surgery and field surgery, again taken from Giovanni da Vigo), and an *antidotarius* (how to prepare various medications and plasters).

Within a decade, Willem Vorsterman put three near-identical editions of this work on the press (1530, 1532, 1540) so it must have sold well in this form. A variant exists of the 1540 edition, which has remained unnoticed in previous literature (including NK). On the title page of the copy held at Allard Pierson, University of Amsterdam, the typesetting of the text below the woodcut is different than in the other copies I examined of the 1540 edition. The colophon is the same, dated 17 March 1540. A curious paratextual difference between the three editions is that the 1532 edition has printed folio numbers throughout, whereas the editions of 1530 and 1540 have printed folio numbers on just a few pages.

Vorsterman incorporated some of his earlier publications in *Tfundament der medicinen*. The calendar section resembles that of *Der scaepherders kalengier* but without illustrations. The herbal section contains 150 woodcuts of plants, reused from the *Herbarius in dijetsche* of 1511 but with different texts.¹⁵⁴ The part on distilling is copied from *Dit is die rechte conste om alderhande wateren te*

153 The present analysis of *Tfundament der medicinen* also appears, in modified form, in Van Leerdam 2023b.

154 Gysel 1991.



Fig. 2.10 | p. 103



Fig. 3.2 | p. 143



Fig. 3.9 | p.163



Fig. 3.11 | p. 169



Fig. 3.12 | p. 172



Fig. 4.10 | p. 208



Fig. 4.22 | p. 228



Fig. 5.1 | p. 247

distillieren, which Vorsterman published around 1520.¹⁵⁵ One later – and smaller, quarto size – edition of *Tfundament der medicinen* is known, printed by Matthijs Bastiaensz in 1622 in Rotterdam.

Tfundament der medicinen shows great variety not only in texts but also in images. They include narrative images that mark the beginning of a new text section, and analytical images (mostly diagrams, plants, and medical instruments; e.g. Figs. 3.11 on p. 169, 3.12 on p. 172 that are explicitly discussed in the text. Most of the images are copied or reused from earlier works. The narrative, structuring woodcuts include many half figures of scholars and women copied after Hartmann Schedel's *Nuremberg Chronicle* (1493; see Chapter 4 and Figs. 4.9–4.10 on p. 208, 4.22 on p. 228); a generic image of a scholar in his study that is used three times within the book; an image of Job sitting on a dung heap with his wife rebuking him, attributed to Jan Swart van Groningen and reused from Vorsterman's 1528 bible edition, the so-called *Vorstermanbijbel*; and a distillation scene reused from *Dit is die rechte conste om alderhande wateren te distillieren* and copied after Thomas van der Noot's *Tscep vol wonders*.¹⁵⁶ A large woodcut showing the Holy Trinity, a king and a scholar appears twice within the book (marking the beginning of the uroscopy treatise and the beginning of the surgery treatise);

¹⁵⁵ Wittop Koning 1976, introduction [unpaginated].

¹⁵⁶ The image of the scholar in his study was used earlier by Jan Seversz on the title page of *De virtutibus quarundam herbarum* (i.e. *Liber aggregationis*) attributed to Pseudo-Albertus Magnus (Leiden, s.d.); NAT VIII, 20. On the attribution of the image of Job to Jan Swart, see Post et al. 1960, nr. 156. The distillation scene is reproduced in Wittop Koning 1976.

it was originally cut for Vorsterman's edition of *Een schone hijstorie vanden wijzen filosooph Sydrac* (1516) and was also used on the title page of *Die Chronyck van Hollandt, Zeelandt ende Vriesland* printed by Jan Seversz in Leiden in 1517.¹⁵⁷ The woodcut on the title page is one of the very few in my corpus that apparently goes back to a French example (Fig. 5.1 on p. 247). Showing two medallions over each other that are linked by chains and flanked by two eagles and trees, the image strongly resembles that on the title page of *Theologia vivificans, cibus solidus* published in 1498 in Paris by Johannes Higman and Wolfgang Hopyl.¹⁵⁸

The large diagrams of a vein man and a skeleton, both adorned with Renaissance ornamentation at the top, seem to have been designed specifically for *Tfundament der medicinen* (Figs. 2.10 on p. 103, 3.9 on p. 163). I have not found a direct source either for the tiny woodcuts that show surgical instruments and shapes of body parts and incisions (Fig. 3.2 on p. 143).¹⁵⁹

Literature: Van Leerdam 2023b; Gysel 1991; De Nave and De Schepper 1990, 101; Jansen-Sieben 1989, 100–101; Vermeulen 1986, 139; Van Dongen 1965:36; Post et al. 1960, nr. 156.

Der vrouwen natuere ende complexie

- **Vrouw-c1531:** Utrecht: Jan van Doesborch, [c. 1531], 4°, <https://www.ustc.ac.uk/editions/421109>, NK 2184, NB 31239 (*Der vrouwen Natuere ende complexie*)
- **Vrouw-c1535:** Utrecht: Jan Berntsz, [c. 1535], 4°, <https://www.ustc.ac.uk/editions/421110>, NK 4414, NB 31241 (*Der vrouwen Natuere ende Complexie*)
- **Vrouw-c1538:** Utrecht: Jan Berntsz, [c. 1538], 4°, <https://www.ustc.ac.uk/editions/421112>, NK 2183, NB 31242 (*Der vrouwen Natuere ende Complexie*)
- **Vrouw-c1540:** Antwerp: Heyndrick Peetersen van Middelburch, [c. 1540],¹⁶⁰ 4°, <https://www.ustc.ac.uk/editions/441131>, NB 31237 (*Der vrouwen Natuere ende Complexie*)
- **Vrouw-1555:** Antwerp: Jan Roelants, 1555, 8°, <https://www.ustc.ac.uk/editions/408882>, NB 31246 (*Der vrouwen natuere ende complexie*)

157 Reproduction of the chronicle's title page: NAT III, 8. The chronicle, written by Cornelius Aurelius, is known as the *Divisiekroniek*. An online edition is available at <http://resources.huygens.knaw.nl/divisiekroniek> (accessed 23 April 2023).

158 *Theologia vivificans, cibus solidus; Dionysii celestis hierarchia; Ecclesiastica hierarchia* (Paris: Johannes Higman and Wolfgang Hopyl, 1498). A typescript information leaf at Yale University Library that accompanies Tfund-1532-Yo6 notes that the title page woodcut is 'copied from a Paris border employed by Higman & Hopyl.' Further research will need to establish whether it was a direct or an indirect copy, and how Vorsterman came to use this image.

159 Although the small images of instruments against blank backgrounds bring to mind those in Brunschwig's *Cirurgia* and Hantw-1535 and Guy de Chauillac's *Cyrurgie* (Antwerp: Henrick Eckert van Homberch, 1507), they are not copied after either of these works.

160 The USTC and NB date this edition to 1528, the online catalogue of the National Library of Medicine (Bethesda, MD) to 1528–1541. The edition closely copies the woodcuts of Vrouw-c1538 (with a stronger resemblance to Vrouw-c1538 than to Vrouw-c1535, most evidently in the presence or absence of woodcuts in several chapters), and therefore must have been published after Vrouw-c1538. Because of the uncertain date both of this edition and of Vrouw-c1538, I will keep to a date of c. 1540.

- **Vrouw-1563:**¹⁶¹ Antwerp: Jan Roelants, 1563, 8°, <https://www.ustc.ac.uk/editions/441130>, NB 31247 (*Der vrouwen natuere ende complexie*)
- **{Vrouw-15xx:**¹⁶² [Antwerp?]: [Jan van Ghelen?], [s.d.], 8°, <https://www.ustc.ac.uk/editions/416156>, NB 31252
- {multiple later editions, unillustrated}

Copies consulted: Vrouw-c1531-Ao4¹⁶³, Vrouw-c1535-Oo1, Vrouw-c1538-Lo1, Vrouw-c1540-B16, Vrouw-1555-A17o, Vrouw-1555-A91, Vrouw-1563-Ao4

Other copies: Vrouw-15xx-A17o

Der vrouwen natuere is a translation of the first two books of the *Liber physionomiae* (or *Physionomia*) by Michael Scotus (1175–c.1232), which had appeared in print already many times in the fifteenth century, also in the Low Countries, but without illustrations.¹⁶⁴ Scotus wrote the *Physionomia* for Holy Roman Emperor Frederick II, for whom he worked as court astrologer at the court in Sicily from 1227 onwards. Its first part deals with female sexuality and reproduction, the second part with the four complexions or humoral constitutions, and the third part (which is not included in the Dutch editions) with physiognomy. The edition history of the Dutch translation is complex, as there are many editions that closely resemble each other, and quite a few are undated. Because the undated editions are regularly attributed different dates in different library catalogues, it is difficult to establish which copies are from the same edition. Moreover, editions are mentioned in the literature of which no copies are known, such as an edition said to have been printed in Utrecht in 1530.¹⁶⁵ The work continued to be published in the second half of the sixteenth century, and even up to the

161 Jansen-Sieben 1989, 66 and NB list an incomplete copy of this edition in the National Library of Medicine (Bethesda, MD), but it is not listed in the NLM catalogue and I have not found it there. There is a copy in the NLM, however, of an unillustrated edition [s.n. s.l. s.d.], shelfmark WZ 24o V984 1501, dated '1563?' in the catalogue, that is not mentioned in Jansen-Sieben 1989 or in NB. A copy of this same unillustrated edition is held in Ghent University Library, Rés. 432, which is dated in the library catalogue 'second half sixteenth century.' As this edition contains only an image on the title page and at the end, I have not included it in my corpus.

162 This edition survives only in a fragment, which, according to the catalogue of the Hendrik Conscience Heritage Library in Antwerp, consists of quire D, bound in a convolute after quire A of another edition of the same work (shelfmark D 112782:2 [C2-543 1]).

163 The copy listed in NB and USTC in the collection of the Nederlandse Maatschappij ter bevordering van de Geneeskunde is, in fact, this copy held at Allard Pierson, University of Amsterdam, where the KNMG collection is housed.

164 On Michael Scotus: Jacquart 1994; Thorndike 1965. Braekman 1980, 10–11 observes 'small' differences between the Dutch and the Latin text; Carrette 2018, 34, 45 argues that these differences entail significant changes in meaning. Especially the added preface, woodcuts, and verse text at the end are defining for the character of the Dutch editions; see also Chapter 4.

165 NB 31238, <https://www.ustc.ac.uk/editions/425679>. Copies are said to be kept in the British Library in London and the Bodleian Library in Oxford. This is a ghost edition, however: the shelfmark of the Bodleian Library copy is that of Vrouw-c1535-Oo1, the shelfmark of the British Library copy is that of Vrouw-1538-Lo1.



Fig. 2.24 | p. 121



Fig. 4.14 | p. 217



Fig. 4.15 | p. 218

nineteenth century.¹⁶⁶ The editions from c. 1563 onwards, however, are unillustrated and therefore not included in this study.

The Dutch text discusses the following topics, all of which are accompanied by woodcuts: female sexuality and reproduction (libido, getting pregnant, pregnancy, breastfeeding), the four complexions, how to recognise disease and health, how dreams indicate which humour dominates, the complexions of (edible) animals, the complexions of the human organs (brain, heart, lungs, stomach, liver, testicles). Most of the woodcuts appear in other contemporary works, too, including in a number of prose romances, and do not seem to have been designed specifically for *Der vrouwen natuere*. They include mostly stock images of men and women together, single figures of women (old, young, with baby¹⁶⁷), bed scenes (a couple,¹⁶⁸ a seductive woman, a sick person,¹⁶⁹ a sleeping person), and half figures of scholars (Figs. 2.24 on p. 121, 4.14–4.15 on p. 217–218). The section on edible animals includes various animal images.¹⁷⁰ The section on the

¹⁶⁶ Van Dongen 1964:52, 908.

¹⁶⁷ The figure of a woman with a baby in her arms (illustrating the chapter on ‘the signs that a woman is pregnant with a girl’) was apparently copied from a much larger woodcut that Jan van Doesborch used in *Die distractie van Troyen* (c. 1510, fol. a3r), and *Die alder excellenste cronyke van Brabant, van Vlaenderen Hollant Zeelant* (1518, fol. J2v), among others. In this scene, showing the construction of a city, the woman with the baby is seated in the foreground on the right.

¹⁶⁸ For example, the image of a couple making love in a bed while another man is hiding under the bed (illustrating the chapter ‘on the causes to generate and not to generate’) also appears in *The parson of Kalenborowe* (Antwerp: Jan van Doesborch, 1520s?) and *Dat bedroch der vrouwen* (Utrecht: Jan Berntsz, 1532).

¹⁶⁹ The image of a sick person in a bed with a bird at the foot of the bed also appears in Dier-1520 (fol. Q4v), illustrating the chapter on the Caladrius, a bird who predicts whether a sick person will recover or die (when the bird turns away from the diseased, the person will die). This meaning of the bird seems to resonate in *Der vrouwen natuere*, although the bird is not mentioned there: the image illustrates the chapter on the signs of health and temperance.

¹⁷⁰ It includes a woodcut of a ram in a roundel from the series of zodiac signs (Aries) that Van Doesborch also used in Regi-c1510 and Thuys-1518 among others, but the star above the ram that identified it as a zodiac sign is now cut away in Vrouw-c1531 so that it becomes more appropriate to illustrate sheep meat. The group of animals further includes a small rectangular image of a pig being slaughtered, reused from the series of labours of the months (November) in *Thuys der fortunien*.



Fig. 4.16 | p.219

four complexions is illustrated with the series of four images that also appears in *Thuis der fortunen*, *Der dieren palley*s, and *Chyromantia*. The section on the complexions of the human organs is preceded by the anatomical image of the human intestines that was copied after *Margarita Philosophica* (1503) and that also appears in *Thuis der fortunen*, *Der dieren palley*s, and *Chyromantia*.

The precise constitution of the illustration programme in *Der vrouwen natuere* varies somewhat from edition to edition, but overall the editions depict largely the same subjects in the same places in the text. In fact, many of the woodcuts are reused or copied in detail in successive editions. Jan Berntsz reused woodcuts from Jan van Doesborch, and Heyndrick Peetersen van Middelburch and Jan Roelants both copied these in detail. While some of the woodcuts in *Der vrouwen natuere* mark the start of a new topic in the text, others are inserted amidst the running text (see Chapter 2 and Fig. 2.24 on p. 121).

The primary audience of *Der vrouwen natuere*, as Jenny Mateboer has convincingly argued, consisted of men.¹⁷¹ The preface promises to teach them about the nature of women so that they know how to please women. Van Doesborch's first edition, moreover, ends with a mocking verse stating that the book was made so that men will know how to behave in order not to be beaten by angry women. The playful undertone of these intentions is clearly indicated by the presence of images of jesters in all editions (see Chapter 4 and Figs. 4.15–4.16 on p. 218–219). The book's subject matter seems to have caused a controversy, which has drawn quite some scholarly attention.¹⁷² The final chapter of Van Doesborch's first edition discusses the humoral complexion of the testicles (*secreter ballen*). In subsequent editions, this chapter as well as the mocking verse text were left out and in their place is a verse that apparently defends the former presence of this subject. Under the heading 'Conclusion' the verse states in the voice of an anonymous first person (probably the printer) that he was criticised for what he had said here about the 'consoler of women and his strong neighbours' (*den vrouwentrooster ende sinen gebueren sterck*), but that it is nevertheless part of nature, knowledge of which is to be pursued.

171 Mateboer 2008. Van de Kolk 2009, 38–39 endorses this conclusion, but rightly adds that there will also have been female readers.

172 Van de Kolk 2009, 36–39; Mateboer 2008, 185–186; Pleij 2008, 50; Franssen 1990, 33. See also Chapter 4.

Literature: Carrette 2018; Van de Kolk 2009; Mateboer 2008; Lie 2008, 459; Cuijpers 1998, 308–309; Franssen 1990, 33, 87; Jansen-Sieben 1989, 64–67; Franssen 1988, 178; Vermeulen 1986, 107; Brackman 1980; Van Dongen 1964:52.

On Michael Scotus' *Liber physionomiae*: Jacquart 1994; Thorndike 1965, 86–91.

Dits dat hantwerck der cirurgien

- **Hantw-1535:** Utrecht: Jan Berntsz, Sint Ponciaens avont [13 January]¹⁷³ 1535, 2^o, <https://www.ustc.ac.uk/editions/421066>, NK 506, NB 6073

Copies consulted: Hantw-1535-Ao4¹⁷⁴, Hantw-1535-B16a, Hantw-1535-B16b, Hantw-1535-Go3, Hantw-1535-Lo1, Hantw-1535-Wo2

Other copies: -

Hantwerck is an abbreviated translation of Hieronymus Brunschwig's *Das Buch der Chirurgia* (first printed Strasbourg, Johann Grüninger 1497).¹⁷⁵ Franssen plausibly surmises that Van Doesborch must have published a Dutch translation of the *Cirurgia* already before 1525. In that year, Peter Treveris published an English translation, *The noble experyence of the vertuous handy warke of surgeri* (henceforth: *Handy warke*), which, as its colophon states, is a translation from the Dutch.¹⁷⁶ It contains several woodcuts that were copied after images from Van Doesborch's stock.¹⁷⁷ A major source for the images in *Hantwerck* (as well as for *The noble*

¹⁷³ The feast day of St. Pontian of Utrecht was celebrated there on 14 January.

¹⁷⁴ The copy listed in NB and USTC in the collection of the Nederlandse Maatschappij ter bevordering van de Geneeskunde is, in fact, this copy held at Allard Pierson, University of Amsterdam, where the KNMG collection is housed.

¹⁷⁵ *Dis ist das buch der Cirurgia. Hantwirckung der wund artzny* (Strasbourg: Johann Grüninger, 4 July 1497), 2^o, <https://www.ustc.ac.uk/editions/743717>, ISTC ibo1225000, GW 5593. Franssen's argument that the Dutch edition is based on Grüninger's edition of 1513 (*Das buch der wund Artzeny. Handwirckung der Cirurgia von Jyeronimo brunswick. Nüw getruckt mit ordenlicher zusatzung* (Strasbourg: Johann Grüninger, 1513), 2^o, <https://www.ustc.ac.uk/editions/626970>, VD16 B 8705) requires further verification; Franssen 1990, 32, 75; Franssen 1988, 176. He bases his argument on the observation that the section on anatomy is located at the end of the book in the 1497 edition while both the 1513 edition and the Dutch and English translations have this section at the beginning. However, the anatomy treatise (including a full-page woodcut of a skeleton, discussed above under *Den groten herbarius*) was an optional addition to the 1497 edition (cf. ISTC ibo1225000 (<https://data.cerl.org/istc/ibo1225000>); Sigerist 1946, 29–33; Klein 1911, VIII; Sudhoff 1907a, 48–52), which could apparently be bound in different places. In the facsimile by Klein 1911, which Franssen used, it is indeed located at the end, but for example in the digitised copy of the Thüringer Universitäts- und Landesbibliothek in Jena (2 Med.XXV,4) it is located at the beginning, as part of quire B. Further research will therefore need to establish whether *Hantwerck* is based on the 1497 or the 1513 edition of *Cirurgia*.

¹⁷⁶ Brunschwig, *The noble experyence of the vertuous handy warke of surgeri* (London: Peter Treveris 1525), 2^o, <https://www.ustc.ac.uk/editions/501872>, ESTC S119422.

¹⁷⁷ Franssen 1990, 32 and 75–76. See Franssen 2017a on Van Doesborch's activities on the English book market. Treveris published various works based on Dutch sources, as also testified by the images in his *The grete herball* (1526); see above, under *Den groten herbarius*.

experyence) is Hans von Gersdorff's *Feldtbuch der wundtartzney* (Strasbourg: Johann Schott, 1517; here referred to as *Feldtbuch*), whose woodcuts have been attributed to the Strasbourg painter and draughtsman Hans Wechtlin (c. 1480–after 1526).¹⁷⁸ We may assume that Berntsz' edition was closely based on Van Doesborch's, considering the close resemblance between Berntsz' and Treveris' editions, and the cooperation between Van Doesborch and Berntsz in the 1530s.¹⁷⁹ The use of the *Feldtbuch* as a source for the images allows for a more precise dating of Van Doesborch's now-lost edition in Dutch: it must have appeared between 1517 and 1525. The copied images also testify that the *Feldtbuch's* illustrations started circulating in the Low Countries already in the first decade after the work's first appearance in German, even though the earliest known translation in Dutch of Gersdorff's *Feldtbuch* did not appear until 1593.

The table of contents in *Hantwerck* groups the numbered chapters into seven topics: anatomy, various types of wounds, wounds in body parts from the head to the feet, fractures, dislocations from the head (jawbone) to the feet, treating impact injuries, and an 'Anthidotarius' including herbal recipes for wound treatments. These seven topics largely agree with the seven numbered treatises making up the German *Cirurgia*, but there are some omissions as well as additions that require closer study.¹⁸⁰ The chapters on the profession of the surgeon with which the German editions start, including a woodcut of a cabinet filled with surgical instruments, have been left out.¹⁸¹ Two chapters on impact injuries, in the fourth treatise in the German editions, are relocated towards the end of the book, while the remainder of this fourth treatise – on amputation and preserving corpses, among other things – has been left out entirely.¹⁸² Conversely, the section on head wounds (in the second treatise in the German *Cirurgia*) has been extended in *Hantwerck* with multiple chapters.

In contrast to the text, *Hantwerck's* illustrations hardly draw on Brunswick's *Cirurgia* as a source. Instead, the work contains images from a variety of sources (see also Chapter 3): just two small images of surgical devices deriving from the German *Cirurgia* (Fig. 3.23 on p. 188), many more images deriving from the

¹⁷⁸ Panse 2012, 35; Dackerman 2011, 60; Carlino 1999, 81–88.

¹⁷⁹ On their cooperation, see Franssen 1988.

¹⁸⁰ Franssen 1990, 75 observes that the Dutch and English editions are more concise than the German, but that the differences are small. However, these differences merit closer study; see Chapter 3. Especially the fourth treatise from the German *Cirurgia* seems to have undergone substantial alterations.

¹⁸¹ In the German editions of 1497 as well as 1513, these constitute the three chapters of the first treatise and the first two chapters of the second treatise.

¹⁸² This might be an indication that *Hantwerck* was based on the 1497 rather than the 1513 German edition of the *Cirurgia*: the fourth treatise was extended in the 1513 edition and none of these added chapters are part of *Hantwerck*.

Feldtbuch (two full-page anatomical diagrams (Fig. 3.20 on p. 184), eight large images of mechanical devices for resetting broken or disjunct bones (Figs. 3.4 on p. 145, 3.22 on p. 187), eight small surgical instruments (Figs. 3.3 on p. 144, 5.34 on p. 313)), a series of nine small woodcuts of surgical instruments deriving from the Dutch edition of Guy de Chauliac's *Cyurgie* (Henrick Eckert van Homberch, 1507; Fig. 3.7 on p. 150), a series of four tiny illustrations of unknown origins depicting seated patients (used both within the book and on the title page), and dozens of stock images of scholars that also appear in a number of other works published by Berntsz and Van Doesborch (discussed in Chapter 4).¹⁸³ Furthermore, the volume includes a generic author portrait and a composite woodcut of a man picking herbs and another man putting them into an apothecary jug.¹⁸⁴ *Hantwerck* does not contain any images of a wound man, although this motif appears repeatedly both in the *Cirurgia* and the *Feldtbuch*.

In *Handy warke*, the English translation of *Hantwerck*, the same images are derived from *Cirurgia*, *Feldtbuch*, and Chauliac's *Cyurgie* as in the Dutch *Hantwerck* (all of these images in *Handy warke* were probably copied after the lost edition of *Hantwerck* by Van Doesborch). The series of four tiny scenes with seated patients is not part of *Handy warke* and was thus apparently a new addition by Berntsz, as was the insertion of dozens more scholar figures than in *Handy warke*. A further difference between *Hantwerck* and *Handy warke* is that *Handy warke* includes copies of the brain diagram and the diagram of the intestines that Van Doesborch used in *Thuys der fortunien* of 1518, among others (see Chapter 2 and Figs. 1.3–1.4 on p. 60, 2.14–2.15 on p. 108), whereas these images are not in *Hantwerck*. This is noteworthy, because Van Doesborch's blocks must have been available to Jan Berntsz: he did use them in *Thuys der fortunien* of 1531 and *Chyromantia* of 1536.

It seems that the illustrator who copied the woodcuts for *Hantwerck* was not intimately familiar with the *Feldtbuch*'s text. In a passage on resetting a dislocated shoulder, Gersdorff describes how an assistant should place his hand on the patient's shoulder to feel whether the bone is in the right position. This act is shown in the accompanying woodcut in the *Feldtbuch*. In the copy of this image in *Hantwerck* (Fig. 3.22 on p. 187), however, the hand is not positioned on the injured shoulder but on the other one, apparently as a gesture of comfort rather than as part of the surgical procedure.

It is intriguing that the skeleton diagram in *Hantwerck* has been copied from the *Feldtbuch* rather than from the *Cirurgia* (Figs. 3.19–3.20 on p. 184). After all,

¹⁸³ The use of Chauliac's *Cyurgie* (Antwerp: Henrick Eckert van Homberch, 1507, 2^o, [https://www.ustc.ac.uk/editions/400275, NK 1034](https://www.ustc.ac.uk/editions/400275_NK1034)) as a source is also noted by Franssen 1990, 75.

¹⁸⁴ Berntsz reused the full-length author portrait a year later in *Chyro-1536* to represent Johannes Indagine. He reused the composite image of the men picking and storing herbs in *Herb-1538*.



Fig. 3.3 | p. 144



Fig. 3.4 | p. 145



Fig. 3.7 | p. 150



Fig. 3.20 | p. 184



Fig. 3.22 | p. 187



Fig. 3.23 a–b | p. 188



Fig. 5.34 | p. 313

the *Cirurgia* also contains a skeleton diagram, an indirect copy of which had already circulated in the Low Countries since Claes de Grave's 1512 edition of *Fasciculus medicine* (Fig. 3.21 on p. 185).¹⁸⁵ The English *Handy warke* contains a skeleton image that clearly goes back to the one from Brunshwig's *Cirurgia*. This suggests that the lost edition of *Hantwerck* by Jan van Doesborch also contained the skeleton deriving from the *Cirurgia*, perhaps copied after Claes de Grave's *Fasciculus medicine* (1512) or *Den groten herbarius* (1514). It would have seemed logical for Berntsz to use this same type of skeleton deriving from the *Cirurgia* rather than the *Feldtbuch*. Indeed, he did use this type in his 1538 edition of *Den groten herbarius*. We do not know whether epistemic or practical/commercial reasons determined his preference to illustrate *Hantwerck* with a copy of the *Feldtbuch*'s skeleton designed by Hans Wechtlin.

¹⁸⁵ See the discussion above on *Den groten herbarius*.

Literature: Franssen 1990, 32, 75–76; Jansen-Sieben 1989, 37; Vervliet 1978, 202–203; Visser 1970; Van Dongen 1965:30; Post et al. 1960, nr. 151.

On the German editions of Brunshwig's *Cirurgia* and Gersdorff's *Feldtbuch*: Taape 2021; Gloning 2020, 111–114; Panse 2012; Sigerist 1946, esp. 16–33; Klein 1911; Sudhoff 1907a and 1907b; Choulant 1858, 76–77, 79–82 (Brunshwig), 85–87 (Gersdorff).

Chyromantia Ioannis Indagine

- **Chyro-1536:** Utrecht: Jan Berntsz, 10 February 1536, 2°, <https://www.ustc.ac.uk/editions/421069>, NK 1222, NB 16827
- **Chyro-1554:** Antwerp: Jan Roelants, 1554, 2°, <https://www.ustc.ac.uk/editions/408855>, NK 0692, NB 16828

Copies consulted: Chyr-1536-B16, Chyro-1536-G12, Chyro-1536-No1, Chyro-1536-Uo1, Chyro-1554-A170

Other copies: Chyro-1536-So7

The *Chyromantia Ioannis Indagine Ende dit boec leert van drie naturlike consten* deals with the three ‘natural arts’ of chyromancy (palm reading), physiognomy (judging character from facial traits), and astrology (Fig. 5.3 on p. 250). It is a translation of *Introductiones apotelesmaticae elegantes in chyromantiam, physiognomiam, astrologiam naturalem, complexiones hominum, naturas planetarum*, written by the German priest and astrologer Johannes Indagine (c. 1467–1537).¹⁸⁶ Indagine’s Latin text was first published in 1522 in Strasbourg by Johann Schott. A year after the Latin *editio princeps*, a German translation appeared in 1523, also in Strasbourg.¹⁸⁷ Dutch was the first subsequent vernacular in which the work was translated.¹⁸⁸ Textual comparison shows that the Dutch text was translated from Latin, not from German. French and English translations followed in the mid-sixteenth century (1549 and 1558, respectively). Reprints in all of these languages appeared until well into the seventeenth century. However, only one reprint in Dutch is known, published by Jan Roelants in Antwerp in 1554 (Chyro-1554).

The division of the *Chyromantia* into six books is identical to the Latin edition of 1522. In the running titles above each page in the 1536 edition, the books are called: ‘Inleydinghe In die Chiromancie’ (fols. C2r–L4r, 69 pages; Fig. 2.5 on p. 96), ‘Inleydinghe In die Physiognomie’ (fols. L4r–O3v, 24 pages; Figs.

¹⁸⁶ Johannes Indagine, *Introductiones apotelesmaticae elegantes in chyromantiam, physiognomiam, astrologiam naturalem, complexiones hominum, naturas planetarum* (Strasbourg: Johann Schott, 1522), 2°, <https://www.ustc.ac.uk/editions/709299>, VD16 R 3108.

¹⁸⁷ *Die kunst der Chiromantzey, vsz beschung der hend. Physiognomey, vsz anblick des menschs. Natürlichen Astrology noch dem lauff der Sonnen* (Strasbourg: Johann Schott, 1523), 2°, <https://www.ustc.ac.uk/editions/636906>, VD16 R 3114.

¹⁸⁸ The KB, National Library of the Netherlands in The Hague holds a fragment of another Dutch-language work on chiromancy (KW 227 A 22), possibly from the 1530s, but this is smaller in size (octavo) and has different texts and woodcuts.



Fig. 1.1 | p. 59



Fig. 1.2 | p. 59



Fig. 1.3 | p. 60

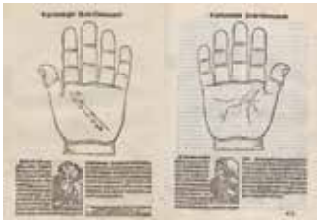


Fig. 2.5 | p. 96



Fig. 2.6 | p. 97



Fig. 3.25 | p. 190



Fig. 4.1 | p. 199



Fig. 4.6 | p. 205



Fig. 4.23 | p. 228



Fig. 5.3 | p. 250



Fig. 5.15 | p. 281



Fig. 5.16 | p. 282

1.1 on p. 59, 5.15 on p. 281), ‘Periaxiomata Van die Aenschijnen der teykenen’ (fols. O3v–P3r, 8 pages), ‘Regulen van Cranckheyden’ (fols. P3r–Q4v, 11 pages), ‘Inleidinghe In die Astrologia Naturael’ (fols. Q4v–X2v, 37 pages; Fig. 2.6 on p. 97), ‘Kennisse [sic] der Complexien’ (fols. X3r–Z4r, 19 pages). At the beginning of the Dutch edition, a lengthy preface by the anonymous translator elaborates on the importance of the arts of chyromancy, physiognomy, and astrology, drawing on many classical and biblical examples. It contains a passage that

seems specifically tailored to the audience in the Low Countries as it praises the contemporary artists Albrecht Dürer (1471–1528), Jan Gossaert (also known as Jan Mabuse, c. 1478–1532), and Jan van Scorel (1495–1562) for their skill in physiognomy, expressing emotions and character traits through the outward appearances of their figures. Van Scorel and Gossaert were both active in Utrecht, where Berntsz published the 1536 edition, and Van Scorel was indeed still living and working there in 1536.¹⁸⁹

Berntsz copied the illustrations after the Latin edition from which the text was translated. These illustrations depict hands, face types, horoscope diagrams, and personifications of the planets, all of which are closely related to the text. The author portrait of Johannes Indagine from the Latin edition's title page was copied on a reduced scale and used three times within the Dutch edition (Fig. 4.1 on p. 199). Moreover, Berntsz extended the series of illustrations from the 1522 Latin *editio princeps* considerably. Apart from dozens of scholars and other figures engaged in conversation (e.g. Figs. 2.5 on p. 96, 3.25 on p. 190, 4.6 on p. 205), Berntsz added two series of planet personifications, two series of the zodiac signs,¹⁹⁰ four astronomers' busts copied after Albrecht Dürer (Fig. 5.16 on p. 282),¹⁹¹ the diagram of the human internal organs deriving from *Margarita philosophica* (Fig. 1.3 on p. 60),¹⁹² personifications of the four complexions (Fig. 4.23 on p. 228),¹⁹³ five small portrait busts of kings and emperors,¹⁹⁴ and numerous decorative borders.¹⁹⁵ The woodcuts in the 1554 edition by Jan Roelants have been partially reused from and partially copied in detail after Berntsz (Fig. 1.2 on p. 59), in all their stylistic variety, and Roelants added an even larger number of decorative borders throughout the book.

Literature: Leitch 2020, 642; Van Leerdam 2019a; Jaski 2011; Franssen 1990, 38; Jansen-Sieben 1989, 36; Franssen 1988, 188.

On Indagine's work in other languages: Clement 2016; Porter 2005, 156–157; Reisser 1997, 61–73; Thorndike 1941, 65–66.

189 Van Leerdam 2019a, 21–22.

190 One series in roundels, the other in rectangular format. The roundels stem from Jan van Doesborch's stock and were used earlier in Regi-1510 and the various editions of *Thuis der fortune*, among others.

191 Copied after the figures in the four corners of the *Map of the Northern Celestial Hemisphere* (1515, woodcut) by Albrecht Dürer; Dackerman 2011, 91; Kronenberg 1928.

192 Also used in *Der dieren palleys*, *Thuis der fortune*, *Der vrouwen natuere*; see Chapter 2.

193 Also used in *Der dieren palleys*, *Thuis der fortune*, *Der vrouwen natuere*.

194 Also used in *Van Brabant die excellente cronike* [...] (Antwerp: Jan van Doesborch, 1530).

195 According to Jaski 2011, Berntsz' additions are 'all sorts of unnecessary images,' which make the book look 'more frivolous and also rather botched' in comparison to the Latin edition. See Van Leerdam 2019a and Chapter 4 for a different interpretation of their rhetorical functioning.

APPENDIX 2

Summary of Traces of Use in the Examined Copies



This appendix provides brief descriptions of the traces of use in each of the copies I consulted. The copies are sorted alphabetically by collection code. For an overview per title of copies I did not consult, see Appendix 1.

All annotations described here date from the sixteenth or seventeenth centuries. As most hands are difficult to date with more precision, no further specification is attempted, except when there are clear indications for a more precise date (e.g. when a date is mentioned in the annotation or when a hand evidently dates from the early sixteenth century).

Distinguishing annotators is complicated, too, because different hands may resemble each other, a person's handwriting may change over the course of a lifetime, brief annotations often do not provide enough material for comparison, and owners' names are frequently written more neatly than annotations made while reading. For these reasons, I have not attempted to specify the number of annotators for each copy, although in many cases multiple hands seem to have been active.

The final column indicates whether I consulted the original copy (ORG), a reproduction (REP), or a description (DESC) only.

Code	Collection and shelfmark	Traces of use	Consulted
A04 Amsterdam (NL), Allard Pierson, University of Amsterdam			
Fasc-1512-Ao4	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 88	A relatively clean copy. Occasional symbols, <i>nota</i> and small marginal stripes (markings). The word <i>toette</i> is written in the woodcut of the female organs, inside the genitals (fol. d3v). 16th-c. annotation and mark of ownership (Latin and Dutch, apparently in the same hand) crossed out on title page.	ORG
Hantw-1535-Ao4	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 135	Several grey, crayon-like horizontal and vertical marks in margins. Some underlinings, an occasional symbol. Leaves numbered in brown ink, starting at 141 on the title page. Final page covered with 16th-c. annotations on Frisian noble family Van Haerda, mentioning dates of birth, marriage. Death date of Feddo van Haerda (the probable owner) in 1558 added in a different hand.	ORG
Herb-1514-Ao4	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 509	Heavily used (paper worn). Missing pages in quires a–g replaced by photocopies (from Herb-1514-Ho4). Rubricated from quire q onwards. Several +-symbols, some other small symbols, <i>nota</i> (a few in red by the rubricator), occasional keywords (Dutch).	ORG
Rose-1528-Ao4	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 446	The woodcuts on C3r–C3v–C4r are numbered by hand (early modern or later?), as if they are in the wrong order, though they are printed correctly next to the relating text passages. Nrs 2 and 3 are written in the woodcuts on C3r, 6 on C3v, 7–4–5 on C4r. Otherwise, no annotations.	REP
Rose-1529-Ao4	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 125	Various smudges and stains. Several small horizontal and diagonal pencil stripes in the margins (early modern or later?). Two early modern (16th-c.?) annotations: <i>Icke</i> or <i>scke</i> in upper margin of L4v, a word ([...?] <i>nyselkens</i> , probably naming a substance) added in index on N4v.	ORG
Rose-1530-Ao4	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 103	Early modern parchment binding. Owner's mark <i>Johannis vander Dussen 1637</i> on blank flyleaf at the beginning, who notes to have 'found' the book 'among many other books' on these matters. Another owner's mark below it, <i>Bartelmeus de wit</i> . Keywords (Dutch) and <i>nota</i> throughout the book (16th-c. hand), traces of pins (D3r, E3r). Added recipes (Dutch, 16th-c.) below colophon and on facing blank page.	ORG
Rose-cl540a-Ao4	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 144	A few small pen stripes in the margins and brackets in the text. Bibliographical annotations written in black ink on title page and below the section <i>Totten leser</i> in a later (19th/20th-c.?) hand, annotation in Latin in the same hand on A4r. Perhaps the marginal stripes are from the same hand.	ORG

Rose-c1540b-Ao4a	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 123	A few small pencil stripes, + and !-symbols in the margins – probably by a later hand. Pencil stripes also in two of the woodcuts.	ORG
Rose-c1540b-Ao4b	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: OK 63-7932 ¹	Early modern parchment binding. Initials JV or FV written on the title page (early modern?). On the endleaf facing the title page, in brown ink in neat hand (early modern?): <i>Eucharius Rhodion de partu hominis est author hujus operis</i> .	ORG
Rose-c1551-Ao4	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: OK 80-613	Incomplete and heavily used (paper worn). Inscription of ownership on final blank leaf, <i>Nicolaus Loen alias Vriesen In Loco 4</i> . Below it, written upside down, a list of debts <i>post mortem matris 1556</i>	REP ²
Rose-c1555a-Ao4	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: OK 63-5605 ³	No traces of use, apart from an ‘F’ in the margin of I5v next to a text passage on <i>feninighe dieren</i> . The paper of quires A–B–C (i.e. the quires with illustrations) is more smudged and less sturdy than the later quires.	ORG
Rose-c1560a-Ao4	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 395	A few +–symbols in margins next to recipes. Occasional annotations (keywords, Latin?), partially cut off in reproduction.	REP
Rose-c1560b-Ao4	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: OK 06-712	Early modern parchment binding. No annotations.	REP
Sack-1528-Ao4	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 290	No traces of use, apart from a few probably more recent pencil stripes.	ORG
Scaep-1539-Ao4	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 488	Early modern parchment binding. Many coloured woodcuts, some with annotations (figures captioned). Annotations in the calendar section (Latin and Dutch) pertaining to historical events in/around 1542 (Siege of Leuven, conquest of Gelre and Kleve), various saints’ names underlined.	ORG
Tfund-1540-Ao4	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 106	Keywords (Dutch) and explanation of terminology (e.g. <i>karinge</i> explained as <i>is overgeve</i> , F3v) in neat hand, underlining. Coloured woodcuts of urine flasks, their empty upper halves in a similar green-blue as in various other copies. Woodcuts of scholars on title page and D4v captioned (identified as Hippocrates and Galen). On the title page, the lower medallion is damaged because the paper is torn. The tear is repaired with paper strips, over which the lost lines of the woodcut are added in pen, perhaps already by an early modern owner.	ORG

1 Former shelfmark UBM: 618 F 9 (verpl.).

2 I thank curator Gwendolyn Verbraak for sending me photos of this volume.

3 Former shelfmark UBM: 971 D 31 (verpl.).

Vrouw- c1531-A04	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 81	No traces of use, apart from a handwritten 'O' in the left margin of c3v.	ORG
Vrouw- 1563-A04	Amsterdam (NL), Allard Pierson, University of Amsterdam, OTM: OK 62-610	No traces of use, apart from torn paper through woodcuts of <i>Flegma</i> (C8v), animals (D6v), man with pig (D7r).	ORG
A12 Antwerp (BE), Museum Plantin-Moretus			
Herb- 1514-A12	Antwerp (BE), Museum Plantin-Moretus, R 46.7	Heavily used (paper worn). Traces of pins (one pin still present), especially in quires b and c. Some keywords (remedies; Dutch), especially in index.	ORG
Herb- 1547-A12	Antwerp (BE), Museum Plantin-Moretus, R 44.7	Clean copy. A few +-symbols, especially in index, occasionally other symbols. R4v, S1r, S1v: cross-references to other pages in the book (different hand than Henricus de Beringhen's inscription), unclear what is referred to. Occasional trace of a pin. Owner's mark above colophon: <i>Orate pro Confessario huius conuentus So. s. Clare frater henrico de beringhen</i> (same provenance as Tfund-1540-Wo2).	ORG
Thuis- 1518-A12	Antwerp (BE), Museum Plantin-Moretus, R 47.14	Title page missing, dial on reverse replaced by early modern hand-drawn version (with a small hole in the centre indicating where a pointer was originally attached). Pages smudgy. Some small drawings, including two crude copies in the lower margin of fol. G1v of the head of the printed zodiac man. Various annotations in the book of fortune, mentioning names (perhaps related to the fortune-telling?). <i>ihs</i> (i.e. Jesus) written in the sections of Capricornus and December. Small red stripes on some pages.	ORG
A91 Antwerp (BE), UAntwerpen, Bibliotheek Stadscampus			
Vrouw- 1555-A91	Antwerp (BE), UAntwerpen, Bibliotheek Stadscampus, MAG-P 11.1118	Several pages missing, large moisture stains. One woodcut coloured, perhaps at a later date (D4r). Affirmative comment in Latin, referring to personal experience, next to crossed-out passage (C6v): <i>Verissima sunt ea que hic habentur sive legentur ego ipse sepiss[im]e vidi.</i> ⁴ Mark of ownership (partly lost, illegible) on final page.	REP
A170 Antwerp (BE), Hendrik Conscience Heritage Library			
Chyro- 1554-A170	Antwerp (BE), Hendrik Conscience Heritage Library, D 44078 [C2-516 e]	No annotations.	ORG
Herb- 1532-A170	Antwerp (BE), Hendrik Conscience Heritage Library, G 142285 [C2-519 f]	All woodcuts lavishly coloured, including decorative borders, initials, and scholars' bust figures. Especially first and last quires heavily worn. Occasional annotations: added recipes (Latin; largely cut off), underlinings, crossed out text passage, keywords in index (Dutch), a manicule.	ORG

4 'Those things asserted here are very true, I have seen them myself.' I thank Mark Vermeer for helping me with the transcription and translation of this annotation.

Herb-1547-A170	Antwerp (BE), Hendrik Conscience Heritage Library, G 11965 [C2-569 f]	Many curly symbols and crudely drawn manicules, several of them marking remedies against toothache. Keywords (remedies, plant names; Dutch), a few notes on medicinal workings. Multiple additions, corrections and +symbols in index. <i>amen</i> written below the printed word of thanks to God at the end of the preface. Pages trimmed, parts of annotations lost. Three woodcuts crudely and partially coloured. The name <i>Neelken van [..?]uffelsen</i> is written upside down in the margin of fol. B4r, possibly as a pen trial. More pen trials and crossed-out annotations (owners' marks?) on final blank page (x6v).	ORG
Rose-1530-A170	Antwerp (BE), Hendrik Conscience Heritage Library, J 41325	No annotations.	REP
Tfund-1540-A170	Antwerp (BE), Hendrik Conscience Heritage Library, J 23176 [C2-516 c]	A clean copy, sturdy paper. Several keywords (Dutch) and small symbols consisting of dots and/or stripes. Woodcuts of urine flasks not coloured.	ORG
Vrouw-1555-A170	Antwerp (BE), Hendrik Conscience Heritage Library, G 84436 [C2-pdm 2 m], exemplaar 124902	No annotations. Title page missing, replaced later by handwritten title (incorrect: <i>Dbedroch der vrouwen</i>). Various other pages missing. A leaf with woodcuts of a jester (recto) and of a jester, a man and a woman at a table (verso) precedes handwritten title page, while in Vrouw-1555-A91 this leaf is the final one.	ORG
Bo2 Brussels (BE), KBR Royal Library of Belgium			
Dier-1520-Bo2a	Brussels (BE), KBR Royal Library of Belgium, II 25.931 A (RP)	Final quire (Hh) missing. Erroneously omitted text lines at the bottom of a column are printed on separate strips and pasted onto fols. S3v (2 lines) and S4v (1 line), probably already in the print shop. Occasional annotation, illegible (keywords?).	ORG
Dier-1520-Bo2b	Brussels (BE), KBR Royal Library of Belgium, II 38.891 A LP	Some woodcuts are (poorly and very crudely) copied in drawing in the margins. Symbols consisting of five dots (Q3r and Q4r). Erroneously omitted text lines at the bottom of a column are printed on separate strips and pasted onto fols. S3v (2 lines) and S4v (1 line), probably already in the print shop. Incorrect quire signature 'O' on fol. P2r is corrected into a 'P' through an added pen line (already in the print shop?).	ORG
Dist-1517-Bo2	Brussels (BE), KBR Royal Library of Belgium, II 10.773 A (RP)	Early modern parchment binding, a calculation noted on the cover. Underlinings, keywords (mostly Dutch, in index also Latin), occasional <i>nota</i> , symbol. Censorship and dismissive annotations on <i>papencullen</i> and various recipes for chasing away the devil and for reconciling a man and a woman who disagree (e.g. <i>Quenicum</i> , K4v, L1v). Personal experience <i>Ick hebt alsoe oeck beuonden</i> added to recipe against sore throat (A3r). Year 1608 written in the woodcut of the printing privilege (a1v). Additional recipe (margin h4r) in Dutch with German influence.	ORG

Fasc-1512-Bo2	Brussels (BE), KBR Royal Library of Belgium, II 12.786 A (RP)	Hardly any annotations. In the woodcut of the bloodletting-man (a5r), the genitals were scratched away and then drawn in again. Handwriting (mark of ownership?) scratched away on final blank leaf (s4v).	ORG
Fasc-1529-Bo2	Brussels (BE), KBR Royal Library of Belgium, LP 14.350 A (RP)	No covers, old sewing. Heavily used, title page and many other pages missing. A crossed-out annotation (illegible) in the woodcut of a wound man (fol. f3r). A bird drawn in the upper margin of fol. h2r.	ORG
Herb-1514-Bo2a	Brussels (BE), KBR Royal Library of Belgium, VH 6.192 A (RP)	Owner's mark from the Order of the Celestines in Heverlee, with shelfmark from their library: <i>theca 64</i> . Underlinings and keywords (remedies, plant names; Dutch, Latin) throughout the book, several in index. Several of these markings related to digestion (stomach, bowels) and conditions affecting the mind (e.g. melancholy, drunkenness, <i>fantasien</i> , <i>Manian</i>). Several passages on lust and warding off devils are marked and/or crossed out (criticism or approval?). Some coloured woodcuts, only in the first quires (a–c). Above the woodcut of <i>Coloquintida</i> , one flower is copied in three simple pen strokes (14r). A cross reference <i>Siet hier nae int boeck van visschen Int 87 capittel folio 118</i> ('See hereafter in the book of fish in the 87th chapter folio 118,' fol. E4r) suggests that the volume may have been part of a composite volume, as <i>Den groten herbarius</i> does not contain a book on fish.	ORG
Herb-1514-Bo2b	Brussels (BE), KBR Royal Library of Belgium, VH 6.696 A (RP)	Extensively annotated, mostly in Latin, some notes in Dutch (multiple 16th-c. hands). Chapters from <i>Macer floridus</i> copied in the margins. ⁵ Many keywords (remedies, plant names; also in index), underlinings, <i>nota</i> , manicules. Qualities of plants (hot/cold, moist/dry) written inside woodcuts. A few woodcuts annotated with critical comments on a plant's appearance (fols. i4r,)1r, A4r). A thread sewn through fol. k6, next to the only coloured woodcut (k6v). Last page full of (crossed-out) owners' marks, including one from <i>Loys de Joncheere bailliu ontfanckhere van watervliet Ende waterdijck</i> (bailliff and 'receiver' of Watervliet and Waterdijck). Inside the book an owner's mark (fol. r1r) and some rudimentary Latin annotations by Rombout de Vryese in a distinct hand, probably around 1600.	ORG
Rose-1529-Bo2	Brussels (BE), KBR Royal Library of Belgium, WBS II 4.488 A (RP)	No annotations but many smudged and stained pages, especially quires A and B. Quires E, J, L, O missing. Final leaf N4 also heavily stained, so the final quire O must have been missing for a long time.	ORG

5 I thank Carla de Glopper for her advice on distinguishing and dating the different hands in this copy. I thank Mariken Teeuwen for helping me decipher the Latin annotations and for identifying the *Macer floridus* as a source.

Scaep-1516-Bo2	Brussels (BE), KBR Royal Library of Belgium, II 54.946 A (RP)	Shepherd's cape on title page coloured red. <i>Ihs</i> and <i>Maia aue</i> [sic] on title page, and in red <i>m m d</i> and four parallel horizontal lines. Two corrections in calendar, imitating printed type. Otherwise hardly any traces of use. Inserted endleaf at the beginning with bibliographical notes (19th/20th c).	ORG
Scaep-1546-Bo2	Brussels (BE), KBR Royal Library of Belgium, C.L. 2276 A LP	No annotations.	ORG
Thuis-1522-Bo2	Brussels (BE), KBR Royal Library of Belgium, II 11.452 B (LP)	Cleavage of several female figures is elongated or hatched with pen stripes. Genitals sometimes also hatched (even in figures who are wearing trousers, such as Colericus). A small hole in the centre of the dial with wind directions (A1v) indicates where a pointer was originally attached.	ORG
Trege-1514-Bo2	Brussels (BE), KBR Royal Library of Belgium, II 16.954 A 1 (RP)	Title page missing, first pages damaged. Bound with French text (single sheet) on <i>Relonghements et Recourchements des Jours</i> . Occasional <i>nota</i> , folios numbered by hand (largely cut off due to trimmed margins).	ORG
Tscep-1514-Bo2a	Brussels (BE), KBR Royal Library of Belgium, LP 62 C (RP)	No annotations. Van der Noot's printer's mark (fol. 14r) was cut out and pasted on a blank leaf. The original leaf 14r was torn out, as is clearly visible.	ORG
Tscep-1514-Bo2b	Brussels (BE), KBR Royal Library of Belgium, LP 15.963 A	No covers, old sewing. First quire missing. Several additional recipes (Dutch, 17th-c.) on fol. c2v (<i>geordoneert door doctor Cocxstael</i>) in the same hand as owner's mark of <i>Carel Lodovisius Huyghe[nsz?]</i> . Leaves numbered in early modern hand. Occasional +=symbol. Final (blank) page full of owners' marks, including several times that of Lieven Verdobrouck with years 1577, 1587, 1590. He promises a silver <i>penninck</i> to anyone who finds the book and returns it. Also an owner's mark of <i>Meester Rogier Hellebo[ts?] barbier chirurgien</i> .	ORG
Tscep-1535-Bo2	Brussels (BE), KBR Royal Library of Belgium, II 47.705 A (RP)	Horizontal single and double stripes in the margins (– and =), various #–like symbols consisting of 1–3 vertical and 1–3 horizontal lines, especially in the treatise on <i>quinta essentia</i> . Occasional <i>nota</i> and keyword (Latin).	ORG
Bo5 Berlin (DE), Staatsbibliothek Preußischer Kulturbesitz			
Trege-1514-Bo5	Berlin (DE), Staatsbibliothek Preußischer Kulturbesitz, 4 ^o Ji 407	Rubricated. Red details in the same ink are coloured in many woodcuts, especially food and drinks, animal and human mouths, fire, hats, dots as fruits in trees, strikingly resembling the red details in Dist-1517-Ho4. Attempts – rather unsuccessful – at copying details from woodcuts in drawing in the margin (e3v, g4r).	REP

B16 Bethesda, MD (US), National Library of Medicine			
Chyro-1536-B16	Bethesda, MD (US), National Library of Medicine, HMD collection, WZ 240 I38Du 1536	Bound with Herb-1532-B16 (text 2) and Hantw-1535-B16b (text 3). All three are hand-coloured, rubricated and annotated by the same person, see Herb-1532-B16. Dedication on title page: <i>Pro domino reijnero in Harlingen</i> , and a quote from Lactantius: <i>Si ho[mo] potest intelligere diuina: potest et facere</i> . A few keywords (Dutch), manicules, <i>nota</i> . Caption <i>Cupido</i> above the figure of Cupid in woodcut of Venus (Hir).	ORG
Hantw-1535-B16a	Bethesda, MD (US), National Library of Medicine, HMD collection, WZ240 B899cDu 1535	Scarce annotations, but margins are trimmed tightly and some annotations are probably lost (cf lower margin of E2r). Two passages marked with a small diagonal line in red crayon in the margin. A marginal +symbol and an N (<i>Nota?</i>). First quire heavily worn, paper restorations.	ORG
Hantw-1535-B16b	Bethesda, MD (US), National Library of Medicine, HMD collection, WZ 240 I38Du 1536	Bound with Chyro-1536-B16 (text 1) and Herb-1532-B16 (text 2). All three are hand-coloured, rubricated and annotated by the same person, see Herb-1532-B16. Dedication on title page of Chyro-1536-B16: <i>Pro domino reijnero in Harlingen</i> . A few traces of pins. Two annotations (on title page and in preface) pointing out the identity of the book's author, Brunschwig. Otherwise very few annotations, dispersed across the book (an occasional <i>nota</i> , keyword (Dutch), underlining, +symbol, addition (Dutch, Latin)).	ORG
Herb-1532-B16	Bethesda, MD (US), National Library of Medicine, HMD collection, WZ 240 I38Du 1536	Bound with Chyro-1536-B16 (text 1) and Hantw-1535-B16b (text 3). All three are hand-coloured, rubricated and annotated by the same person: the red and blue rubrication inks are also used in the woodcuts and in the annotations (e.g. dual-colour manicules, <i>nota</i> in red, rubricated annotations). Additional lines drawn in and around many woodcuts, in brown ink. Connecting lines drawn between woodcuts that are printed next to each other, the space in between hand-coloured. Dedication on title page of Chyro-1536-B16: <i>Pro domino reijnero in Harlingen</i> . Herb-1532-B16 has by far the most annotations of the three. Many keywords (remedies, plant names; Dutch, Latin; also in index), several of them pertaining to hemorrhoids, jaundice, dropsy, and female ailments (e.g. swollen uterus, excessive menstruation). Several additional recipes (Dutch) in margins. A quote from Ecclesiasticus 38:9–15 on a1r. Many traces of pins.	ORG

Herb-1533-B16	Bethesda, MD (US), National Library of Medicine, HMD collection, WZ 240 H823Du 1533	All chapters numbered by hand in large Arabic numerals. In the same hand: a few keywords (especially plant names; Latin, Dutch). A few additional recipes in one or two other (smaller, neater) hands (Dutch). Bound with added leaves (front: 4 leaves, back: 10) with 16th/17th-c. handwritten notes (Dutch), mainly medical recipes and a list of injuries equated to sums of money and pilgrimage routes (apparently as a kind of amends in a legal context). 16th-c. owner's mark cut out and pasted on front endleaf: <i>Wilhelmus vander smissen</i> . 19 further leaves from an earlier binding are preserved in a separate folder ('Bathtub collection'), including several letters from the 1640s from a Willem Uijst of Maastricht.	ORG
Rose-c1555b-B16	Bethesda, MD (US), National Library of Medicine, HMD collection, WZ 240 R718rDu 1551	No annotations.	ORG
Rose-c1560b-B16	Bethesda, MD (US), National Library of Medicine, HMD collection, WZ 240 R718rDu 1555	No annotations. Early modern parchment binding preserved separately, Bathtub collection Box 2, nr 120.	ORG
Tfund-1540-B16	Bethesda, MD (US), National Library of Medicine, HMD collection, WZ 240 S985f 1540	Many underlinings throughout the book, in at least two hands, mostly in the sections on herbs and remedies, relatively fewer in the treatise on surgery. Various Latin terms and authorities' names underlined. Some <i>nota</i> and keywords (Dutch, Latin), symbols (#-like and +). Coloured woodcuts of urine flasks, their empty upper halves in a similar green-blue as in various other copies.	REP
Vrouw-c1540-B16	Bethesda, MD (US), National Library of Medicine, HMD collection, WZ 240 V984 1528	No annotations.	ORG

C01 Cambridge (UK), University Library			
Herb-1538-C01	Cambridge (UK), University Library, Syn.4.53.6	Early modern parchment binding. Many underlinings and keywords (remedies mostly in Dutch, plant names and qualities mostly in English in another hand). Pages trimmed, parts of annotations lost. Title page and first part of index missing. Instead, a blank leaf with additions to the index in English. A flower is drawn in the woodcut of <i>Sinte Joannes cruyt</i> (N3r). At the end, remains of a blank leaf covered in drawings that depict hands and a naked female figure, in black crayon and ink (second half 16th c.?). Another blank leaf with a list of English units of capacity. Various owners' marks on endpaper, including one by <i>Niclaes vanden steene</i> , dated 1597. Niclaes also noted the book price: <i>L β vlems</i> (50 Flemish shillings?). ⁶	ORG
C75 Cambridge (UK), Corpus Christi College Library			
Tscep-1514-C75	Cambridge (UK), Corpus Christi College Library (Parker Library), SP.53(2)	Bound with Johann Hug, <i>Quadrivium ecclesie</i> (Strasbourg: Johann Grüninger, 1504) and Latin manuscript MS 495 containing a disputation held at Oxford in 1549 on the nature of the Eucharist. A 16th-c. annotation on title page: <i>The ship full wonders</i> . ⁷ According to the online catalogue, the binding arrangement 'may well date from Parker's time'. ⁸ Some annotations in Parker's hand in <i>Quadrivium ecclesie</i> , which is also included in the library register that was drawn up during or shortly after Parker's lifetime. ⁹	ORG
G03 Ghent (BE), University Library			
Hantw-1535-G03	Ghent (BE), University Library, BIB. ACC.008519	A few underlinings, <i>nota</i> , short annotations (some crossed out), illegible in reproduction. A piece cut out of the woodcut of a surgical instrument on D1r (as if the depicted cutting instrument has done this). Owner's mark on title page? (illegible in reproduction)	REP
Herb-1547-G03	Ghent (BE), University Library, BIB. ACC.003404	Early modern parchment binding. Approx. 125 woodcuts coloured, limited palette. Blank leaf with handwritten supplement to index at the end, dated 2 November 1560. Additions and corrections in index. A few <i>nota</i> , small stripes, keywords (remedies; Dutch). Additional recipe (Dutch) on final endleaf.	ORG
Rose-1516-G03	Ghent (BE), University Library, Rés. 1109/5	No annotations.	REP

6 Compared to prices mentioned in the database *Early Modern Book Prices* (<http://emobook-trade.unimi.it/db/public/prices>, accessed 23 April 2023) this seems unlikely expensive.

7 See Van Leerdam 2017.

8 Online catalogue, University of Cambridge, https://idiscover.lib.cam.ac.uk/primo-explore/fulldisplay?docid=44CAM_ALMA21416537490003606&vid=44CAM_PROD&search_scope=SCOP_CAM_ALL&tab=cam_lib_coll&lang=en_US&context=L (accessed 23 April 2023).

9 The Parker register, Cambridge, Corpus Christi College, MS 575.

Rose-c1540a-G03	Ghent (BE), University Library, Rés. 715	No annotations.	REP
Rose-c1560a-G03	Ghent (BE), University Library, BIB. ACC.006485	No annotations. Title page largely withered, frayed edges in first two quires, last page heavily smudged.	REP
Scaep-c1514-G03	Ghent (BE), University Library, BHSL. RES.1076	Many annotations (Latin, first half 16th c.), especially in the calendar, including mnemonic phrases about the months, information about the qualities of the zodiac signs, numbers, and symbols. Annotation (Latin) on the title page noting the death of Bagutta in 1532. An annotation (correction) in the same hand in the section on solar and lunar eclipses: <i>Anno 35 non apparebat eclips[es?] neque solis neque lunae</i> . Underlinings, <i>nota</i> , keywords (Latin). Several corrected labels in the woodcut of the bloodletting-man (d4r). Structuring lines drawn in some of the tables and diagrams. Details of woodcuts coloured with red crayon. Some underlinings, stripe marks and paraph signs in the same red crayon.	ORG
Tfund-1530-G03a	Ghent (BE), University Library, BHSL. RES.1944/-1 v.2	Part of a composite volume that also includes <i>Ortus sanitatis</i> (Strasbourg: Johann Prüss? 1507). Many pages missing. Censorship in text passages relating to genitals and in woodcut of bloodletting-man (genitals darkened; 2A1v). Urine flasks coloured. A few manicules, drawn as if emerging from clouds. Owner's mark on final page (E6v), partially crossed out, by Joannes Helant [...? illegible in reproduction].	REP
Tfund-1530-G03b (not 1540)	Ghent (BE), University Library, BIB. ACC.008275	The library catalogue listed this copy as 1540 edition, but it is the 1530 edition (the catalogue has been updated). Many stains throughout the volume. Owners' marks of <i>Cornelius Schouten[us] Hagen</i> and <i>Benedict [B?]ult[...][?]</i> ¹⁰ on the title page. Also a monogram (?) – MP or AAP? – in the empty scroll above the bloodletting-man (A1v). Additional hatchings above the genitals in the same image. Some keywords (Dutch), +-symbols, three tiny cone-like shapes on E3r (teeth, marking a remedy against toothache). Urine flasks coloured. Trace of a pin (S3).	REP
Thuis-1531-G03	Ghent (BE), University Library, Acc. 3518	Fragment, a folded leaf (i.e. 4 pages) bound in a chronicle (the shelfmark is that of the chronicle: <i>Die alder excellenste cronyke van Brabant, van Vlaenderen Hollant Zeelant [...]</i> (Antwerp: Jan van Doesborch, 1518)). Keywords (Latin, 16th-c. hand) written in the diagram of the brain.	REP
Tscep-1520-G03	Ghent (BE), University Library, BHSL. RES.0400	Woodcuts of the planets lavishly coloured. Occasional <i>nota</i> , keyword (Dutch) and minor corrections of print errors. Leaves numbered by hand, numbers largely cut off due to trimmed pages.	ORG

10 According to the online library catalogue, the name reads Benedictus Bultaert, but I am not convinced of this reading (<https://lib.ugent.be/catalog/rug01:000810888>, accessed 23 April 2023).

G12 Groningen (NL), University Library			
Chyro-1536-G12	Groningen (NL), University Library, uklu NAUTA 60	Owner's mark <i>Sebastiaen van aeyssle</i> on title page. Additional lines drawn in several woodcuts (especially in faces). A few <i>nota</i> , occasional keywords (Latin). Annotation referring to <i>blijde incomst 1514</i> (Charles V? Fol. Q4r). Ovid quote written in woodcut of an astronomer (X1r): ' <i>Omnia sunt hominum tenuj pendentia filo Et subito casu quae valere ruunt.</i> '	ORG
Scaep-1544-G12	Groningen (NL), University Library, uklu FID 1	No annotations.	REP
Ho4 The Hague (NL), KB, National Library of the Netherlands			
Dier-1520-Ho4	The Hague (NL), KB, National Library of the Netherlands, KW 226 A 19	Hardly any annotations, but some may have been lost due to the tightly trimmed margins. Illegible, stained and partially cut off annotations in upper margins of Cc3r and Dd1v. The separate strips with printed lines to complete the erroneously omitted text lines on S3v and S4v have disappeared (cf. Dier-1520-Bo2a), but rectangular stains indicate that they were once there. Annotation <i>dirck dirck</i> in untrained and shaky hand on fol. C1r, someone (a child?) practising his name? A few curly pen trials or paraphs.	ORG
Dist-1517-Ho4	The Hague (NL), KB, National Library of the Netherlands, KW 228 A 20	Rubricated. Details in woodcuts coloured red (dots), in a very similar way to those in Trege-1514-Bo5. The rubricator also wrote <i>nota</i> in red in a few places.	ORG
Fasc-1512-Ho4	The Hague (NL), KB, National Library of the Netherlands, KW 227 A 9	Various <i>nota</i> and underlinings, done in a very similar way to those in Trege-1514-Ho4 and Herb-1514-LRB – probably by the same reader. Genitals in woodcuts hatched or blackened. Two recipes added (Dutch) in whitespaces between printed text. A list summarising the symbols and names of weight units on fol. r5v. Final quire s from this copy is bound in Trege-1514-Ho4.	ORG
Fasc-1529-Ho4	The Hague (NL), KB, National Library of the Netherlands, KW 227 A 18	Hardly any annotations. Pages trimmed very tightly, some traces of annotations suggest there may have been more.	ORG
Herb-1514-Ho4	The Hague (NL), KB, National Library of the Netherlands, KW 227 A 12	Stains, frayed edges. Rubricated. Annotated throughout, but mostly first pages. <i>Nota</i> , keywords (remedies; Dutch, Latin, multiple 16th-c. hands). Some brief additions (Dutch), including criticism of a remedy against cold and lame limbs, which according to the reader is a bad remedy. Several pins and traces of pins.	ORG
Herb-1538-Ho4	The Hague (NL), KB, National Library of the Netherlands, KW 226 A 8	Many <i>nota</i> , some underlinings and keywords (plant names; Latin, Dutch). Pages trimmed, parts of annotations lost. Fol. E1v annotation <i>Sij vis sanis esse nolijte fructibus esse</i> , H4r <i>sanis esse nolite fructibus</i> . In the woodcut of <i>Agrimonia</i> , a curl is drawn at the tip of the plant's root (a4v).	ORG

Tfund-1530-Ho4	The Hague (NL), KB, National Library of the Netherlands, KW 228 A 10	Woodcuts richly coloured throughout, including initials and decorative borders; blues have faded to turquoise-green. Coloured woodcuts of urine flasks, their empty upper halves in a somewhat lighter green-blue than in other copies. Rubricated. Several +-symbols, a few manicules, <i>meresse</i> written in the woodcut of the plant <i>Leuisticum</i> (16r). Final page E6v filled with handwritten recipes (Dutch). Annotation (owner's mark?) in printed roundel on title page: <i>servio [...?ri][...?]st</i>	ORG
Thuis-1531-Ho4	The Hague (NL), KB, National Library of the Netherlands, KW 227 E 55	In the dial with wind directions (A1v), pen lines are drawn from each of the directions. A small hole in the centre indicates where a pointer was originally attached.	ORG
Thuis c1540-Ho4	The Hague (NL), KB, National Library of the Netherlands, KW 234 M 14	16th-c. owner's mark <i>Johan schaffer</i> on title page. Notes by bibliographer M. E. Kronenberg (M. E. K.) on loose sheet at the end. Plastic folder with loose snippets of parchment and paper, possibly from an earlier binding.	ORG
Trege-1514-Ho4	The Hague (NL), KB, National Library of the Netherlands, KW 228 A 18	Woodcuts of plants partly coloured. Several underlinings and <i>nota</i> , some recipes added (Dutch) in whitespaces of printed columns. Final quire s, with urine wheel diagrams, stems from Fasc-1512-Ho4. Both copies may have belonged to the same 16th-c. annotator, who may also have annotated Herb-1514-LRB.	ORG
Tscep-1514-Ho4	The Hague (NL), KB, National Library of the Netherlands, KW 228 A 17	No annotations, except for a correction of a word that is printed twice (fol. d4v). Long bibliographical note (early 20th-c.?) on endleaf facing title page.	ORG
Ko7 Copenhagen (DK), The Royal Danish Library			
Fasc-1512-Ko7a	Copenhagen (DK), The Royal Danish Library. Two copies with one call number (40 Med. 50850). This one: barcode 20002341.	A few keywords and added recipes (Dutch), some underlinings, ink stains, symbols (+, x, ≠), three crudely drawn manicules, a trace of a pin (fol. g1), elongated connecting lines in the skeleton diagram. At least two different hands.	ORG
Fasc-1512-Ko7b	Copenhagen (DK), The Royal Danish Library. Two copies with one call number (40 Med. 50850). This one: barcode 20002334.	Final endleaf contains owners' marks of <i>Jacobus Verbeek anno 1673</i> , C [i.e. <i>Claes</i>] <i>Flessiers Chirurgijn 1630</i> , and master Philippus Trock (written multiple times) <i>anno 1639</i> . Also on this endleaf, upside down: a list of twelve books (mostly Dutch titles) with indications of size and year of publication (latest year mentioned: 1684). Various keywords (Dutch), including several in passages on reproduction and genitals. A few evaluative comments in Dutch, such as <i>seer aardich om te lesen</i> (e1r). Paraphrase of Job 14:1 (on the brevity of life and on suffering) below the woodcut of a plague patient (h4v). Trace of a pin (i5r). Three urine flasks coloured in the chart on s1r.	ORG

Herb-1514-Ko7	Copenhagen (DK), The Royal Danish Library, 4° Farmakognosi (Cuba)	Lavishly coloured woodcuts, colours not always true to nature. Additional flowers drawn (doodled) crudely in some woodcuts. Keywords (remedies (several on buzzing ears), plant names; Dutch; also in index and urine treatise) and some other brief annotations (Dutch), many heavily faded. Occasional symbols. 16th-c. moralising aphorism in Dutch: <i>LX sijn tijt Die ver[hogen? heugen?] doet mijn lijden</i> (15r). A few corrections or additions of chapter numbers.	ORG
Tfund-1532-Ko7	Copenhagen (DK), The Royal Danish Library, Fol. Pat. 1984o	17th-c. leather and parchment binding (1655). Owners' marks: someone who wrote in Danish (partly illegible) purchased this book in 1689 of a <i>Mester Boodsanus</i> , and the name <i>Mr. Antoni Jacopsen outewael</i> is written below the printer's mark (E6v). Many traces of pins and three actual pins, and threads sewn onto several pages. Coloured woodcuts of urine flasks, their empty upper halves in a similar green-blue as in various other copies. Keywords in Dutch.	ORG
LRB Leiden (NL), Rijksmuseum Boerhaave			
Herb-1514-LRB	Leiden (NL), Rijksmuseum Boerhaave, BOERH g 33o1	Marks of ownership on the title page by Willem Barentsoen and his grand-nephew Lambertus Optio (Opsy; born 1583 ¹¹). Lavishly coloured woodcuts. Several woodcuts cut out in the first quires. Many recipes and other additions (Dutch, 16th-c. hand), all written in whitespaces in the printed text columns (not in the margins). Possibly by Willem Barentsoen, possibly the same hand as Trege-1514-Ho4 and Fasc-1512-Ho4. Many marginal <i>nota</i> (often combined with underlining) and annotations <i>quaet</i> or <i>quaetheyt</i> (marking harmful substances), occasional + and x.	ORG
Lo1 London (UK), British Library			
Dier-1520-Lo1a	London (UK), British Library, C.145.a.7	Some woodcuts partially coloured, including the text frames on each book's (i.e. section's) title page. Erroneously omitted text lines at the bottom of a column are printed on separate strips and pasted onto fols. S3v (2 lines) and S4v (1 line), probably already in the print shop. Incorrect quire signature 'O' on fol. P2r is corrected into a 'P' through an added pen line (already in the print shop?). Occasional brief annotation (keywords?) and a pen trial (initials?).	ORG
Dist-1517-Lo1	London (UK), British Library, 717.i.7	All annotations in this copy (underlinings, <i>nota</i> , symbols (-, +, x, O, curls)) are related to recipes for the eyes. Some +-symbols in red crayon. Apparently multiple hands, judging from the <i>notas</i> .	ORG

11 Scheltema 1859, V–VI, 35–37; 'Opsy' in NNBW vol. 5 (1921), col. 405–406.

Hantw-1535-Lo1	London (UK), British Library, General Reference Collection 549.k.4	Heavily used (paper worn and stained, especially towards the end). Annotations all in first half of the book: a few keywords (Dutch), <i>nota</i> , <i>NB</i> (by Petrus Saxsi, in the same way as in Herb-1526-Lo1), occasional +-symbol. Pages trimmed, some annotations partially cut off. Owner's mark by Petrus Saxsi written in woodcut of surgical instrument (D1r); he also inscribed his name in Herb-1526-Lo1.	ORG
Herb-1526-Lo1	London (UK), British Library, 546.i.8	Endpaper full of largely illegible owners' marks, including that of Petrus Saxsi who also inscribed his name in Hantw-1535-Lo1. Annotations often illegible (Dutch, German, Latin, also Danish and English?). Many +-symbols, <i>tota</i> and <i>dat</i> . A few other symbols, keywords, underlinings, <i>NB</i> (by Petrus Saxsi, in the same way as in Hantw-1535-Lo1). In the woodcuts of gold and silver (d4v-e1r), a few additional lumps (representing gold and silver, respectively) are drawn in with pen.	ORG
Herb-1538-Lo1	London (UK), British Library, 448.f.3	16th-c. owner's mark of <i>Dignen van Hueculum Jan gheerts dochtere</i> on title page, otherwise no annotations (perhaps lost because of trimmed pages). One coloured woodcut at the beginning, two at the end.	ORG
Herb-1547-Lo1	London (UK), British Library, 449.i.19	First quire lacking. Many stains and smudges, especially in first and last quires. Keywords (remedies; Latin, Dutch), mostly in second half of the volume. Final blank page filled with additional recipes in Dutch.	ORG
Sack-1537-Lo1	London (UK), British Library, C.133.b.28.(3.)	Bound with <i>Vrouw-c1538-Lo1</i> and <i>Int paradijs van Venus</i> (Utrecht: Jan Berntsz, 1530; C.133.b.28.(2.)). The printer's name <i>vosterman</i> [sic] is written twice on A3v and once below the colophon (i.e. below <i>Vorsterman's</i> name in print) on E4r.	ORG
Tscep-1520-Lo1	London (UK), British Library, 719.i.35	Two initials and two woodcuts have some accents in red crayon. Some ink stains, occasional +-symbol, otherwise no annotations.	ORG
Vrouw-c1538-Lo1	London (UK), British Library, C.133.b.28.(1.)	Bound with <i>Int paradijs van Venus</i> (Utrecht: Jan Berntsz, 1530; C.133.b.28.(2.)) and <i>Sack-1537-Lo1</i> . Some smudges, stains, paper restorations. No annotations.	ORG

Lo4 Leiden (NL), University Library			
Trege-1514-Lo4	Leiden (NL), University Library, 1498 B 5: 1	Bound with Tscep-1514-Lo4. Both rubricated in the same way, likely by the same hand. A few wavy pen lines in the margins (likely early modern, one in rubrication red), and many small pencil stripes (probably later). Separate sheet with bibliographical notes bound before the title page, signed <i>B Huydecoper 1727</i> .	ORG
Tscep-1514-Lo4	Leiden (NL), University Library, 1498 B 5: 2	Bound with Trege-1514-Lo4. Both rubricated in the same way, likely by the same hand. A face in profile drawn by the rubricator against initial I on fol. c1r. No annotations.	ORG
L39 London (UK), Wellcome Collection			
Herb-1547-L39	London (UK), Wellcome Collection, 3317/D	Few traces of use. A few underlinings in faded brown-orange ink, twice the word <i>DEOLORIS</i> , a +symbol. One woodcut partially coloured (red).	REP
L79 London (UK), Victoria and Albert Museum, National Art Library			
Tscep-1520-L79	London (UK), Victoria and Albert Museum, National Art Library, 86.E.73	Coloured woodcuts, some of which with only some details in skin colour. Skies coloured in blue crayon, fading into white towards the horizons. Annotations in a very neat, decorative hand (letters embellished with flowers and curls): <i>nota</i> , keywords (Latin and German), a coloured manicule with an elegant sleeve. A few symbols. The copy is ridden with wormholes.	ORG
No1 Chicago (US), Newberry Library			
Chyro-1536-No1	Chicago (US), Newberry Library, Wing folio ZP 546 .B45	Bookplate of Pieter Cuypers (1620–1669) pasted on later pastedown, designed by Gaspar Bouttats (<i>Gasp. Bouttats fecit</i>), with Cuypers' motto <i>jure, et non vi</i> . ¹² Inscription <i>Antwerpen 1529</i> [sic!] on the title page, perhaps 17th-c. hand. Did Chyro-1536-No1 and Fasc-1529-No1 (which was actually printed in Antwerp in 1529) once belong to the same owner?	REP/DE-SCR ¹³
Fasc-1529-No1	Chicago (US), Newberry Library, Wing folio ZP 5465 .G78	Several passages marked with + in the section on the names of diseases and their cures.	REP/DESCR
N53 New York (US), Metropolitan Museum of Art			
Herb-1514-N53	New York (US), Metropolitan Museum of Art, 44.7.32	Index in first quire missing, pages of final quires L and M very smudgy and frayed. A few keywords (remedies, plant names), cross references to other chapters, added recipes, Dutch and Latin. Some +symbols. Many small marginal stripes in pencil (?), apparently markings. Fol. v4r criticism of the verisimilitude of the woodcut of <i>Malloete</i> . Mark of ownership by <i>fransos verhaghen xxxi</i> (i.e. 1631, or aged 31 ²¹⁴)	ORG

12 On Pieter Cuypers: Van der Aa 1858 (vol. 3), 'Cuypers, Pieter.' I thank Suzanne Karr Schmidt for identifying his bookplate.

13 I thank curator Suzanne Karr Schmidt for examining both volumes at the Newberry Library (Chyro-1536-No1 and Fasc-1529-No1) for traces of use, and for providing me with pictures.

14 The book's date of publication would allow for an inscription date of 1531 (if the number 31 refers to a date at all), but judging from the handwriting, a date of 1631 seems more likely.

Herb-1526-N53	New York (US), Metropolitan Museum of Art, 44-7-33	16th-c. parchment binding. One annotator drew body parts in the margins to mark recipes related to these body parts, including eyes, ears, teeth, penises, feet, breasts. Also various chalices, and on p5v a vomiting man. Several pins (g3, F5) and traces of pins. Added recipes in margins. Keywords (remedies, plant names; Dutch), underlinings, <i>nota</i> . Calculations (numbers) and an annotation on loaned money on end leaves at the beginning and end of the volume. Three owner's marks of Magdalena van Tuerenhout, twice of which apparently written as a child (<i>maddalencken</i> , neat yet inexperienced hand), one in adult hand dated <i>xi Julij Anno 1585</i> [not 1565 as the online collection catalogue states ¹⁵]. Other owners' marks: <i>A. De Neeue/In vsum Adriani nepotis, Hermannus Alexandrij, Jasper van Tuernout</i> who was <i>brower In den enghel In die balderrije Tot liere</i> . Also <i>leene</i> written in several places in the margins, e.g. fol. p5v.	ORG
Herb-1533-N53	New York (US), Metropolitan Museum of Art, 44-7-34	Many small stripes, x-es, braces, underlinings and an occasional <i>nota</i> , mostly in pencil (?) and occasionally in red crayon. Many small +-symbols with serifs in red crayon. A few added recipes (Dutch). Several added and corrected entries in the alphabetical index at the beginning. In the index from head to feet: keywords (Latin, Dutch), underlinings (mostly in red crayon). Several early modern owners marks: bookplate <i>CHIRUGIA</i> [sic] 1685 <i>BRUGENSIS</i> , flyleaf <i>Ad usum Fr. Hilarij Aug: a sta a?naa[abbr.]</i> , title page <i>Carm. Disalceat conventus</i> , first quire <i>Conventus Antverpiensis</i> . On O6v, the final blank leaf, an owners mark of Coelaert Pantin who mentions that he bought this book on the 4th day of September 1534 from Sijmoen vander Muelene for 20 guilders, which seems an impossibly large sum.	ORG
Herb-1547-N53	New York (US), Metropolitan Museum of Art, 44-7-35	First and last quires smudgy and frayed. Many added entries in the index, while the rest of the volume contains few annotations and the pages are clean. Drawings: a man with hat and sword (F3r), a cross with a sign <i>INRI</i> on top (n1r). A few keywords (remedies; Dutch) and underlinings. One added recipe in the margin (Dutch). Eight added leaves with handwritten recipes at the end, one of them noting the year 1598. Some of these pages blank, apparently intended for later additions. Folio numbers added on all leaves, continuing on the added leaves. The index from head to feet also has page (!) numbers by an earlier hand. Mark of ownership by <i>Den eersaemen Joannes Ackermans</i> (or <i>Schiermans?</i>).	ORG

15 <https://www.metmuseum.org/art/collection/search/343849> (accessed 23 April 2023).

O01 Oxford (UK), Bodleian Library			
Vrouw- c1535-O01	Oxford (UK), Bodleian Library, 8° Z 435 BS	No annotations. Some pages smudged, various paper restorations.	ORG
P01 Paris (FR), Bibliothèque nationale de France			
Scaep- 1511-P01	Paris (FR), Bibliothèque nationale de France, Res. P V 162	An early 16th-c. reader noted the birth dates of his/her children in the calendar (1499, 1501, 1506 (?) and 1510 (?), using both Latin and Dutch (<i>fruit natus griete mijn Dochtere</i> , b4r). Additional structuring lines drawn in table on civ. On the title page, pen stripes are added in the fur of the dog on the left, and an additional star is drawn in the sky on the right. Two 18th-c. calculations of the book's age: 250 years in 1761, 256 years in 1767.	REP
Dier- 1520-P01	Paris (FR), Bibliothèque nationale de France, RES-S-367	Quite a few stains. Several vertical lines and +symbols in the margins, in red crayon, most of them in the first book on land animals. Erroneously omitted text lines at the bottom of a column are printed on separate strips and pasted onto fols. S3v (2 lines) and S4v (1 line), probably already in the print shop. Incorrect quire signature 'O' on fol. P2r is corrected into a 'P' through an added pen line (already in the print shop?).	REP
P27 Philadelphia, College of Physicians, Historical Medical Library			
Fasc- 1512-P27	Philadelphia, College of Physicians, Historical Medical Library	Bound with <i>Le grant herbier</i> (Paris: Pierre le Caron, ca. 1498–1500) (text 1) and <i>Platine en francoys tresutile et necessaire ... de honneste volupte</i> (Lyon: François Fradin, 18 April 1505) (text 3). Smudgy title page suggests that the <i>Fasciculus medicine</i> has not always been bound with (and preceded by) <i>Le grant herbier</i> . It may have been bound with <i>Platine</i> since early modern times, considering the similar underlinings in both. Uroscopy treatise (quire s) is lacking. Underlinings (horizontal and vertical) and <i>nota</i> , mainly in the treatises on bloodletting and reproductive organs. A few brief marginal additions and keywords (Dutch), curly symbols. Inscription (17th-c.?) on front endleaf: <i>Weest Eendrachtich Doer God almachtich</i> . Another endleaf, parchment, with what appear to be additional recipes in Italian, French and Dutch (difficult to read).	ORG
U01 Utrecht (NL), University Library			
Chyro- 1536-U01	Utrecht (NL), University Library, Rariora R fol. 456	No annotations, apart from a 19th-c. owner's mark (Johannes Jansen, 1823) and one annotation in his hand.	ORG
Herb- 1526-U01	Utrecht (NL), University Library, Rariora qu 133	A few pages missing, including first quire and final page. Just two tiny annotations (a keyword, a chapter reference in index).	ORG
Herb- 1547-U01	Utrecht (NL), University Library, Rariora qu 294	First quire lacking, many frayed edges. Tiny 'o' in brown ink written inside the borders of some 30 woodcuts (esp. in quires B–Q). Two annotations: keyword, cross reference to another chapter.	ORG

W02 Washington, D.C. (US), Library of Congress			
Dist-1517-W02	Washington, D.C. (US), Library of Congress, Rosenwald 1139	Plant names added in French in the book on herbal waters. Latin plant names added to Dutch index. Various other kinds of (partially illegible) annotations in Dutch and Latin, including some in red, some upside down, pen trials, keywords, an added recipe in Dutch, a blotted annotation (owner's mark?) on the title page with the date 1630. Another date inscribed in printer's mark: 1625 (N3v). One coloured woodcut (a4v).	ORG
Fasc-1529-W02	Washington, D.C. (US), Library of Congress, Rosenwald 1150	A few <i>nota</i> , occasional keywords (Dutch) and symbols x and +. Neatly written. Tightly trimmed margins: <i>nota</i> and keywords partially cut off, possibly other annotations lost altogether.	ORG
Hantw-1535-W02	Washington, D.C. (US), Library of Congress, Rosenwald 1108	Several <i>nota</i> throughout the volume. A handwritten addition in Dutch on blank final leaf R6v (hidden due to pasted-on leaf, partially legible with backlighting). Folios numbered by hand in dark ink (post-17th c.?), starting with 85 on title page.	ORG
Herb-1514-W02	Washington, D.C. (US), Library of Congress, Rosenwald 1128	Planet symbols drawn in some 150 woodcuts. Severely faded marginalia, largely illegible; at least some of them seem to be keywords, recipes, and additions on medicinal qualities (Dutch, 16th c.). Underlined headings in index, heavily faded. The two decorative borders on the title page were elongated to the height of the woodcuts by adding hand-drawn square decorations.	ORG
Herb-1532-W02	Washington, D.C. (US), Library of Congress, Rosenwald 1107	Early modern parchment binding. Many underlinings, keywords (remedies; Dutch), vertical wavy lines, manicules, and symbols in the margins throughout. At least two annotators; some passages are underlined twice. All paragraphs on remedies marked by a letter as a structuring aid (starting anew per page rather than per chapter). Passages on qualities of plants marked with 'q,' recipes with 'R.' Register of cures numbered by hand.	ORG
Regi-c1510-W02	Washington, D.C. (US), Library of Congress, Rosenwald 1122	No annotations.	ORG
Scaep-1516-W02	Washington, D.C. (US), Library of Congress, Rosenwald 1137	Rubricated, line ends filled with red decorative lines as was common in manuscripts. Red dots added in tables to structure rows and columns more clearly, and vertical rows of red dots added in the overview of solar and lunar eclipses. Nearly all woodcuts coloured, particularly bright shades of green and red. Some details in images accentuated with red rubrication ink. In the woodcut of the zodiac man, the connecting line to the sign of Taurus is the only one that is marked in red.	ORG

Tfund-1540-Wo2	Washington, D.C. (US), Library of Congress, Rosenwald 1159	Annotations on title page specify date, provenance, and use: donated by the confessor of the convent of St. Clare in Brussels to be kept in the sick room, 1555 (same provenance as Herb-1547-A12). ¹⁶ The copy was clearly prepared for the designated use: sexual passages censored (including female genitals in woodcut of a naked woman, P4r); folios numbered by hand; parchment tabs pasted on the sides of the pages at the beginning of each new book, the folio number written on each tab. The sisters seem to have treated the volume with care. Urine flasks not coloured. Several traces of pins.	ORG
Tscep-1514-Wo2	Washington, D.C. (US), Library of Congress, Rosenwald 1129	Title page woodcut and printer's mark are cut out and pasted onto blank leaves. Two passages marked between horizontal lines with <i>nota</i> written next to them. Otherwise no annotations.	ORG
Xo1 Xanten (DE), Stiftsbibliothek			
Regi-c1515-Xo1	Xanten (DE), Stiftsbibliothek, 5 an 2764		DE-SCR ¹⁷
Yo6 New Haven, CT (US), Yale University, Medical Historical Library			
Tfund-1532-Yo6	New Haven, CT (US), Yale University, Medical Historical Library, call number: 16th cent	Composite copy: quire D, with the section on uroscopy, is from the 1530 edition (recognisable by the lacking printed folio numbers; the 1532 edition has numbered folios). Two coats of arms (from the owners?) drawn below the printed coat of arms on the final page. Urine flasks are coloured, their empty upper halves in a similar green-blue as in various other copies.	REP/DE-SCR ¹⁸

¹⁶ On this copy, see also Van Leerdam 2023b.

¹⁷ Description in Franssen 2017b.

¹⁸ I thank Christopher Zollo, Medical Historical Library Assistant, for examining the volume and providing me with pictures.

APPENDIX 3

Early Modern Owners' Names



This overview lists sixteenth- and seventeenth-century owners' names as far as they are legible. They are alphabetised by first name, or by last name in cases where no first name or initial is known.

All names are inscribed at the beginning or the end of the copies (title page, endleaves, near colophon) unless otherwise indicated.

- **Adriaan De Neeue/Adrianus Nepos** – Herb-1526-N53
- **Ariaen Vinsint de Cremer** - Thuys-1518-A12¹ (fol. K4r)
- **Mr. Antoni Jacopsen outewael** – Tfund-1532-Ko7
- **Bartelmeus de wit** – Rose-1530-Ao4
- **Benedict Bult[...l?]** - Tfund-1530-Go3b
- **Mester Boodsanus** (?) 1689 – Tfund-1532-Ko7²
- **C C** (initials) – Herb-1538-Co1
- **Carel Lodovisius Huyghe[nsz]** – Tscep-1514-Bo2b
- **Celestine monastery, Heverlee** – Herb-1514-Bo2a
- **Claes Flessiers**, surgeon (in Leiden),³ 13 June 1630 – Fasc-1512-Ko7b
- **Coelaert Pantin** 1534 – Herb-1533-N53
- **Convent of the Discalced Carmelites, Antwerp** – Herb-1533-N53
- **Cornelius Schouten Hagen** - Tfund-1530-Go3b
- **Dignen van Hueculum Jan gheerts dochtere** – Herb-1538-Lo1⁴

1 This name and that of Iacop Ionken are written below each other in the same colour of ink, probably by the same hand. Whether they were owners or perhaps players of the game of fortune is unclear.

2 This master sold the copy to someone who recorded the sale on the endpaper at the beginning of the volume.

3 He signs his name as *C Flessiers Chirurgijn 1630*. A surgeon Claes Flessiers is documented in Leiden between 1627–1640; see Chapter 5.

4 She also owned a copy of *Een devoot ende profitelijck boecxken* (Antwerp: Symon Cock, 1539), Haarlem, Stadsbibliotheek, 176 K 9. Dignen's ownership of this work is discussed in Van Dongen 2011, 35–37. See also Chapter 5.

- **Fedde van Haerda** died 1558 – Hantw-1535-Ao4
- **Fransos Verhaghen** 1631? – Herb-1514-N53
- **Hans [Mussmass?]** – Chyro-1536-G12 (fol. X1r, inside woodcut)
- **Hilarius Aug[ustinus?]**, *fr[ater] a s[anc]ta anaa[abbreviated]* – Herb-1533-N53
- **Henricus de Beringhen**, confessor of the Brussels convent of St. Clare – Herb-1547-A12, Tfund-1540-Wo2⁵
- **Hermannus Alexandrij** – Herb-1526-N53
- **Iacop Ionken** – Tfund-1518-A12 (fol. K4r; see Ariaen Vinsint de Cremer)
- **I V** (initials) – Rose-c1540b-Ao4b
- **Jacobus Verbeeck** 1673 – Fasc-1512-Ko7b
- **Jasper van Tuernout**, brewer in *den enghel In die balderrije* at Lier – Herb-1526-N53
- **Joannes Ackermans** (or Schiermans?) – Herb-1547-N53
- **Joannes Helant [....?]** – Tfund-1530-Go3a
- **Johan Schaffer** – Thuys-c1540-Ho4⁶
- **Johannis van der Dussen** – Rose-1530-Ao4
- **Iohs?** – Herb-1547-Lo1 (fol. o4v)
- **Lambertus Optio L.C.f.** (Opsy) – Herb-1514-LRB⁷
- **Lieven Verdobrouck/Werdebrouck** 1577, 1580, 1590 – Tscep-1514-Bo2b
- **Loys de Joncheere** *bailliu ontfanckhere van watervliet Ende waterdijck* – Herb-1514-Bo2b
- **Magdalena (Maddalencken) van Tuerenhout** 11 July 1585 – Herb-1526-N53
- **[Matthew Parker? (1504-1575), Archbishop of Canterbury 1559-1575** – Tscep-1514-C75]⁸
- **Neelken van [..?]uffelsen** – Herb-1547-A170 (fol. B4r)
- **Niclaes vanden steene** 1597 – Herb-1538-Co1
- **Nicolaus Loen alias Vriesen** – Rose-c1551-Ao4
- **Petrus Nicellai Saxsi** – Herb-1526-Lo1 (fol. n1v), Hantw-1535-Lo1 (fol. D1r)
- **Pieter Cuypers** (1620-1669), scholar of law⁹ – Chyro-1536-No1
- **Mr. Philippus Trock** 1639 – Fasc-1512-Ko7b

5 See Chapter 5.

6 I have not been able to identify whether he may have been the Jan or Johannes Scheffer (d. 1565), grandson of the German printer Petrus Schoeffer, who is said to have established a printing business in 's Hertogenbosch in 1541 that remained in the family until 1790. Van der Aa 1874 (vol. 17, first part), 'Scheffer of Schoeffer, Jan.'

7 Lambertus was born in 1583, son of the secretary of Amsterdam Lambert Cornelisz. He was great-nephew of Willem Barentsoen who also inscribed his name in the volume. See Chapter 5 and Scheltema 1859, V-VI, 35-37; 'Opsy' in NNBW vol. 5 (1921), col. 405-406.

8 No owner's name inscribed in the book, but the volume seems to have been part of Parker's collection since an early date.

9 Van der Aa 1858 (vol. 3), 'Cuypers, Pieter'. I thank Suzanne Karr Schmidt for identifying his bookplate in Chyro-1536-No1.

- **Premonstratensan monastery Grimbergen** (*Bibliotheca Grimbergensis*) – Dist-1517-Bo2
- **Reijnerus in Harlingen**, *pro domino reijnero in Harlingen* – Sammelband with Chyro-1536-B16, Herb-1532-B16 and Hantw-1535-B16b
- **Meester Rogier Hellebo[ts?]** *barbier chirurgien* – Tscep-1514-Bo2b
- **Rombout de Vryese** – Herb-1514-Bo2b (fol. r1r)
- **Sebastiaen van Aeyssele** – Chyro-1536-G12
- **Sijmoen vander Muelene** 1534 – Herb-1533-N53
- **Surgeon's College** Bruges 1685 – Herb-1533-N53
- **Wilhelmus van der Smissen** – Herb-1533-B16
- **Willem Barentsoen** – Herb-1514-LRB¹⁰
- **[Willem Uijst** from Maastricht – Herb-1533-B16]¹¹

¹⁰ He was the uncle of the mother of Lambertus Optio (see there).

¹¹ His name appears on several of the seventeenth-century letters and other papers that were previously bound with this herbal. It is uncertain whether he was the owner of the herbal; he may have been a correspondent of the owner.

APPENDIX 4

Types of Users' Traces



This overview lists the most frequent types of traces and the copies in which they occur. The copies are numbered for convenience, to obtain a quick impression of the total number of occurrences.

Underlining or other stripes/lines for marking

- | | |
|---------------------|----------------------|
| 1. Dier-1520-Po1 | 21. Herb-1532-A170 |
| 2. Dist-1517-Bo2 | 22. Herb-1532-Wo2 |
| 3. Dist-1517-Lo1 | 23. Herb-1533-N53 |
| 4. Fasc-1512-Ao4 | 24. Herb-1538-Co1 |
| 5. Fasc-1512-Ho4 | 25. Herb-1538-Ho4 |
| 6. Fasc-1512-Ko7a | 26. Herb-1547-Go3 |
| 7. Fasc-1512-Ko7b | 27. Herb-1547-L39 |
| 8. Fasc-1512-P27 | 28. Herb-1547-N53 |
| 9. Hantw-1535-Ao4 | 29. Rose-1529-Ao4 |
| 10. Hantw-1535-B16a | 30. Rose-c1540b-Ao4a |
| 11. Hantw-1535-B16b | 31. Scaep-c1514-Go3 |
| 12. Hantw-1535-Go3 | 32. Scaep-1539-Ao4 |
| 13. Herb-1514-Bo2a | 33. Scaep-1576-A170 |
| 14. Herb-1514-Bo2b | 34. Tfund-1540-Ao4 |
| 15. Herb-1514-Ho4 | 35. Tfund-1540-B16 |
| 16. Herb-1514-LRB | 36. Thuys-1518-A12 |
| 17. Herb-1514-N53 | 37. Tregc-1514-Bo5 |
| 18. Herb-1514-Wo2 | 38. Tregc-1514-Ho4 |
| 19. Herb-1526-Lo1 | 39. Tregc-1514-Lo4 |
| 20. Herb-1526-N53 | 40. Tscep-1535-Bo2 |

Nota, nota bene, NB

- | | |
|---------------------|---------------------|
| 1. Chyro-1536-B16 | 16. Herb-1514-Bo2b |
| 2. Chyro-1536-G12 | 17. Herb-1514-Ho4 |
| 3. Dist-1517-Bo2 | 18. Herb-1514-LRB |
| 4. Dist-1517-Ho4 | 19. Herb-1526-Lo1 |
| 5. Dist-1517-Lo1 | 20. Herb-1526-N53 |
| 6. Fasc-1512-Ao4 | 21. Herb-1532-B16 |
| 7. Fasc-1512-Ho4 | 22. Herb-1533-N53 |
| 8. Fasc-1512-P27 | 23. Herb-1538-Ho4 |
| 9. Fasc-1529-Wo2 | 24. Herb-1547-Go3 |
| 10. Hantw-1535-B16a | 25. Rose-1530-Ao4 |
| 11. Hantw-1535-B16b | 26. Scaep-c1514-Go3 |
| 12. Hantw-1535-Go3 | 27. Scaep-1576-A170 |
| 13. Hantw-1535-Lo1 | 28. Tfund-1540-B16 |
| 14. Hantw-1535-Wo2 | 29. Tfund-1622-B267 |
| 15. Herb-1514-Ao4 | 30. Tregc-1514-Bo2 |

31. Tregc-1514-Ho4
32. Tscep-1514-Wo2
33. Tscep-1520-Go3
34. Tscep-1520-L79

35. Tscep-1535-Bo2

Manicules

- | | |
|--------------------|---------------------|
| 1. Chyro-1536-B16 | 7. Herb-1532-Wo2 |
| 2. Fasc-1512-Ko7a | 8. Herb-1547-A170 |
| 3. Hantw-1535-B16b | 9. Tfund-1530-Ho4 |
| 4. Herb-1514-Bo2b | 10. Tfund-1530-Go3a |
| 5. Herb-1532-A170 | 11. Tscep-1520-L79 |
| 6. Herb-1532-B16 | |

Symbols

- | | |
|---|--|
| 1. Chyro-1536-B16 (+) | 25. Herb-1532-A170 (=like) |
| 2. Dier-1520-Bo2b (dots) | 26. Herb-1532-B16 (+, cross-ref within volume) |
| 3. Dier-1520-Po1 (+, #-like) | 27. Herb-1532-Wo2 (triangles, =c-like, =, composite shapes) |
| 4. Dist-1517-Bo2 (one curly shape) | 28. Herb-1533-N53 (+, x) |
| 5. Dist-1517-Lo1 (curly, o, +) | 29. Herb-1538-Co1 (cross-ref within volume, #, m-like, v-like) |
| 6. Fasc-1512-Ao4 (composite shapes of dots and lines) | 30. Herb-1538-Ho4 (composite shapes) |
| 7. Fasc-1512-Ko7a (+, #-like, x) | 31. Herb-1547-A12 (composite shape, cross-ref within volume) |
| 8. Fasc-1512-P27 (+, curly) | 32. Herb-1547-A170 (curly, +, #-like) |
| 9. Fasc-1529-No1 (+) | 33. Herb-1547-L39 (+, #-like) |
| 10. Fasc-1529-Wo2 (+-like) | 34. Rose-c1540b-Ao4a (-, +, !!; later hand?) |
| 11. Hantw-1535-Ao4 (one composite shape) | 35. Rose-c1560a-Ao4 (+) |
| 12. Hantw-1535-B16a (+) | 36. Scaep-c1514-Go3 (one composite shape) |
| 13. Hantw-1535-B16b (+) | 37. Tfund-1530-Ho4 (+, #-like) |
| 14. Hantw-1535-Lo1 (+) | 38. Tfund-1530-Go3b (one +) |
| 15. Herb-1514-Ao4 (+, x, *, w-like) | 39. Tfund-1540-A170 (dots, =-like) |
| 16. Herb-1514-A12 (one composite shape) | 40. Tfund-1540-B16 (+, #-like, =-like) |
| 17. Herb-1514-Bo2a (+, x, #-like) | 41. Tscep-1514-Bo2b (+) |
| 18. Herb-1514-Bo2b (+) | 42. Tscep-1520-Lo1 (one +) |
| 19. Herb-1514-Ko7 (+, x-like) | 43. Tscep-1520-L79 (fleuron, composite shape) |
| 20. Herb-1514-LRB (+, x) | 44. Tscep-1535-Bo2 (+, #-like, =-like) |
| 21. Herb-1514-N53 (+) | 45. Vrouw-c1531-Ao4 (one O) |
| 22. Herb-1514-Wo2 (planet symbols) | |
| 23. Herb-1526-Lo1 (v-like, curly) | |
| 24. Herb-1526-N53 (cross-ref within volume) | |

Keywords (* = includes keywords written in/near woodcuts)

- | | |
|---------------------|---------------------|
| 1. Chyro-1536-B16 | 18. *Herb-1514-Wo2 |
| 2. Chyro-1536-G12 | 19. *Herb-1526-Lo1 |
| 3. Dist-1517-Bo2 | 20. *Herb-1526-N53 |
| 4. Dist-1517-Wo2 | 21. Herb-1526-Uo1 |
| 5. Fasc-1512-Ko7a | 22. Herb-1532-A170 |
| 6. Fasc-1512-Ko7b | 23. *Herb-1532-B16 |
| 7. Fasc-1529-Wo2 | 24. Herb-1532-Wo2 |
| 8. Hantw-1535-B16b | 25. *Herb-1533-B16 |
| 9. Hantw-1535-Lo1 | 26. Herb-1533-N53 |
| 10. Herb-1514-Ao4 | 27. Herb-1538-Co1 |
| 11. Herb-1514-A12 | 28. Herb-1538-Ho4 |
| 12. Herb-1514-Bo2a | 29. *Herb-1547-A170 |
| 13. *Herb-1514-Bo2b | 30. Herb-1547-Go3 |
| 14. *Herb-1514-Ho4 | 31. Herb-1547-Lo1 |
| 15. *Herb-1514-Ko7 | 32. Herb-1547-N53 |
| 16. Herb-1514-LRB | 33. Herb-1547-Uo1 |
| 17. *Herb-1514-N53 | 34. Rose-1529-Ao4 |

- | | |
|---------------------|---------------------|
| 35. Rose-1530-Ao4 | 43. Tfund-1540-Ao4 |
| 36. Rose-c1551a-Ao4 | 44. Tfund-1540-A170 |
| 37. Rose-c1560a-Ao4 | 45. *Tfund-1540-B16 |
| 38. Sack-1537-Lo1 | 46. Tscep-1514-C75 |
| 39. Scaep-c1514-Go3 | 47. Tscep-1520-Go3 |
| 40. Tfund-1530-Go3b | 48. Tscep-1520-L79 |
| 41. *Tfund-1530-Ho4 | 49. Tscep-1535-Bo2 |
| 42. Tfund-1532-Ko7 | |

Additions: medical (e.g. recipes, information on substances)

- | | |
|--------------------|---------------------|
| 1. Dist-1517-Bo2 | 14. Herb-1532-B16 |
| 2. Dist-1517-Wo2 | 15. Herb-1533-B16 |
| 3. Fasc-1512-Ho4 | 16. Herb-1533-N53 |
| 4. Fasc-1512-Ko7a | 17. Herb-1538-Co1 |
| 5. Fasc-1512-P27 | 18. Herb-1547-A170 |
| 6. Hantw-1535-B16b | 19. Herb-1547-Go3 |
| 7. Herb-1514-Bo2b | 20. Herb-1547-Lo1 |
| 8. Herb-1514-Ho4 | 21. Rose-1530-Ao4 |
| 9. Herb-1514-LRB | 22. Scaep-c1514-Go3 |
| 10. Herb-1514-N53 | 23. Tfund-1530-Ho4 |
| 11. Herb-1514-Wo2 | 24. Tfund-1622-B267 |
| 12. Herb-1526-N53 | 25. Tregc-1514-Ho4 |
| 13. Herb-1532-A170 | 26. Tscep-1514-Bo2b |

Additions: non-medical (personal, bibliographical or other non-medical notes)

- | | |
|--------------------|---------------------|
| 1. Chyro-1536-G12 | 8. Rose-c1540b-Ao4b |
| 2. Dist-1517-Wo2 | 9. Rose-c1551-Ao4 |
| 3. Fasc-1512-Ko7b | 10. Scaep-1511-Po1 |
| 4. Hantw-1535-Ao4 | 11. Scaep-c1514-Go3 |
| 5. Hantw-1535-B16b | 12. Scaep-1516-Bo2 |
| 6. Hantw-1535-Wo2? | 13. Scaep-1539-Ao4 |
| 7. Herb-1533-B16 | 14. Thuys-1518-A12 |

Comments pertaining to printed text (evaluative responses, whether positive or negative)

- | | |
|-------------------|--------------------|
| 1. Dist-1517-Bo2 | 4. Herb-1547-A170 |
| 2. Fasc-1512-Ko7b | 5. Scaep-c1514-Go3 |
| 3. Herb-1514-Ho4 | 6. Vrouw-1555-A91 |

Annotations pertaining to woodcuts¹ (captions, comments, corrections)

- | | |
|-------------------|---------------------|
| 1. Chyro-1536-B16 | 8. Herb-1514-Wo2 |
| 2. Chyro-1536-G12 | 9. Rose-1528-Ao4 |
| 3. Fasc-1512-Ao4 | 10. Scaep-c1514-Go3 |
| 4. Fasc-1529-Bo2 | 11. Scaep-1539-Ao4 |
| 5. Herb-1514-Bo2b | 12. Tfund-1530-Ho4 |
| 6. Herb-1514-N53 | 13. Tfund-1540-Ao4 |
| 7. Herb-1547-Uo1 | 14. Thuys-1531-Go3 |

Moralising aphorisms, biblical quotes

- | | |
|-------------------|------------------|
| 1. Chyro-1536-B16 | 5. Herb-1514-Ko7 |
| 2. Chyro-1536-G12 | 6. Herb-1532-B16 |
| 3. Fasc-1512-Ko7b | 7. Herb-1538-Ho4 |
| 4. Fasc-1512-P27 | |

1 Keywords (repeated from the printed text) written in/near woodcuts are not included in this overview. They are included under 'Keywords.'

Censorship (text)

- | | |
|-------------------|--------------------|
| 1. Dist-1517-B02 | 4. Tfund-1530-G03a |
| 2. Herb-1514-B02a | 5. Tfund-1540-W02 |
| 3. Herb-1532-A170 | |

Censorship (woodcuts)

- | | |
|------------------|--------------------|
| 1. Fasc-1512-B02 | 3. Tfund-1530-G03a |
| 2. Fasc-1512-H04 | 4. Tfund-1540-W02 |

Structuring aids: Added folio/page numbers

- | | |
|--|--------------------|
| 1. Hantw-1535-A04 | 6. Tfund-1540-A04 |
| 2. Hantw-1535-W02 | 7. Tfund-1540-W02 |
| 3. Herb-1532-W02 | 8. Trege-1514-B02 |
| 4. Herb-1533-B16 (chapter nrs in Arabic numerals throughout) | 9. Tscep-1514-B02b |
| 5. Herb-1547-N53 | 10. Tscep-1520-G03 |

Structuring aids: Annotations in indexes/tables of contents (additions, corrections, etc.)

- | | |
|--------------------|--------------------|
| 1. Dist-1517-B02 | 17. Herb-1532-B16 |
| 2. Dist-1517-L01 | 18. Herb-1532-W02 |
| 3. Dist-1517-W02 | 19. Herb-1533-B16 |
| 4. Fasc-1512-P27 | 20. Herb-1533-N53 |
| 5. Hantw-1535-A04 | 21. Herb-1538-Co1 |
| 6. Herb-1514-A04 | 22. Herb-1538-H04 |
| 7. Herb-1514-A12 | 23. Herb-1547-A12 |
| 8. Herb-1514-B02a | 24. Herb-1547-A170 |
| 9. Herb-1514-B02b | 25. Herb-1547-G03 |
| 10. Herb-1514-K07 | 26. Herb-1547-L39 |
| 11. Herb-1514-N53 | 27. Herb-1547-N53 |
| 12. Herb-1514-W02 | 28. Rose-1529-A04 |
| 13. Herb-1526-L01 | 29. Tfund-1540-W02 |
| 14. Herb-1526-N53 | 30. Tscep-1520-G03 |
| 15. Herb-1526-U01 | 31. Tscep-1535-B02 |
| 16. Herb-1532-A170 | |

Corrections

- | | |
|-------------------|---------------------|
| 1. Dier-1520-B02a | 16. Herb-1533-B16 |
| 2. Dier-1520-B02b | 17. Herb-1533-N53 |
| 3. Dier-1520-H04 | 18. Herb-1538-Co1 |
| 4. Dier-1520-L01a | 19. Herb-1547-A12 |
| 5. Dier-1520-P01 | 20. Herb-1547-A170 |
| 6. Fasc-1512-H04 | 21. Herb-1547-G03 |
| 7. Fasc-1512-P27 | 22. Scaep-c1514-G03 |
| 8. Herb-1514-B02a | 23. Scaep-1516-B02 |
| 9. Herb-1514-B02b | 24. Tfund-1532-K07 |
| 10. Herb-1514-K07 | 25. Tfund-1540-B16 |
| 11. Herb-1514-N53 | 26. Tfund-1540-W02 |
| 12. Herb-1514-W02 | 27. Thuys-1518-A12 |
| 13. Herb-1526-L01 | 28. Tscep-1514-H04 |
| 14. Herb-1532-B16 | 29. Tscep-1520-G03 |
| 15. Herb-1532-W02 | |

Rubrication

- | | |
|--------------------|---------------------|
| 1. Chyro-1536-B16 | 7. Scaep-1516-Wo2 |
| 2. Dist-1517-Ho4 | 8. Tfund-1530-Ho4 |
| 3. Hantw-1535-B16b | 9. Tregre-1514-Bo5 |
| 4. Herb-1514-Ao4 | 10. Tregre-1514-Lo4 |
| 5. Herb-1514-Ho4 | 11. Tscep-1514-Lo4 |
| 6. Herb-1532-B16 | |

Pins, sewn threads, traces of pins

- | | |
|----------------------------|---------------------------------------|
| 1. Fasc-1512-Ko7a | 8. Herb-1532-B16 |
| 2. Fasc-1512-Ko7b | 9. Herb-1547-A12 |
| 3. Hantw-1535-B16b | 10. Rose-1530-Ao4 |
| 4. Herb-1514-A12 | 11. Tfund-1530-Go3b |
| 5. Herb-1514-Bo2b (thread) | 12. Tfund-1532-Ko7 (pins and threads) |
| 6. Herb-1514-Ho4 | 13. Tfund-1540-Wo2 |
| 7. Herb-1526-N53 | |

First/last quires most heavily used²

- | | |
|--------------------|---------------------|
| 1. Dier-1520-Bo2b | 15. Herb-1547-A17o |
| 2. Dist-1517-Lo1 | 16. Herb-1547-Lo1 |
| 3. Dist-1517-Wo2 | 17. Herb-1547-N53 |
| 4. Fasc-1529-Bo2 | 18. Herb-1547-Uo1 |
| 5. Hantw-1535-B16a | 19. Rose-1529-Bo2 |
| 6. Hantw-1535-Lo1 | 20. Rose-c1551-Ao4 |
| 7. Herb-1514-Ao4 | 21. Rose-c1555a-Ao4 |
| 8. Herb-1514-A12 | 22. Rose-c1560a-Go3 |
| 9. Herb-1514-N53 | 23. Rose-c1560b-B16 |
| 10. Herb-1526-Lo1 | 24. Tfund-1530-Go3a |
| 11. Herb-1526-Uo1 | 25. Tfund-1540-Ao4 |
| 12. Herb-1532-A17o | 26. Tscep-1514-Bo2b |
| 13. Herb-1538-Co1 | 27. Tscep-1514-Wo2 |
| 14. Herb-1538-Lo1 | 28. Tscep-1520-Go3 |

Coloured woodcuts³

- | | |
|--|---|
| 1. Chyro-1536-B16 (throughout) | 7. Herb-1514-Ho4 (two woodcuts, partially) |
| 2. Dier-1520-Lo1a (some woodcuts) | 8. Herb-1514-Ko7 (throughout) |
| 3. Dist-1517-Wo2 (one woodcut, partially) | 9. Herb-1514-LRB (throughout) |
| 4. Fasc-1512-Ko7b (one woodcut, partially) | 10. Herb-1532-A17o (throughout) |
| 5. Hantw-1535-B16b (throughout) | 11. Herb-1532-B16 (throughout) |
| 6. Herb-1514-Bo2a (woodcuts of first chapters) | 12. Herb-1538-Lo1 (three woodcuts, partially) |

- 2 Heavy use testified by substantial damage, smudges, or losses in first/last quires. This list does not include copies where only the title page is missing, i.e. without any other clear signs of wear and tear in the first quires (e.g. Dier-1520-Po1; Sack-1537-Lo1).
- 3 This count does not include five – otherwise uncoloured – copies in which one or a few of the woodcuts have a kind of staining or blotting, the origin of which is unclear, i.e. whether it was once a colour, or some kind of dirt, or something else (Herb-1514-Ao4 fol. h4r; Herb-1514-Bo2b fol. k6v (see Fig. 5.45 on p. 326) and v6v; Herb-1538-Co1 a.o. fols. i3v, n4v, t3v, P1r, P3v, Herb-1538-Ho4 fol. G3r, Herb-1547-A17o fols. Z4v, e1r, e2v). In all of these cases, the stains are so precisely located inside the image of a plant, that their presence can hardly be a coincidence. In Herb-1538-Co1, not only do various plant images have a kind of haze over them, but also the dialogue figures on fols. P1r and P3v. I thank Herre de Vries for looking into this matter with me. We have not been able to find a plausible explanation. Technical analysis might reveal more about these substances.

- | | |
|--|--|
| 13. Herb-1547-G03 (many woodcuts) | 21. Tfund-1532-Yo6 (urine flasks) |
| 14. Herb-1547-L39 (one woodcut, partially) | 22. Tfund-1540-A04 (urine flasks) |
| 15. Scaep-1516-Wo2 (throughout) | 23. Tfund-1540-B16 (urine flasks) |
| 16. Scaep-1539-A04 (throughout) | 24. Tregce-1514-Ho4 (herbs) |
| 17. Tfund-1530-G03a (urine flasks) | 25. Tscep-1520-G03 (planets) |
| 18. Tfund-1530-G03b (urine flasks) | 26. Tscep-1520-L79 (throughout, partially) |
| 19. Tfund-1530-H04 (throughout) | 27. Vrouw-1555-A91 (one woodcut, partially; post-17th c.?) |
| 20. Tfund-1532-Ko7 (urine flasks) | |

Red accents in woodcuts

- | | |
|---|--|
| 1. Chyro-1536-B16 (amidst other colours) | 6. Scaep-c1514-G03 (in red crayon) |
| 2. Dist-1517-Ho4 (red accents only) | 7. Scaep-1516-Bo2 (red accent only, in title page woodcut) |
| 3. Hantw-1535-B16b (amidst other colours) | 8. Scaep-1516-Wo2 (amidst other colours) |
| 4. Herb-1532-B16 (amidst other colours) | 9. Tregce-1514-Bo5 (red accents only) |
| 5. Herb-1547-L39 (red accent only, in just one woodcut) | 10. Tscep-1520-Lo1 (in red crayon) |

Drawings, doodles

- | | |
|-------------------|---------------------|
| 1. Chyro-1536-G12 | 12. Herb-1538-Co1 |
| 2. Dier-1520-Bo2b | 13. Herb-1547-N53 |
| 3. Fasc-1512-Bo2 | 14. Scaep-1511-Po1 |
| 4. Fasc-1529-Bo2 | 15. Tfund-1530-G03b |
| 5. Herb-1514-A04 | 16. Tfund-1532-Yo6 |
| 6. Herb-1514-Bo2a | 17. Tfund-1540-B16 |
| 7. Herb-1514-Ko7 | 18. Thuys-1518-A12 |
| 8. Herb-1514-Wo2 | 19. Thuys-1522-Bo2 |
| 9. Herb-1526-Lo1 | 20. Tregce-1514-Bo5 |
| 10. Herb-1526-N53 | 21. Tscep-1514-Lo4 |
| 11. Herb-1532-B16 | 22. Tscep-1520-L79 |

Annotations in Dutch

- | | |
|---------------------|---------------------|
| 1. Chyro-1536-B16 | 27. Herb-1532-B16 |
| 2. Chyro-1536-G12 | 28. Herb-1532-A170 |
| 3. Dier-1520-Lo1a | 29. Herb-1532-Wo2 |
| 4. Dist-1517-Bo2 | 30. Herb-1533-B16 |
| 5. Dist-1517-Wo2 | 31. Herb-1533-N53 |
| 6. Fasc-1512-A04 | 32. Herb-1538-Co1 |
| 7. Fasc-1512-Ho4 | 33. Herb-1538-Ho4 |
| 8. Fasc-1512-Ko7a | 34. Herb-1547-A170 |
| 9. Fasc-1512-Ko7b | 35. Herb-1547-G03 |
| 10. Fasc-1512-P27 | 36. Herb-1547-Lo1 |
| 11. Fasc-1529-Wo2 | 37. Herb-1547-N53 |
| 12. Hantw-1535-B16b | 38. Rose-1529-A04 |
| 13. Hantw-1535-Lo1 | 39. Rose-1530-A04 |
| 14. Hantw-1535-Wo2 | 40. Rose-c1551-A04 |
| 15. Herb-1514-A04 | 41. Scaep-1511-Po1 |
| 16. Herb-1514-A12 | 42. Scaep-1539-A04 |
| 17. Herb-1514-Bo2a | 43. Tfund-1540-A04 |
| 18. Herb-1514-Bo2b | 44. Tfund-1540-A170 |
| 19. Herb-1514-Ho4 | 45. Thuys-1518-A12 |
| 20. Herb-1514-Ko7 | 46. Tfund-1530-Ho4 |
| 21. Herb-1514-LRB | 47. Tfund-1530-G03b |
| 22. Herb-1514-N53 | 48. Tfund-1532-Ko7 |
| 23. Herb-1514-Wo2 | 49. Tfund-1540-B16 |
| 24. Herb-1526-Lo1 | 50. Tfund-1540-Wo2 |
| 25. Herb-1526-N53 | 51. Tfund-1622-B267 |
| 26. Herb-1526-Uo1 | 52. Tregce-1514-Ho4 |

53. Tscep-1514-Bo2b
54. Tscep-1514-C75

55. Tscep-1520-G03

Annotations in Latin

- | | |
|--------------------|---------------------|
| 1. Chyro-1536-G12 | 14. Herb-1533-N53 |
| 2. Dist-1517-Bo2 | 15. Herb-1538-Ho4 |
| 3. Dist-1517-Wo2 | 16. Herb-1547-Lo1 |
| 4. Fasc-1512-Ao4 | 17. Rose-c1551-Ao4 |
| 5. Hantw-1535-B16b | 18. Rose-c1560a-Ao4 |
| 6. Herb-1514-Bo2a | 19. Scaep-1511-Po1 |
| 7. Herb-1514-Bo2b | 20. Scaep-c1514-Go3 |
| 8. Herb-1514-Ho4 | 21. Scaep-1539-Ao4 |
| 9. Herb-1514-N53 | 22. Tfund-1540-B16 |
| 10. Herb-1526-Lo1 | 23. Tfund-1540-Wo2 |
| 11. Herb-1532-A170 | 24. Tscep-1520-L79 |
| 12. Herb-1532-B16 | 25. Tscep-1535-Bo2 |
| 13. Herb-1533-B16 | |

Annotations in English

1. Herb-1526-Lo1? (difficult to read)
2. Herb-1538-Co1

Annotations in German

1. Herb-1526-Lo1
2. Tscep-1520-L79

Annotations in other languages

1. Dist-1517-Wo2 (French)
2. Fasc-1512-P27 (French and Italian?)
3. Herb-1526-Lo1 (Danish?)

Annotations likely dating to the later 16th or 17th centuries⁴

- | | |
|-------------------|---------------------|
| 1. Dist-1517-Bo2 | 16. Herb-1526-N53 |
| 2. Dist-1517-Wo2 | 17. Herb-1532-A170 |
| 3. Hantw-1535-Lo1 | 18. Herb-1532-Wo2 |
| 4. Hantw-1535-Wo2 | 19. Herb-1533-B16 |
| 5. Fasc-1512-Ho4 | 20. Herb-1533-N53 |
| 6. Fasc-1512-Ko7a | 21. Herb-1538-Co1 |
| 7. Fasc-1512-Ko7b | 22. Herb-1547-A170 |
| 8. Herb-1514-Bo2a | 23. Herb-1547-N53 |
| 9. Herb-1514-Bo2b | 24. Tfund-1532-Ko7 |
| 10. Herb-1514-Ho4 | 25. Tfund-1540-Ao4 |
| 11. Herb-1514-Ko7 | 26. Tfund-1540-A170 |
| 12. Herb-1514-LRB | 27. Tfund-1540-B16 |
| 13. Herb-1514-N53 | 28. Tscep-1514-Bo2b |
| 14. Herb-1514-Wo2 | 29. Tscep-1520-L79 |
| 15. Herb-1526-Lo1 | |

4 Though it is often difficult to distinguish between sixteenth- and seventeenth-century hands, the copies in this list are included because they contain at least one annotation that I would date, on the basis of the style of handwriting and/or on handwritten dates, to a period several decades after publication of the volume. The list may be useful for further research into the sustained interest in the knowledge that these books provided.

Marks of ownership (legible or illegible)

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|---------------------|----------------------|
| 1. Chyro-1536-B16 | 19. Herb-1533-N53 |
| 2. Chyro-1536-G12 | 20. Herb-1538-Co1 |
| 3. Chyro-1536-No1 | 21. Herb-1538-Lo1 |
| 4. Dist-1517-Bo2 | 22. Herb-1547-A12 |
| 5. Dist-1517-Wo2 | 23. Herb-1547-A17o |
| 6. Fasc-1512-Ao4 | 24. Herb-1547-Lo1 |
| 7. Fasc-1512-Bo2 | 25. Herb-1547-N53 |
| 8. Fasc-1512-Ko7b | 26. Rose-1530-Ao4 |
| 9. Hantw-1535-Ao4 | 27. Rose-c1540b-Ao4b |
| 10. Hantw-1535-Go3? | 28. Rose-c1551-Ao4 |
| 11. Hantw-1535-Lo1 | 29. Tfund-1530-Go3a |
| 12. Herb-1514-Bo2a | 30. Tfund-1530-Go3b |
| 13. Herb-1514-Bo2b | 31. Tfund-1532-Ko7 |
| 14. Herb-1514-LRB | 32. Tfund-1532-Yo6 |
| 15. Herb-1514-N53 | 33. Tfund-1540-Wo2 |
| 16. Herb-1526-Lo1 | 34. Thuys-c1540-Ho4 |
| 17. Herb-1526-N53 | 35. Tscep-1514-Bo2b |
| 18. Herb-1533-B16 | 36. Vrouw-1555-A91 |

Early modern (16th/17th-c.) binding

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| 1. Dist-1517-Bo2 | 7. Rose-1530-Ao4 |
| 2. Herb-1526-N53 | 8. Rose-c1540b-Ao4b |
| 3. Herb-1532-Wo2 | 9. Rose-c1560b-Ao4 |
| 4. Herb-1533-N53 | 10. Rose-c1560b-B16 |
| 5. Herb-1538-Co1 | 11. Scaep-1576-A17o |
| 6. Herb-1547-Go3 | 12. Tfund-1532-Ko7 |



Detail of Fig. 5.6

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[Vrouw-c1540-B16]

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Int paradys van Venus (Utrecht: Jan Berntsz, c. 1530), fols. B1v–B2r.

London, British Library, General Reference Collection C.133.b.28.(2). © British Library Board.

Fig. 3.1. Alembicum (detail of Fig. 3.14).

Die distellacien ende virtuyten der wateren (Brussels: Thomas van der Noot, 1517), fols. a6v–b1r.

Washington, D.C., Library of Congress, Rosenwald 1139. [Dist-1517-Wo2]

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Amsterdam, Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 103. [Rose-1530-Ao4]

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The Hague, KB, National Library of the Netherlands, KW 228 A 10. [Tfund-1530-Ho4]

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Washington, D.C., Library of Congress, Rosenwald 1139. [Dist-1517-Wo2]

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The Hague, KB, National Library of the Netherlands, KW 228 A 10. [Tfund-1530-Ho4]

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Tfundament der Medicinen ende Chyrurgien (Antwerp: Willem Vorsterman, 1540), fol. K1r.

Washington, D.C., Library of Congress, Rosenwald 1159. [Tfund-1540-Wo2]

Fig. 3.13. Distillation instruments.

Hieronymus Brunschwig, *Small Book of Distillation* (Strasbourg: Johann Grüninger, 1509), fols. A7v–A8r.

Munich, Bavarian State Library, Res/2 M.med. 35.

Fig. 3.14. Distillation instruments.

Die distellacien ende virtuyten der wateren (Brussels: Thomas van der Noot, 1517), fols. a6v–b1r.

Washington, D.C., Library of Congress, Rosenwald 1139. [Dist-1517-Wo2]

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Munich, Bavarian State Library, Res/2 M.med. 35.

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Washington, D.C., Library of Congress, Rosenwald 1139. [Dist-1517-Wo2]

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Hieronymus Brunschwig, *Das buch der wund Artzeny. Handwirkung der Cirurgia* (Strasbourg: Johann Grüninger, 1513), fol. H4r.

Munich, Bavarian State Library, Rar. 1457#Beibd.1.

Fig. 3.18. Two instruments for removing arrows from body parts.

Hans von Gersdorff, *Feldtbuch der wundtartzney* (Strasbourg: Johann Schott, 1517), fol. g3v.

Augsburg, Staats- und Stadtbibliothek, 2 Med 82#(Beibd).

Fig. 3.19. Broadsheet with a skeleton diagram, designed by Hans Wechtlin, bound in some

copies of Hans von Gersdorff, *Feldtbuch der wundtartzney* (Strasbourg: Johann Schott, 1517).

Photo: London, Wellcome Collection, 2675ii.

Fig. 3.20. Skeleton diagram, copied after Wechtlin's design.

Dits dat hantwerck der chirurgien (Utrecht: Jan Berntsz, 1535), fol. #4v.

Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 B899cDu 1535.

[Hantw-1535-B16]

Fig. 3.21. Skeleton diagram, with two indication lines (on the left of the head) elongated by a reader.

Fasciculus medicine (Antwerp: Claes de Grave, 1512), fol. 11v.

Copenhagen, The Royal Danish Library, 40 Med. 50850 (barcode: 20002341). [Fasc-1512-Ko7a]

Fig. 3.22. Surgical device for resetting a dislocated shoulder.

Dits dat hantwerck der chirurgien (Utrecht: Jan Berntsz, 1535), fol. P3v.

Washington, D. C., Library of Congress, Rosenwald 1108. [Hantw-1535-W02]

Fig. 3.23a–b. Two tiny woodcuts copied after the German *Cirurgia*: a surgical instrument and a construction to reset a broken jawbone.

Dits dat hantwerck der chirurgien (Utrecht: Jan Berntsz, 1535), fols. L3v and N2r.

Washington, D. C., Library of Congress, Rosenwald 1108. [Hantw-1535-W02]

Fig. 3.24a–b. A surgical instrument and a construction to reset a broken jawbone.

Hieronymus Brunschwig, *Das buch der wund Artzeny. Handwirkung der Cirurgia* (Strasbourg: Johann Grüninger, 1513), fols. O4r and R5v.

Munich, Bavarian State Library, Rar. 1457#Beibd.1.

Fig. 3.25. Hand diagram copied after the Latin source edition, with added planet personification, a man and a woman, and author portrait.

Chyromantia Ioannis Indagine (Utrecht: Jan Berntsz, 1536), fols. L3v–L4r.

Utrecht, University Library, Rariora R fol. 456. [Chyro-1536-U01]

Fig. 3.26. Identical woodblock used to illustrate the chapters silver and quicksilver (and gold, not shown here), coloured differently by a sixteenth-century (professional?) colourist.

Den groten herbarius (Antwerp: Claes de Grave, 1514), fols. d5v–d6r.

Leiden, Rijksmuseum Boerhaave, BOERH g 3301. [Herb-1514-LRB]

Fig. 3.27. Three different woodcuts used to illustrate the chapters on gold, silver, and quicksilver.

In disem Buch ist der Herbariy: oder Krüterbuch (Strasbourg: Johann Prüss, 1507), fols. e3v–e4r.

London, Wellcome Collection, EPB/D/3322.

Fig. 4.1. Author portrait of Johannes Indagine, with hand-colouring.

Chyromantia Ioannis Indagine (Utrecht: Jan Berntsz, 1536), fol. A4v.

Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 I38Du 1536. [Chyro-1536-B16]

Fig. 4.2. Left column: half figure of a scholar next to an authority reference to Solinius. Right column: the animal draconopedes.

Der dieren palleys (Antwerp: Jan van Doesborch, 1520), fol. F1v.

The Hague, KB, National Library of the Netherlands, KW 226 A 19. [Dier-1520-Ho4]

Fig. 4.3. Ancient scholars, illustration to a chapter on the origins of philosophy.

Polydorus Vergilius, *Uon den erfyndern der dyngen* (Augsburg: Heinrich Steiner, 1537), fol. D4v.

Munich, Bavarian State Library, 2 J.rom.f. 77 m#Beibd.1.

Fig. 4.4. Scholar figures inserted throughout the text.

Den groten herbarius (Utrecht: Jan van Doesborch, 1532), fols. H1v–H2r.

Antwerp, Hendrik Conscience Heritage Library, Collectie Stad Antwerpen, G 142285 [C2-519 f]. [Herb-1532-A170]

Fig. 4.5. Three fingers.

Johannes Indagine, *Introductiones apotelesmaticae elegantes* (Strasbourg: Johann Schott, 1522), fol. d2v.

Munich, Bavarian State Library, Res/2 Anthr. 3.

Fig. 4.6. Three fingers and a standing male figure (a scholar?).

Chyromantia Ioannis Indagine (Utrecht: Jan Berntsz, 1536), fol. H3r.

Utrecht, University Library, Rariora R fol. 456. [Chyro-1536-U01]

Fig. 4.7. Authority references in large type.

Den groten herbarius (Antwerp: Symon Cock, 1547), fols. a2v–a3r.

Utrecht, University Library, Rariora qu 294. [Herb-1547-U01]

Fig. 4.8. A page from the *Biblia Pauperum* with half figures of prophets at the top and the bottom.

Biblia pauperum blockbook, [Netherlands or Germany, ca. 1470] [image 35 in the scan].

Washington, D.C., Library of Congress, Incun. X .B562.

Fig. 4.9. One of hundreds of half figures of biblical, mythological and historical figures.

Hartmann Schedel, *Liber chronicarum* (Nuremberg: Anton Koberger, 1493), fol. 50v.

Utrecht, University Library, MAG: S fol 1 (Rariora).

Fig. 4.10. A scholar figure copied after Schedel's *Liber chronicarum*.

Tfundament der Medicinen ende Chyrurgien (Antwerp: Willem Vorsterman, 1530), fol. G3v.

Washington, D.C., Library of Congress, Rosenwald 1159. [Tfund-1540-Wo2]

Fig. 4.11. A woman presenting a urine sample to a physician. The left and right pillars are in front of the scene, the middle pillar is in the background.

Fasciculus medicine (Antwerp: Claes de Grave, 1512), fol. r6v.

The Hague, KB, National Library of the Netherlands, KW 227 A 9. [Fasc-1512-Ho4]

Fig. 4.12. ‘Purging from above and from below.’*Tschip vol wonders* (Antwerp: Claes de Grave, 1535), fol. F3r.

Brussels, KBR Royal Library of Belgium, II 47.705 A (RP). [Tscep-1535-Bo2]

Fig. 4.13. *Schoonbedroch* (‘Sweet Deceit’) with xylographic inscription *Respice finem* (‘consider the end’).*Thuis der fortune ende dat huys der doot* (Utrecht: Jan Berntsz, 1531), fol. B1v.

The Hague, KB, National Library of the Netherlands, KW 227 E 55. [Thuis-1531-Ho4]

Fig. 4.14. Naked woman.*Der vrouwen Natuere ende Complexie* (Antwerp: Heyndrick Peetersen van Middelburch, c. 1540), fol. D1v.

Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 V984 1528.

[Vrouw-c1540-B16]

Fig. 4.15. A scholar, a couple and a jester. Image copied after a woodblock from Jan van Doesborch’s stock.*Der vrouwen natuere ende complexie* (Antwerp: Jan Roelants, 1563), fol. A2v.

Amsterdam, Allard Pierson, University of Amsterdam, OTM: OK 62-610. [Vrouw-1563-Ao4]

Fig. 4.16. Jester.*Der vrouwen Natuere ende Complexie* (Antwerp: Heyndrick Peetersen van Middelburch, c. 1540), fol. F4r.

Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 V984 1528.

[Vrouw-c1540-B16]

Fig. 4.17. Reused images from other works in *Den sack der consten*. Left: a scene from an *Ulen-spieghel* edition. Right: a couple playing chess and a jester (copied after Fig. 4.20).*Den sack der consten* (Antwerp: Jacob van Liesvelt, 1528), fols. A4v–B1r.

Amsterdam, Allard Pierson, University of Amsterdam, OTM: Ned. Inc. 290. [Sack-1528-Ao4]

Fig. 4.18. Gemini depicted as a naked couple embracing, with light colouring/drawing in the breasts and genitals of the woman.*Thuis der fortune ende dat huys der doot* (Antwerp: Willem Vorsterman, 1522), fol. F3v.

Brussels, KBR Royal Library of Belgium, II 11.452 B (LP). [Thuis-1522-Bo2]

Fig. 4.19. Children of Venus.*Der scaepherders Kalengier* (Antwerp: Willem Vorsterman, 1516), fol. h3v.

Washington, D.C., Library of Congress, Rosenwald 1137. [Scaep-1516-Wo2]

Fig. 4.20. *Die Scaker* (‘the Chessplayer’).*Thuis der fortune ende dat huys der doot* (Antwerp: Jan van Doesborch, 1518), fol. D4v.

Antwerp, Museum Plantin-Moretus – UNESCO World Heritage, R 47.14. [Thuis-1518-A12]

Fig. 4.21. Bathing couple and bilingual (Latin-Dutch) text.*Dat regiment der ghesontheyt* (Antwerp: Jan van Doesborch, c. 1510), fol. B2r.

Washington, D.C., Library of Congress, Rosenwald 1122. [Regi-c1510-Wo2]

Fig. 4.22. Playful combination of woodcuts: the male figure below left seems perplexed at the nudity of the woman on the right.

Tfundament der Medicinen ende Chyrurgien (Antwerp: Willem Vorsterman, 1530), fol. P4r.
The Hague, KB, National Library of the Netherlands, KW 228 A 10. [Tfund-1530-Ho4]

Fig. 4.23. The sanguine complexion, represented as a couple with an old woman selling glasses.

Chyromantia Ioannis Indagine (Utrecht: Jan Berntsz, 1536), fol. Z3r.
Utrecht, University Library, Rariora R fol. 456. [Chyro-1536-Uo1]

Fig. 4.24. Delilah cuts Samson's hair; with verse text warning the reader against deceit by women.

Thuys der fortunten ende dat huys der doot (Utrecht: Jan Berntsz, 1531), fol. A5v.
The Hague, KB, National Library of the Netherlands, KW 227 E 55. [Thuys-1531-Ho4]

Fig. 4.25. 'Lord' Frederick van Jenuen reveals to be a woman (see also Fig. 4.14).

Van heer Frederick van Jenuen (Antwerp: Willem Vorsterman, 1531), fol. D4v.
Ghent, University Library, BHSL.RES.1070.

Fig. 5.1. Title page with owners' inscription of the Poor Clares in Brussels, stating that the book was donated by their confessor, to be kept in the infirmary.

Tfundament der Medicinen ende Chyrurgien (Antwerp: Willem Vorsterman, 1540), fol. A1r.
Washington, D.C., Library of Congress, Rosenwald 1159. [Tfund-1540-Wo2]

Fig. 5.2. Title page with hand-coloured woodcuts and inscriptions of ownership from Willem Barentsoen (top) and Lambertus Optio (bottom), who was his grand-nephew.

Den groten herbarius (Antwerp: Claes de Grave, 1514), fol. a1r.
Leiden, Rijksmuseum Boerhaave, BOERH g 3301. Photo: Tom Haartsen. [Herb-1514-LRB]

Fig. 5.3. Title page with inscription *Pro domino reynero in Harlingen*.

Chyromantia Ioannis Indagine (Utrecht: Jan Berntsz, 1536), fol. A1r.
Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 I38Du 1536. [Chyro-1536-B16]

Fig. 5.4. Page opening in densely annotated herbal, mostly in Latin, including chapters from *Macer floridus*, marginal keywords, underlining, primary qualities noted inside the woodcut.

Den groten herbarius (Antwerp: Claes de Grave, 1514), fols. m1v–m2r.
Brussels, KBR Royal Library of Belgium, VH 6.696 A (RP). [Herb-1514-Bo2b]

Fig. 5.5. Fierce response from a reader on recipes for warding off devils.

Die distellacien ende virtuyten der wateren (Brussels: Thomas van der Noot, 1517), fol. h6v.
Brussels, KBR Royal Library of Belgium, II 10.773 A (RP). [Dist-1517-Bo2]

Fig. 5.6. Latin names of substances added by hand to the Dutch index; the only coloured woodcut in the volume.

Die distellacien ende virtuyten der wateren (Brussels: Thomas van der Noot, 1517), fol. a4v.
Washington, D.C., Library of Congress, Rosenwald 1139. [Dist-1517-Wo2]

Fig. 5.7. Two annotations (keywords) that have offset on the opposite page.

Den groten herbarius (Antwerp: Claes de Grave, 1514), fols. b6v–c1r.

The Hague, KB, National Library of the Netherlands, KW 227 A 12. [Herb-1514-Ho4]

Fig. 5.8. First page of a handwritten index.

Den groten herbarius (Antwerp: Symon Cock, 1547), recto of the first handwritten leaf after the printed text.

Ghent, University Library, BIB.ACC.003404. [Herb-1547-G03]

Fig. 5.9. Table to know in what zodiac sign the Moon is, with structuring dots added by the rubricator.

Der scaepherders Kalengier (Antwerp: Willem Vorsterman, 1516), fol. d1v.

Washington, D.C., Library of Congress, Rosenwald 1137. [Scaep-1516-Wo2]

Fig. 5.10. Alternative names written inside and below the woodcut of fumitory.

Den groten herbarius (Utrecht: Jan van Doesborch, 1532), fol. s4r.

Bethesda, MD, National Library of Medicine, HMD collection, WZ 240 I38Du 1536. [Herb-1532-B16]

Fig. 5.11. Vein man with xylographic text labels, with corrections by a reader.

Der scaepherders Kalengier (Antwerp: Willem Vorsterman, c. 1514), fol. d4r.

Ghent, University Library, BHSL.RES.1076. [Scaep-c1514-G03]

Fig. 5.12. A reader's comment on the image of polipodium: its leaves should have black dots like *hederic*.

Den groten herbarius (Antwerp: Claes de Grave, 1514), fol.)1r.

Brussels, KBR Royal Library of Belgium, VH 6.696 A (RP). [Herb-1514-Bo2b]

Fig. 5.13. Woodcuts of solar and lunar eclipses, with lines drawn through and between them by a reader who commented that there were no eclipses in 1535.

Der scaepherders Kalengier (Antwerp: Willem Vorsterman, c. 1514), fol. d3r.

Ghent, University Library, BHSL.RES.1076. [Scaep-c1514-G03]

Fig. 5.14. Planet symbols and hatchings drawn inside woodcuts.

Den groten herbarius (Antwerp: Claes de Grave, 1514), fol. r4r.

Washington, D.C., Library of Congress, Rosenwald 1128. [Herb-1514-Wo2]

Fig. 5.15. Lines drawn horizontally through a face in the physiognomy section.

Chyromantia Ioannis Indagine (Utrecht: Jan Berntsz, 1536), fol. M4v.

Groningen, University Library, uklu NAUTA 6o. [Chyro-1536-G12]

Fig. 5.16. A quotation from Ovid and apparently a name (*hans mussmass?*) inscribed inside the woodcut of an astronomer.

Chyromantia Ioannis Indagine (Utrecht: Jan Berntsz, 1536), fol. X1r.

Groningen, University Library, uklu NAUTA 6o. [Chyro-1536-G12]

Fig. 5.17. Structuring tabs and handwritten (and corrected) folio numbers, censored words and image (the woman's nudity covered by a veil).

Tfundament der Medicinen ende Chyrurgien (Antwerp: Willem Vorsterman, 1540), fols. P3v–P4r.

Washington, D.C., Library of Congress, Rosenwald 1159. [Tfund-1540-Wo2]

- Fig. 5.18.** Two attempts by a reader at copying the woodcut of a goat (Capricorn).
Tregement der ghesontheyt (Brussels: Thomas van der Noot, 1514), fol. g4r.
Berlin, Staatsbibliothek Preußischer Kulturbesitz, 4° Ji 407. [Trege-1514-Bo5]
- Fig. 5.19.** Woodcuts of the animals *pathion* and *pilosus* copied in drawing.
Der dieren palleys (Antwerp: Jan van Doesborch, 1520), fols. K3v–K4r.
Brussels, KBR Royal Library of Belgium, II 38.891 A LP. [Dier-1520-Bo2b]
- Fig. 5.20.** Hand-drawn dial with wind directions, the starting point of the game of fortune.
Thuis der fortune ende dat huys der doot (Antwerp: Jan van Doesborch, 1518), fol. [A1v] (replaced).
Antwerp, Museum Plantin-Moretus – UNESCO World Heritage, R 47.14. [Thuis-1518-A12]
- Fig. 5.21.** Cherry tree and saffron, hand-coloured by a reader with a limited palette (no red anywhere in the volume).
Den groten herbarius (Antwerp: Symon Cock, 1547), fols. N2v–N3r.
Ghent, University Library, BIB.ACC.003404. [Herb-1547-G03]
- Fig. 5.22.** Hand-colouring, rubrication and some notes in the same red and blue inks throughout the volume.
Den groten herbarius (Utrecht: Jan van Doesborch, 1532), fol. M2r.
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- Fig. 5.23.** Multicoloured violets.
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- Fig. 5.24.** Uroscopy wheel with partial colouring.
Fasciculus medicine (Antwerp: Claes de Grave, 1512), fol. s1r.
Copenhagen, The Royal Danish Library, 40 Med. 50850 (barcode: 20002334). [Fasc-1512-K07b]
- Fig. 5.25.** Hand-coloured urine flasks, the glass represented in turquoise-green.
Tfundament der Medicinen ende Chyrgien (Antwerp: Willem Vorsterman, 1530), fol. D5r.
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- Fig. 5.26.** Hand-coloured urine flasks, the glass represented in turquoise-green.
Tfundament der Medicinen ende Chyrgien (Antwerp: Willem Vorsterman, 1540), fol. D5r.
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- Fig. 5.27.** Gold and silver, hand-coloured nearly identically except for the man's trousers.
Den groten herbarius (Utrecht: Jan van Doesborch, 1532), fols. e4v–f1r.
Antwerp, Hendrik Conscience Heritage Library, Collectie Stad Antwerpen, G 142285 [C2-519 f]. [Herb-1532-A170]
- Fig. 5.28.** Gold and silver, with hand-drawn added lumps.
Den groten herbarius (Antwerp: Claes de Grave, 1526), fols. d4v–e1r.
London, British Library, 546.i.8. © British Library Board. [Herb-1526-Lo1]

Fig. 5.29. Letting blood, with various accents in red added by the same hand as the rubrication.

Tregement der ghesontheyt (Brussels: Thomas van der Noot, 1514), fol. p5v.
Berlin, Staatsbibliothek Preußischer Kulturbesitz, 4^o Ji 407. [Trege-1514-Bo5]

Fig. 5.30. Mouths and animal beaks accentuated in red in an ornamental border.

Die distellacien ende virtuyten der wateren (Brussels: Thomas van der Noot, 1517), fol. a1v.
The Hague, KB, National Library of the Netherlands, KW 228 A 20. [Dist-1517-Ho4]

Fig. 5.31. Annotations in different hands, Latin and Dutch.

Den groten herbarius (Antwerp: Claes de Grave, 1514), fol. p2v.
Brussels, KBR Royal Library of Belgium, VH 6.696 A (RP). [Herb-1514-Bo2b]

Fig. 5.32. Annotations by Rombout de Vryese, including the word (?) *ffeeeeeeeen*.

Den groten herbarius (Antwerp: Claes de Grave, 1514), fol. E4r.
Brussels, KBR Royal Library of Belgium, VH 6.696 A (RP). [Herb-1514-Bo2b]

Fig. 5.33. Two manicules and overlapping underlinings in a passage on the use of *meesterwortel* against different types of fevers.

Den groten herbarius (Utrecht: Jan van Doesborch, 1532), fol. d2v.
Washington, D. C., Library of Congress, Rosenwald 1107. [Herb-1532-Wo2]

Fig. 5.34. Owner's inscription of Petrus Saxsi, written inside the woodcut of a surgical instrument.

Dits dat hantwerck der chirurgien (Utrecht: Jan Berntsz, 1535), fol. D1r.
London, British Library, General Reference Collection 549.k.4. © British Library Board.
[Hantw-1535-Lo1]

Fig. 5.35. Two hand-drawn coats of arms below Willem Vorsterman's printed mark.

Tfundament der Medicinen ende Chirurgien (Antwerp: Willem Vorsterman, 1532), fol. E6v.
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Fig. 5.36. Scissor-like instrument, the paper cut out between the blades.

Dits dat hantwerck der chirurgien (Utrecht: Jan Berntsz, 1535), fol. D1r.
Ghent, University Library, BIB.ACC.008519. [Hantw-1535-Go3]

Fig. 5.37. Ornamental borders elongated with hand-drawn blocks to match the height of the plant woodcuts.

Den groten herbarius (Antwerp: Claes de Grave, 1514), fol. A1r.
Washington, D. C., Library of Congress, Rosenwald 1128. [Herb-1514-Wo2]

Fig. 5.38. Annotations with adorned letters, hand-colouring by a reader (generic author portrait partially coloured).

Tscep vol wonders (Brussels: Thomas van der Noot, 1520), fol. f2r.
London, Victoria and Albert Museum, National Art Library, 86.E.73. [Tscep-1520-L79]
Photo: © Victoria and Albert Museum, London

Fig. 5.39. Typical annotation (on lavender water), conforming to the length and width of the printed text columns, probably written by owner Willem Barentsoen.

Den groten herbarius (Antwerp: Claes de Grave, 1514), fol. v2v.

Leiden, Rijksmuseum Boerhaave, BOERH g 3301. [Herb-1514-LRB]

Fig. 5.40. Typical annotations, perhaps also written by Willem Barentsoen.

Fasciculus medicine (Antwerp: Claes de Grave, 1512), fol. f4v.

The Hague, KB, National Library of the Netherlands, KW 227 A 9. [Fasc-1512-Ho4]

Fig. 5.41. Typical annotation (remedies against *terinck*, including staying cheerful to avoid melancholy), perhaps also written by Willem Barentsoen.

Tregement der ghesontheyt (Brussels: Thomas van der Noot, 1514), fol. c5v.

The Hague, KB, National Library of the Netherlands, KW 228 A 18. [Trege-1514-Ho4]

Fig. 5.42. Marginal drawings highlighting the efficacy of recipes.

Den groten herbarius (Antwerp: Claes de Grave, 1526), fol. c3v.

New York, Metropolitan Museum of Art, 44.7.33. [Herb-1526-N53]

Fig. 5.43. #-like symbols in the margins of the treatise on *quinta essentia*.

Tschip vol wonders (Antwerp: Claes de Grave, 1535), fols. R3v–R4r.

Brussels, KBR Royal Library of Belgium, II 47.705 A (RP). [Tscep-1535-Bo2]

Fig. 5.44. A pin attached to the page.

Tfundament der Medicinen ende Chirurgien (Antwerp: Willem Vorsterman, 1532), fol. O3v.

Copenhagen, The Royal Danish Library, Fol. Pat. 1984o. [Tfund-1532-Ko7]

Fig. 5.45. A thread sewn through the page, a brownish haze in the woodcut, traces of a pin in the left margin.

Den groten herbarius (Antwerp: Claes de Grave, 1514), fol. k6v.

Brussels, KBR Royal Library of Belgium, VH 6.696 A (RP). [Herb-1514-Bo2b]

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In the first half of the sixteenth century, the Low Countries saw the rise of a lively market for practical and instructive books that targeted non-specialist readers. This study shows how woodcuts in vernacular books on medicine and astrology fulfilled important rhetorical functions in knowledge communication. These images guided readers' perceptions of the organisation, visualisation, and reliability of knowledge. Andrea van Leerdam uncovers the assumptions and intentions of book producers to which images testify, and shows how actual readers engaged with these illustrated books. Drawing on insights from the field of information design studies, she scrutinises the books' material characteristics, including their lay-outs and traces of use, to shed light on the habits and interests of early modern readers. She situates these works in a culture where medicine and astrology were closely interwoven in daily life and where both book producers and readers were exploring the potential of images.

Andrea van Leerdam is curator of rare books at Utrecht University Library. She holds a PhD in book history from the same university. She also worked for ten years as a humanities communications advisor.



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