Multilingualism from Manuscript to 3D

Intersections of Modalities from Medieval to Modern Times

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5 Multimodal and Multilingual Practices in Late Medieval English Calendars

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5.1 Introduction

This chapter examines multimodal and multilingual practices associated with genre features of calendars in select manuscripts produced in England between *ca.*1300 and 1550. A calendar is here understood as a table-formatted item at whose core is a column containing the names of the saints and other major feasts celebrated on specific days. In addition to this basic component, late medieval calendars tend to contain a variety of temporal, liturgical and astro-medical information presented through a combination of linguistic, numeric and visual/symbolic means (see e.g. Clemens and Graham 2007: 192–207; Wieck 2017; Halonen 2020: 46–125).

As tables, calendars are multimodal texts that call for multiple literacy competencies from their readers. Construing the condensed information conveyed by a table requires the reader to make sense of the relationships between its rows and columns, aided by captions and other instructive materials provided in the surrounding context of the page and document. As Baldry (2000: 49) observes, "[a]ll this is a combination of language plus, crucially, visual and spatial resources" (see also Bateman 2008: 104, 198; Wright 1981).

Owing to their circulation in manuscripts of different textual configurations, both in Latin as well as in vernacular languages, calendars belong to those table-formatted texts that were probably most frequently encountered by late medieval readers. The wide variety of potential manuscript contexts for calendars and the permutations of their content elements suggests, however, that we might not be dealing with a single genre, but possibly subgenres with partly different communicative purposes. Some calendars might even represent mixed or hybrid constructs incorporating into themselves features from other genres (cf. Bhatia 2000). That researchers sometimes refer to subtypes of the calendar as "liturgical calendars" (e.g. Hill 2003), "medical calendars" (e.g. Wallis 1995: 113) or "astronomical calendars" (e.g. Falk 2020) suggests that its functions came to be increasingly specialised. A case in point to illustrate such generic specialisation or transformation is the development of the *almanac*

in 15th-century England, which seems to have resulted from the calendar becoming inhabited and surrounded by an increasing amount of astromedical and astro-meteorological information (see e.g. Robbins 1939; Mooney 1997; Carey 2003). Wallis (1995) finds that even calendars in medical manuscripts alone may exhibit considerable variation as to what kinds of temporal concerns are foregrounded in them regarding what she calls calendar, astronomic and seasonal time respectively.

Aiming to elucidate the generic properties of late medieval English calendars, the study reported in this chapter probes into their multimodal and multilingual features. The fundamental importance of spatial relationships to the design and reading of table-formatted information calls for a *multimodal* understanding of genre. We subscribe to the position of Bateman (2008: 204), who challenges the conventional focus on verbal information in genre studies, arguing that "[c]haracterisations of the visual properties of elements as well as of their relative locations on the page may make equally valuable contributions to specifications of genre" (see also Hiippala 2016). Waller (2012: 242) identifies layout as a "main signifying feature" of many everyday genres such as newspapers, textbooks and user guides. In fact, he goes so far as to maintain that "[t]hese genres owe their very being to their layout. When readers see them, they know what they are, and what to do with them" (Waller 2012: 242; see also Bateman 2008: 172; Hiippala 2016: 81–86; Parkes 2008 makes similar observations about the function of layout in late medieval manuscripts). As Bateman (2008: 115) points out, readers' engagement with visual and spatial features of the page is in many ways *pre-attentive* and thus not to be ignored at will. It is possible that for relatively common and widely circulating texts like calendars, layout features therefore played an enhanced role as a genre marker, functioning as what Waller (2012) calls *access structures* to the material document. Considerations of layout and aspects of composition of the calendar page accordingly play an important role in the operationalisation of the present study (see Section 5.2). While visual and material aspects of texts have received increasing scholarly attention in historical linguistics (see e.g. Tyrkkö 2017: 95–96), they are still infrequently applied to historical genre studies (Suhr 2011 is among the few exceptions).

Our inclusion of *multilingual* features in the research design (see Section 5.2) reflects observations made about multilingual conventions as potential genre markers in some late medieval text categories, for example in the domain of administration (e.g. Kopaczyk 2017: 276–277). As shown by Schipor (2018: 261) for 15th- and early 16th-century English documentary texts, the presence of multilingual events within the same text or document may have played a role in processes of genre vernacularisation. As much as we can tell, the processes of vernacularisation affecting calendars in later medieval England remain largely unexplored beyond the general narrative of learned Latin texts on calendar reckoning having been popularised and adapted to Middle English readers in various ways

(see especially Means 1992; for language choices in medieval English 'folded' almanacs, see Carey 2004; for the Middle English genre of lunaries, Taavitsainen 1988). In our analysis of the calendar material, we especially aim to detect possible *multilingual patterns*, which according to Schipor (2018: 44) "form when specific types of multilingual event occur repeatedly and may be correlated with text types, chronological patterns or other non-linguistic variables."

5.2 Materials and Methods

Our materials consist of 31 calendars in manuscripts produced in England and primarily containing texts in English and Latin (see Appendix). There is currently no comprehensive catalogue of English calendars crossing genre/domain boundaries and including, for example, calendars in religious/devotional manuscripts alongside those in astrological/medical manuscripts.[1] In addition to using information gathered during the preparation of our earlier studies addressing this kind of material (e.g. Peikola 2009; Varila 2016), we have located relevant material from library catalogues and individual studies that address late medieval English manuscript traditions featuring calendars (e.g. Mooney 1998; Carey 2003; Kennedy 2014; Solopova 2016a). We have previously consulted some of these manuscripts *in situ*, but for the purposes of the present study we have primarily examined them as digital and microfilm reproductions. The manuscripts are currently held by UK and US repositories. Our dataset consists of manuscript images and an Access database whose tables correspond to the levels of analysis described below.

The materials roughly cover what is traditionally considered the late medieval period; the manuscripts are dated or datable to *ca*.1300–1550. To allow us to monitor possible chronological variation in the multimodal and multilingual practices observed in the calendars, we divided the 31 manuscripts into ten date groups, each covering a period of 25 years, as follows:[2]

[1] 1300–1325   (N=2)
[2] 1325–1350   (N=1)
[3] 1350–1375   (N=1)
[4] 1375–1400   (N=5)
[5] 1400–1425   (N=7)
[6] 1425–1450   (N=9)
[7] 1450–1475   (N=1)
[8] 1475–1500   (N=2)
[9] 1500–1525   (N=1)
[10] 1525–1550   (N=2)

Owing to the restricted availability of relevant image material the date groups are not of equal size, which needs to be borne in mind when

using the dataset for chronological observations. For a majority of our manuscripts, the datings are based on palaeographic and/or art historical criteria used by writers of catalogue descriptions from the late 19th to the 21st century. As these criteria are often not explicitly stated by the cataloguers, the datings generally need to be approached with some caution. While fully recognising this caveat, we have found the date groups useful for tentatively identifying some possible chronological variation in our data.

To make our materials relevant to the investigation of the multilingual dimension of the analysis, we selected manuscripts which according to their catalogue descriptions had originally been produced in England and were not written monolingually in Latin. The latter criterion led to the exclusion of a very large number of liturgical and scientific calendar manuscripts of English origin whose catalogue descriptions only mentioned Latin (like the medieval Latin Psalters from Britain described in Solopova 2013: 3–263). Some calendar manuscripts in Latin whose catalogue descriptions mentioned the presence of medieval additional texts or inscriptions in English or French were included in the material.

Our analysis of the multimodal and multilingual genre features of calendars addresses four levels, starting from the macro-level of *manuscript context*. As we anticipated differences in design and content according to the manuscript context, we decided to compile a dataset that would let us take this factor into account in our analysis by including calendars found in different kinds of manuscripts. About two thirds (N=22) of the calendars appear in a primarily religious or devotional context, in a New Testament, Psalter, or Book of Hours. The remaining nine calendars are found in a utilitarian context, such as almanacs and astrological and/or medical compilations (see Appendix). This variation enables us to tease out differences between various traditions of the transmission of calendrical information and identify possible subgenre features. In the analysis reported in Section 5.3, the macro-level of manuscript context will not as a rule be discussed on its own, but will feed into and inform the analysis of features of other levels.

The second level in our analysis is that of the *calendar page* (see Subsection 5.3.1). Since most calendars in our data are designed so that one manuscript page corresponds to one month, the page provides a meaningful material space in which to observe multimodal practices of layout and composition (for the page as an object of analysis, see e.g. Mak 2011: 9–21; Hiippala 2016: 10–20; Varila et al. 2017). Looking at the page as a whole allows us to examine configurations between linguistic, visual and spatial features comprehensively by taking into account not just the calendar table but also other elements. In most calendars in our material, the ruling executed by the scribe who designed the page is visible, which helps us understand how visual and linguistic elements are positioned in the areas designated by ruling. In addition to the horizontal and vertical through lines used to delineate the boundaries of the text area, scribes added ruling to support the written lines and to outline the

compartments of the calendar table (see Derolez 2003: 34–39; Peikola 2013a; cf. the use of grids in modern document design discussed by Bateman 2008: 76). The page-based level of analysis also enables us to pay attention to the relative salience of the visual and linguistic elements for example in terms of their size and colour (cf. Kress and van Leeuwen 2006: 201–203; Bateman 2008: 60–62; Carroll et al. 2013: 57; Varila et al. 2017: 11–14).

Third, we examine what we call the *calendar table* – the central and most conspicuous element on the calendar pages (see Subsection 5.3.2). Here we focus especially on the columns that are present in these tables in addition to the 'core column' that contains the names of the saints. In addition to observing variation in the number of such 'additional' columns, we discuss their information content and comment on their positioning and salience within the table in relation to the core column. We also consider the presence or absence of column labels in the tables and the choice of language in them. Aspects of numerical literacy in the calendar tables are also briefly addressed with an eye to the use of Roman vs Arabic numerals. These features may provide us with clues about the intended audience of the calendars, including their language/literacy skills and level of professionalism.

The fourth and final level in our analysis concerns the micro-level of the text (see Subsection 5.3.3). For this purpose, we have transcribed the text found in the core column of the July page in each calendar. The month of July was chosen for closer inspection because it tends to contain a relatively large number of entries that include a variety of different kinds of male and female saints. The 'epithets' (saint, martyr, king etc.) of these saints may be usefully analysed for language choice. As a potential subgenre marker, we also pay attention to various kinds of 'additional' information contained in the core column.

Our analyses acknowledge the presence of constraining influences that depend on the socio-pragmatic contexts in which manuscripts containing calendars were produced and intended to be used. Bateman's (2008: 17–18) useful typology of such influences comprises, first, *canvas constraints* that have to do with the physical nature of the document (in our case e.g. the size of the calendar page); second, *production constraints* brought about by the available technological means and economics of time and materials (e.g. the availability of gold and colour pigments for illumination); and third, *consumption constraints*, which in our data may reflect the intended audience and conceived primary use of the calendar.

5.3 Analysis

5.3.1 Macro-Level Features

In this section, we examine the composition of the calendar page by focusing predominantly on those visual and linguistic elements that

are external to the grid of columns and rows that form the calendar table. We especially focus on elements that appear visually salient on the page or whose language choice contrasts with the main language of the calendar.

As already indicated, most of the calendars in our dataset contain one page per calendar month (27 of 31).[3] The exceptions to this prototypical design include two manuscripts in which each month is presented on two pages across the opening, and two which compress six calendar months into a single page. These choices seem best explained by a combination of production, consumption and canvas constraints. Reserving two pages for a month may reflect the need to add sumptuous illustrations at the top of the page (in the Psalter Royal 2 B VII [date group 1]) or fit more alphanumeric astronomic data columns in the calendar table (e.g. Beinecke Takamiya 95 [6]). Compressing six months into a page may suggest the need to save space and material, as in the utilitarian Beinecke 558 [10], where the calendar year is presented on a single opening, with a variety of additional information below the calendar table.

The calendar table occupies the central area of the page, usually bounded by a combination of horizontal and/or vertical through lines. On turning to such a page, the reader would encounter in its centre a proportionally large and often densely compartmentalised table populated with a variety of alphanumeric data. The visual experience of the page is prototypically multicoloured: in only one calendar in our material has the page been executed in a single colour (brown ink) throughout (a compilation of medical treatises in Wellcome 411 [8]). In all other calendars, at least red ink, and often also blue, is used in addition to black or brown ink; in approximately one third of the calendars also gold and/or colour pigments are used. Such individual choices no doubt often reflect production constraints.

While the appearance of a multicoloured page centrally occupied by a large table might in itself readily suggest to the reader that they are dealing with a calendar, there is a further visual cue that could perhaps be viewed as a genre marker. In 25 of the 31 calendars, the top left (or rarely top centre) of the calendar table shows two large capital letters joined to one another to form the sequence *KŁ*. This is an abbreviation for *kalends*, the first day of the month in the Roman calendar system typically used in medieval calendars (see *OED online*, s.v. *calends | kalends*, n.). It is worth noting that in our material the large *KŁ* is even found at the head of two calendars that do not otherwise use the Roman system, which may suggest that the scribe placed it there habitually as a genre convention (Emmanuel 34 [4], Gonville and Caius 343/359 [4]). In addition to being larger in size from its surrounding text, the salience of *KŁ* tends to be enhanced by decoration or illumination that often extends into the unruled marginal space above (as in Figure 5.1). Empirical findings from eye-tracking studies indicate that the western left-to-right reader's gaze is often initially fixed briefly to the upper-left region of the page or display

Figure 5.1 An illuminated *KŁ* from a French mid-15th-century calendar leaf in private ownership.

(e.g. Zelinsky 1996). Buscher et al. (2009) found that the initial fixation of the gaze in this region particularly applied to what they call *page recognition* tasks (vs *information foraging* tasks). It is thus possible that in addition to the visual salience of *KŁ*, also its position on the page would have immediately helped the reader to recognise the text at hand as a calendar.

   Given the possibility that the visually prominent *KŁ* functioned as a genre marker, it is worthwhile to take a look at those few calendars in our data in which *KŁ* is either not present or not visually distinctive against its surroundings. To take the latter case first, in Chetham's Mun. A.4.99 [6] the one-line height and commonplace plain red colour of *KŁ*, without additional decorative effects, do not render it salient. Instead, the upper left corner of the page is dominated by a large painted roundel miniature (vignette) that depicts the traditional occupation (labour) associated with the month (for the iconography of occupations of the month in calendars, see Hansen 1984; Pérez-Higuera 1997: 128–180; Hourihane 2007: liv–lix). In addition to its size, the *round* shape of the miniature adds contrast to the immediately surrounding context; a similar contrasting effect applies to the large decorated name of the month that is unusually written *diagonally* across an open space above the calendar table immediately to

the right of the miniature (for feature contrast as a measure of salience, see Bruce et al. 2015: 104–105).

It seems plausible to think that in the Chetham's calendar the combination of saliently presented visual and linguistic information about the occupation and name of the month in the upper left region would have made the reader recognise the page as a calendar even without a prominently rendered *KŁ*. The utilitarian Yale Medical Library 26 [10] omits *KŁ* altogether, relying on the combined effect of the name of the month and a miniature of the occupation as a genre marker. Three other calendars that also omit *KŁ* present a visually highlighted name of the month without an accompanying illustration. They also occur in relatively late ([6], [9], [10]) astro-medically oriented manuscripts, which may indicate that in addition to the chronological factor thematic concerns of the book also played a role in the absence of the genre-marking *KŁ*. This is also suggested by the 15th- and 16th-century illustrated calendar pages from continental religious manuscripts by Hourihane (2007) that as a rule continue to show a large *KŁ* even if the Roman calendar is not otherwise present.

Similarly to the Chetham's manuscript, there are also some other calendars in our data in which miniatures of the occupation and/or the zodiac sign of the month arguably overshadow the *KŁ* as the largest and/or decoratively most elaborated/high-grade element on the page. These miniatures predominantly appear conventionally at the top region of the page (e.g. Royal 2 B VII [1]) or in various ways embedded or 'growing out' of the illuminated border elements that surround the calendar table (e.g. Yates Thompson 13 [2]). As a unique design feature in our material, Egerton 3277 places the zodiac sign of the month in a self-standing roundel to the right of the calendar table around the middle of the page. It is conceivable that the location of the roundel is not determined by symmetry or visual genre conventions alone, but in fact it visually articulates information about the sun's entry into a new constellation of the zodiac that in our material is usually expressed verbally at this point in the calendar (see also Subsection 5.3.3).

When present, the *KŁ* abbreviation tends to be visually the most salient linguistic element on the calendar page. Decorative details notwithstanding, it has the same form on those calendar pages that operate entirely in Latin (e.g. Wellcome 41) or in English (e.g. Egerton 1171), as well as on the pages that contain both Latin and English (e.g. Trinity B.10.20) or Latin and French elements (Harley 273). In terms of its linguistic code, *KŁ* may be regarded as a *visual diamorph* – a form that may belong to the repertoire of more than one language and is "one of several phenomena that neutralise the divergences between codes" (ter Horst and Stam 2017: 240; cf. Muysken 2000: 133). More specifically, owing to its visual salience in our calendar data, *KŁ* can be viewed as an example of the subcategory of the visual diamorphs ter Horst and Stam (2017: 235) call *emblems*, "visual representations of an underlying concept, expressed

not literally but rather graphically." Considering its status as a potential genre marker, as an emblem *KŁ* may perhaps be argued to represent the concept of the calendar.

Of the other linguistic elements of the page design external to the calendar table, the most frequently attested is a set of hexameter verses on 24 cursed 'Egyptian' days of the year (i.e. *dies mala*, see Wallis 1995: 117–122; Chardonnens 2007: 330–335; Skemer 2010: 77). Such verses are found in ten of the 31 calendars, in manuscripts ranging from [1] to [8] and showing different thematic emphases. Notably, the verses are always in Latin, even in those calendars that otherwise use English (Emmanuel 34, Gonville and Caius 343/359) or French (Harley 273) throughout. In our calendars, the single line of verse for each month (identifying two cursed days in the month) tends to appear at the top of the calendar table, often placed within or above a ruled horizontal line that extends through the head of the table across the whole page. Although it is not communicatively part of the system of rows and columns of the table, the verse is typically not clearly separated from regular table entries visually by means of whitespace, larger script, a particularly distinctive initial or choice of colour. Here we are reminded of Bateman's (2008: 115) observation that in document design "*visual* clustering and *rhetorical* clustering do not necessarily align," which may make the reader's task of deciphering the communicative intention of the document more challenging.

The low visual salience of the hexametric verse and its characteristic placement at the head of the saints' column, immediately to the right of the *KŁ* emblem, might mean that it was intended to function more as part of the generic 'furniture' of the calendar page than to be actively processed by the reader for its information content. Its systematic rendition in Latin even in otherwise vernacular contexts possibly supports this interpretation. Comparing renditions of the verse for the month of July in our calendars shows that in Add. 50001 the verse opens with the apparently nonsensical form "Predecimus" (pro *Tredecimus* 'thirteenth'), which suggests that the meaning of the hexameter might not always have been transparent to the scribe (or in this case the decorator who supplied the pen-flourished <P>), and that corrupt readings of these verses probably circulated in exemplars.

In addition to the visually low-key hexameter, there are other, often more salient linguistic elements on the page that also provide the reader with information about the Egyptian days. The most frequent of these are annotations that mark the monthly *dies mala*, usually made in the hand of the scribe who also otherwise wrote (copied) the calendar. They are found in at least 12 calendars. The annotations are overwhelmingly formed as abbreviations, including a large emblem-like visual diamorph Đ (e.g. in Yates Thompson 13). The fact that they are very rarely written out suggests that readers were expected to be familiar with the function of these abbreviated annotations.

Six calendars contain both the hexametric verses and the day-specific annotations for the *dies mala*.[4] In these calendars, the annotations were possibly intended to accentuate and clarify the meaning of the hexameter, also making it easier to understand for those less literate in Latin. In addition to their knowledge of Latin, readers would have to know that the second of the monthly *dies mala* communicated by the hexameter should be counted backwards from the end of the month (see Skemer 2010: 88) – a special piece of information that might not have been known by those not intimately familiar with the counting schemes associated with the hexametric tradition (see also Chardonnens 2007: 353–357). By visually indexing the unlucky days in the calendar table, annotations thus render the potentially opaque hexameter more transparent and the prognostic practically applicable by the user. However, as shown for example by the July page of the calendar in Fairfax 11, the information given by the hexameter and the annotations would not always match – presumably owing to either scribal errors or the use of two different *dies mala* schemes.

There are five calendars that contain hexametric verses but no annotations for the *dies mala*.[5] While this may simply reflect the nature of available exemplars, it might also indicate that the producers of these manuscripts did not wish to foreground this prognostic aspect further. The association of the *dies mala* with Egypt, the land of magic, worried medieval theologians, who sought to construct various biblical rationalisations for them, and many writers continued to view them as pagan superstition (Skemer 2010; see also Hennig 1955; Wallis 1995).

Conversely, our material also includes four manuscripts whose calendars do not contain the hexameters, whereas they systematically provide the *dies mala* annotations.[6] One of them is Egerton 1171, a pocket-sized New Testament in English [5] probably made for the private use of a Benedictine nun at Barking Abbey in Essex (Solopova 2016b). In general, terminological choices of the calendar in this manuscript exhibit a strong tendency towards domestication, so the absence of the ubiquitously Latin hexameter would seem to align with this tendency (see also the discussion of names of zodiac signs in Subsection 5.3.3). The *dies mala* annotations of Egerton 1171 may be viewed together with the prognostications "good to blede on þe riȝt arm" (for 6 March, f. 3r) and "Good to blede on þe left arm" (for 11 April, f. 3v), also written by the scribe of the calendar, suggesting that the annotations were not 'mere' genre markers but supposed to have practical significance for the reader of the manuscript.

The calendar of the trilingual astro-medical compilation Wellcome 41 [7] contains neither the Latin hexameter nor the *dies mala* annotations. The centre of the bottom margin of the page, however, contains a prognostic in English that includes medical advice concerning perilous days for bloodletting. The writing of the prognostic on a separate set of ruled lines, clearly separated from the calendar table by whitespace, and the systematic use of tall pen-flourished initials at its beginning show that

it was designed by the scribe as an integral element of the page in this manuscript. The language choice of the prognostic is marked, as it is the only English element on the Latin calendar page. Also in Trinity B.10.20 [4] the only English element on the otherwise Latin calendar page is a prognostic placed below the calendar table by the scribe of the calendar. In Takamiya 47 [8], a set of prognostic items below the calendar table are in Latin with the exception of the very final item which is given in English.

The calendars of Wellcome 41, Trinity B.10.20 and Takamiya 47 do not appear to be textually closely related to each other. The placement of the English prognostic element at the end of their otherwise Latin calendar pages perhaps reflects their producers' independent responses to similar communicative needs within the constraints of the genre. It is important to observe that in all three calendars the information provided in English essentially adds to that given in Latin, so in terms of their content the multilingual events on the page are *complementary* (for complementary and parallel multilingual events, see Schipor 2018: 46). In Trinity B.10.20, the notion of complementarity is evident in how the Latin hexameters above the table grid and the *dies mala* annotations associated with them indicate a different set of perilous days from the English prognostic at the bottom of the page. English is thus not used in a traditional glossing function that might suggest its subservient position to Latin. The choice of English may suggest that the prognostic element marked in this way was intended to carry some particular relevance for the reader. At least in Wellcome 41, the choice of English seems to have had some practical thematic significance, as also other English elements in the manuscript have to do with similar prognostic concerns (see the column headings "blode letyng," "medesyn" and "Bathyng" in the table on f. 1v and the medical advice based on the zodiac signs on ff. 15r–16r).

Chetham's Mun. A.4.99 offers a somewhat different example of an English element marked by language choice against an otherwise Latin page. Here the top centre of the page is occupied by a line of text in English presented as a caption to the miniature that shows the occupation of the month. Most such monthly captions contain a deictic element that refers to a visual detail in the accompanying miniature (e.g. July, f. 11r: "Wyth þis sythe my medis I mowe") or to the miniature as a whole (e.g. August, f. 12r: "**Here** repe I my corn so lowe," emphasis added in both examples; for the textual tradition, see Means 1992: 616–617; Keiser 1998: no. 63; DIMEV no. 944). Extending Schipor's (2018: 46) useful distinction between parallel and complementary events from multilingual to multimodal relationships on the page (see also Sebba 2012: 14–17), these lines may be viewed as parallel events in the sense that they effectively convey the same information as the accompanying image. Readers are thus offered equivalent linguistic and visual access points to the calendar. The presence of the deictic elements in the captions yet suggests their subservient position vis-à-vis the image.

Finally, seven calendars contain a note about the length of the day and night in hours, written in the main hand of the calendar and typically placed below the calendar table.[7] The note is always written in the main language of the calendar. It is worth observing that none of the astro-medically oriented manuscripts in our material contains this textual element. This may be because their calendar tables typically provide detailed information about the hour and minute at which daylight and darkness begin on each day of the month (see Subsection 5.3.2).

5.3.2 The Calendar Table

In this subsection, we shift the focus from the composition of the calendar page to the elements in its grid of columns and rows. As explained in Section 5.1, our working definition of a calendar which we used in the selection of suitable material for the study assumes the presence of a 'core' column that names the feasts of saints and other occasions. This column will be studied in more detail in Subsection 5.3.3.

In most calendars in our data, the core column is preceded on its left by a set of columns for the Roman calendar system, as well as the dominical letter and golden number that were required for the reckoning of the date of Easter Sunday (see e.g. Wieck 2017: 10–12). This set is a commonplace feature of medieval western calendars (cf. Falk 2020), so it is useful to begin by examining those calendars in our material in which one or more of these columns is missing.

First, six calendars do not contain the Roman calendar dates. Based on data from late medieval (mostly continental) Books of Hours and Psalters, Wieck (2017: 13) notes that owing to the decreasing utility of the Roman system, it started to be left out of some 16th-century calendars. In our dataset, however, we find such omissions already at the close of the 14th century. Emmanuel 34 [4] and Gonville and Caius 343/359 [4] represent a calendar that includes the incipits and explicits of the biblical Mass lessons for the Sanctorale, placed in additional columns to the right of the core column. This type of calendar is effectively a generic hybrid that combines a liturgical calendar with a table of biblical lessons (for Middle English tables of lessons, see Peikola 2013b). Our material also includes three other representatives of this kind of hybrid, but none of them omits the Roman system. In Emmanuel 34, the outer margins of the calendar pages are conspicuously narrow. The prickings that guide the ruling for the horizontal lines are still visible along the outer edge of the page, which indicates that outer edges of the calendar leaves have not been cropped by the binder (as they often are in medieval manuscripts with later bindings). What we see on the page therefore corresponds to how the scribe designed the horizontal layout of the page. Even by diminishing the size of the script used for lesson columns, the scribe barely managed to fit them into the calendar. It would thus seem that at least in Emmanuel 34 omission of the Roman calendar was very

likely due to canvas constraints. The design of Emmanuel 34, replicated in Gonville and Caius 343/359, suggests the producers' prioritising of information pertaining to the biblical lessons above the Roman system. These manuscripts are New Testaments, and they also contain a separate table for the incipits and explicits of the biblical lessons for the Temporale that together with the Sanctorale lessons incorporated into the calendar cover the whole ecclesiastical year. The need to present the reader with the complete set of lesson incipits and explicits clearly mattered to producers as a major consumption constraint of their page design.

The other four calendars that lack the Roman system occur in astro-medically oriented manuscripts. Three of them date from the 16th century, so Wieck's (2017: 13) observation about the increasing omission of the Roman system in this period must be recognised as a potential overall explanatory factor in addition to more immediate contextual constraints. In Beinecke 558 [10], whose calendar incorporates six months per page, canvas constraints must have played a major role in what information was included. In the other three calendars, the need to prioritise other information possibly functioned as a consumption constraint (combined with the canvas constraint of available space on the page), leading to exclusion of the Roman system. These calendars contain a large number of columns with astronomical data related to the movements of celestial bodies: 17 in Yale Medical Library 26 [10], 19 in Ashmole 340 [9], and 52 (26 per page) in Takamiya 95 [6]. The Takamiya 95 calendar is the only one in our material that lacks the columns for both the golden number and dominical letter. Even the inclusion of the core column itself was possibly a scribal 'afterthought'. This is suggested by its placement in a cramped position partly outside the table grid in the inner margin. Like the New Testament calendars discussed in the previous paragraph, the Takamiya 95 calendar may essentially be regarded as a hybrid, in this case one incorporating a conventional calendar feature (the core column) into a monthly planetary table.

These examples indicate that producers' choices about the data they chose to include in the calendar may tell us about consumption constraints in the design of the calendar, and may thus also be linked to the development of subgenres or generic hybrids. It is therefore appropriate to examine our calendars more comprehensively with regard to how many and what kinds of data columns they contain. In 14 calendars, the original design only includes the 'prototypical' set, i.e. the core column plus the columns for the Roman system, the golden number and the dominical letter. Notably, they all occur in religiously themed manuscripts. The manuscripts range from [1] to [6], but the fact that all except one of the religiously themed manuscripts in our dataset belong to these date groups does not allow firm diachronic conclusions.

Moving beyond this basic set-up, the most common 'additional' data column in our material is one that indicates the modern-style numbering of days of the month. This column is found as an original design feature in

13 calendars altogether, from [5] onwards. Its common placement as the first column on the left suggests that it may have been viewed as a more practical system for identifying the days than the increasingly obsolescent Roman calendar (cf. Wieck 2017: 13). Two calendars in religiously themed manuscripts ([6], [8]) have it as the only 'additional' column of their original design;[8] in three religious manuscripts, it was added by an early modern reader.[9]

A clear subgroup is formed by the calendars of the five English New Testaments ([4]–[6]) that include columns with finding aids for the biblical Mass lessons (as discussed above).[10] The calendars of two English New Testaments ([5], [6]) also contain columns for the times of sunset and sunrise in hours and minutes.[11] These columns are a commonplace feature in calendars occurring in astro-medical manuscripts; of the nine such calendars in our material, six contain them. The two New Testament calendars (Laud misc. 388 and Worcester Cathedral Q. 84), however, are the only calendars among our religiously themed manuscripts that contain them and thus provide the reader with precise numerical information about astronomical phenomena. The calendars found in the astro-medically themed manuscripts in our material, on the other hand, as a rule contain a large number of columns with numerically conveyed astronomical data (cf. Mooney 1998: 38–41; Falk 2020). While there are two exceptions to this pattern (the extremely canvas-constrained six months/page calendar of Beinecke 558 and the medically focused calendar of Wellcome 411), in none of these manuscripts is the calendar confined to the basic set-up consisting of the saints' column, the Roman calendar days, the golden number and the dominical letter alone. This correlation suggests that manuscript context played a key role in how the calendar was shaped, and it supports recognition of the prototypical calendars found in religiously and astro-medically themed manuscripts respectively as potential representatives of two different subgenres. Interpreted against this backdrop, the presence of the columns for times of sunset and sunrise in the two New Testament calendars thus seems to imply cross-subgenre influence, possibly occasioned by some no longer discernible consumption constraint pertaining to these manuscripts.

Modern tables tend to be furnished with column and row headings that provide a label for the data contained in them. Ten calendars in our material use column headings. The headings never appear in calendars that only contain the basic set of columns for the saints' days, Roman calendar, golden number and dominical letter, which suggests that these conventional columns were generally not thought to require explanation. These columns remain largely unlabelled even in those calendars that have headings for columns containing astronomical or medical data. The column for the golden number, however, is furnished with a heading in five such calendars;[12] perhaps for the sake of completeness, one calendar even labels the dominical letter column next to the golden number (Yale Medical Library 26 [10]). On the basis of our material, the use of column

headings thus clearly appears to be a subgenre feature of the astronomically oriented calendars. In the two New Testament calendars that contain columns for times of sunrise and sunset, these columns are furnished with headings explaining what the hours and minutes in them stand for.

In a majority of the ten calendars containing column headings, the headings are given in the same language as the entries in the core column – English or Latin (for the core column, see Subsection 5.3.3 below). In two late calendars, however, text in the core column appears in Latin while the column headings are in English (Ashmole 340 [9], Yale Medical Library 26 [10]). This suggests that the anticipated users of these calendars were expected to be capable of handling the conventional contents of the core column even in Latin (mostly consisting of saints' names), while the many columns containing numerical astronomical data had to be furnished with transparent English headings to ensure their practical usability (such as "ye lenght of ye daye in houres & minut*es*," Yale Medical Library 26; see also Subsection 5.3.3).

A functionally important feature of the multimodal design and execution of calendar tables is their use of resources of numerical literacy. While space does not allow us to discuss this dimension in detail, it is helpful to make some observations about the distribution of the Roman and Arabic numerals in our dataset. The (Hindu-)Arabic numerals were introduced in the Latin West during the 12th century in works of science, and were gradually diffused to other domains during the later Middle Ages (see e.g. Evans 1977). As Acker (1994) observes, there was at first some resistance to the adoption of Arabic numerals especially among ecclesiastics; by the 15th century, however, their benefits were already recognised widely and instructional texts about their use were in demand also in the vernacular (see also Murray 1978: 188–210; Swetz 1987; Peikola 2009: 94–95).

Considering generic diffusion patterns of the Arabic numerals, it is worth noting that all those calendars in our dataset that employ Roman numerals only (N=16) occur in a religious/devotional manuscript context. Conversely, all the calendars that employ Arabic numerals only (N=6) occur in an astrological/medical context. Of the nine manuscripts using both Roman and Arabic numerals, six are religious/devotional and three are astrological/medical. The earliest occurrence of Arabic numerals is in the calendars of two English Books of Hours [4] (St John's G.24, Hunter 472). However, in those, Arabic numerals are only used in individual entries, not systematically. This pattern is reversed in Laud. misc. 388 [5] where Arabic is the norm and Roman numerals are only used in individual entries. More generally, the preference for Roman numerals begins to shift in [5] and [6], i.e. roughly from the early 15th century. In Rylands English 80 [6], Arabic numerals are explained to the reader/user in a short text at the end of the set of quires that contains the calendar and other 'prefatory' material (see Peikola 2009: 94–96). In [7] to [10], Arabic numerals tend to be the norm. Among the six manuscripts in these date groups, there is no calendar where only Roman numerals are used.

However, the astrological/medical compilations are more common in these later date groups (5 of 6 manuscripts), which may influence the balance. Furthermore, it should be noted that none of the calendars in religious/devotional manuscripts drops Roman numerals entirely; the latest manuscript of this kind in our material (Takamiya 47 [8]) still uses them in the column for dominical letters.

5.3.3 The Core Column

In this Subsection, we focus on the core column that contains much of the linguistic matter on a typical calendar page. As noted in Section 5.2, our observations are based on detailed examination of the column entries in July across the 31 calendars. On the whole, these entries are very systematic in their language choice. In all of them, it is possible to identify the matrix language of the column either as Latin (N=17), English (N=13) or French (N=1). The matrix language of the core column also usually corresponds to the main language(s) of the manuscript. The 'mismatches' include, first, the calendars in two late predominantly English-language astro-medical manuscripts that opt for Latin in their core column while rendering the column headings in English (Ashmole 340 [9] and Yale Medical Library 26 [10], discussed in Subsection 5.3.2). Second, the calendars of three English New Testaments ([4], [5]) are entirely in Latin, including both their core column entries and also other information on the page. In one of these manuscripts (Lansdowne 455), the calendar leaf (f. 49) may have been inserted from another manuscript (cf. Hanna 2010: 103), while in the other two (Fairfax 11 and Rawlinson C. 259) the calendars seem to have been written in the same hand as the biblical main text of the manuscript and appear integral parts of the original design of the book. The same applies to the English New Testament in Trinity B.10.20 whose calendar is also entirely in Latin, apart from the English entry at the bottom of the page about the perilous days (discussed in Subsection 5.3.1). The producers' decision to render these calendars in Latin may reflect the easier availability of Latin exemplars, but it must be assumed that the expected readers (commissioners?) of the manuscripts were able to make use of the calendars in Latin. Notably, however, in all those five English New Testament calendars that include additional columns for the biblical lessons in English (see Subsection 5.3.2), their core columns are also rendered in English. This may suggest that language choice of the core column mattered for the producers who designed the exemplars of these generic hybrids.

The identification of the matrix language of the core column is made possible by a variety of co-occurring linguistic features. The different syntax and inflectional morphology of Latin, English and French shows in the structures used for feast days. When the matrix language is Latin, the names of the feasts are as a rule in the genitive case (*Sancti sampsonis episcopi*, Egerton 3277), while English calendars typically render them in

the nominative (*Seint Sampson / bischop*, Worcester Cathedral Q.84).[13] Furthermore, the matrix language influences the forms of some personal names (*Sancti **Iacobi** apostoli*, Royal 2 A XVII; *Seint **James** apostil*, Worcester Cathedral Q.84; *Seint **Jame** le apostle*, Harley 273; emphasis added). The same is true for epithets (*Sancti kenelmi **regis & martiris***, Egerton 3277; *Seint kenelm **Roy & martyr***, Harley 273; *Seint kenelme **king***, Worcester Cathedral Q.84). Overall, the matrix language choice of each calendar can relatively confidently be established, especially as scribes appear to have been systematic in their usage.

Individual entries may yet present challenges for identifying the language at the micro level. In Yale Medical Library 26 [10], the entries in the core column generally suggest that its matrix language is Latin (e.g. 2 July *Uisitacio marie*, 25 July *S. Iacobi ap*(osto)*li*). The entry of the sun into the zodiac sign of Leo (14 July), however, is in a less inflected form, *Soll in Leo* (cf. *Sol in leo**ne***, Add. 50001). The preposition *in* being used in both English and Latin, the names 'Sol' and 'Leo' already being established loanwords in English, and the lack of inflection for *Leo* might point towards English rather than Latin (see *MED* s.vv. *sol* n. 1, *lioun* n. 1). Overall, it is difficult to label this entry as either English or Latin, and it would arguably be understandable within either language in the mid-16th century. As noted in Subsection 5.3.2, in this calendar the column labels are in English, and English is also used for the main heading at the top of the page (*Iuly hath .xxxj. Dayes*, f. 9v).), so the vernacular has a strong presence on the page.

The frequent abbreviations for words such as *saint* and *martyr* lead to similar problems with identifying their underlying language. When the abbreviations are inflected for gender (e.g. 18 July *S*(an)*c*(t)*i arnulphi*, 24 July *S*(an)*c*(t)*e cristine*, Trinity B.10.20), the forms may plausibly be interpreted as Latin (or French). An <S> followed by a period, or <Sa> with a macron on top of the <a>, however, could be read as either Latin, French or English. The immediate context may help in determining the language, but this is not always the case. According to Wright (2011: 204), the interpretive ambiguity of these visual diamorphs could actually benefit the producers and users of texts (see also Voigts 1989, 1996; Pahta 2004: 79–80; Honkapohja 2017: 137–138). In the context of Latin calendars produced for the English market, such ambiguous forms would probably have been readily understood by the reader. Similarly, some personal names, such as *Anne* or *Margaret(e)*, might be read as either Latin, French or English. It is therefore helpful to consider individual items in the larger context of the page, the calendar series and the manuscript.

In addition to the names of feast days and holidays, the core column sometimes contains additional information, typically of a liturgical, historical or astro-medical nature. In our material, such information is overwhelmingly recorded in the hand of the scribe of the calendar as part of its original design, usually in the matrix language of the page/column.

Chetham's Mun. A.4.99, for example, includes the number of liturgical lessons for each day. Takamiya 47 mentions places associated with the veneration of certain saints. Historical events are occasionally recorded, for example the coronation of Richard II on 16 July, 1377 (St John's G.24, Hunter 472). Finally, some of the entries contain astro-medical information. Approximately one third of the manuscripts in our dataset record the beginning of the canicular days (usually on 14 July). While the Latin phrase typically simply states *Dies caniculares*, or *Dies caniculares incipiunt*, the English examples in our data contain the deictic adverb 'here' that would perhaps have aided the reader to interpret the phrase in its context: *Caniculer daies biginnen her* (Egerton 1171), **Here bigynnen þe caniculer daies** (Rylands English 80). The only exception among the Latin formulae is in Ashmole 391: **Hic incipiunt dies caniculares**.

Another piece of information occasionally given in the core column is the transitioning of the sun to the next zodiac sign (for example Leo in July). This information is in the core column in six manuscripts in our materials. In addition, five manuscripts record it verbally somewhere else on the page, three manuscripts represent the zodiac sign with a miniature, and one opts for the astrological symbol ♌ for Leo. The image or symbol is also sometimes included on the page in the manuscripts recording the information in written form. Altogether 15 manuscripts in our dataset thus contain this information on the page in some form, but there is variation with regard to its location and format. While the miniatures typically only connect a zodiac sign with a specific month, recording the information in the core column or in the margin allows for a more precise connection between the zodiac sign and the day of the month when the transition from one sign to the next takes place. In Egerton 3277, however, the placement of the miniature around the middle of the page next to the calendar table may have been intended as a more specific visual deictic reference (see Subsection 5.3.1).

When this information is recorded in the core column, the most common format in Latin is *Sol in Leone*, inflecting the name of the zodiac sign. This format is followed consistently in two manuscripts (Chetham's Mun. A.4.99; Add. 50001) and largely in two others (Fairfax 11, Trinity B.10.20). Takamiya 47 consistently adds the copula in this formula (*Sol est in Leone*). Yale Medical Library 26 follows the most common Latin formula, but tends to leave the name of the zodiac sign uninflected (*Soll in Leo*), perhaps reflecting the ambiguous quality of the phrase as either Latin or English, as argued above. Two of the English calendars opt for recording the name of the sign (*Leo*) either in the core column or in the margin (Laud. misc. 388, Harley 6333). The monthly placement of the sign either in the core column or in the margin is consistent between the two manuscripts, which may hint at a shared transmission history. Those calendars consistently recording the name of the sign in the margin also opt for simply naming the sign (*Leo*).[14] Finally, in Egerton 1171, the Latin formula is translated into English, for instance *Sunne in (the) lioun*.

Apart from Gemini, Scorpio, Sagittary and Capricorn, the names of the zodiac signs are heavily domesticated in this calendar, with for example *ffischis* for Pisces and *whethir* for Aries. In our dataset, no other calendar contains such forms for the names of the signs.

Overall, the presence of 'additional' information in the core column does not show any clear correlation with the manuscript context. The beginning of the canicular days and the sun's entry into a new constellation of the zodiac are thus recorded in calendars of both religious and astro-medical manuscripts, and liturgical notes about the number of lessons are not confined to religious manuscripts. The only area in which a possible pattern might be discerned is historical annotation, whose presence in our material is limited to calendars in Psalters and Books of Hours. The limited amount of data, however, does not allow any firm conclusions about this element as a possible subgenre feature.

5.4 Conclusions

The present chapter probed the multimodal and multilingual features of 31 calendars found in religious and scientific/utilitarian manuscripts produced in England *ca*.1300–1550 and containing at least some vernacular textual material. The analysis was guided by questions concerning the genre properties of the calendars and processes of vernacularisation possibly visible in them. The analysis was targeted at macro-level compositional elements as well as micro-level features of individual calendar entries. The socio-pragmatic context was monitored by paying attention to a variety of situational constraints that may have influenced the use of multimodal and multilingual resources in the material.

Our findings indicate that manuscript context played an important role in what information came to be included in the calendar and how the calendar was subsequently shaped on the page. Differences in design of the calendars in religious and astro-medical manuscripts appeared rather conspicuous in this respect, supporting the notion of viewing them as prototypically distinct subgenres. This finding also allowed us to identify possible cross-subgenre influence in the tabular structure and format of some calendars. Our analysis suggested that some calendars in the material were best described as generic hybrids between calendars and other tabular genres.

Scrutinising the calendar material brought up some multilingual and multimodal patterns that seem to reflect the conventions of the genre while also highlighting possible functional differences underlying producers' decisions concerning language choice and visual design/composition. Among those conventional elements that perhaps primarily contributed to recognition of the genre, the visually salient *KŁ* abbreviation and the consistently Latin hexameter about the Egyptian days typically placed in the upper region of the calendar page were discussed. Execution of text on the page in multiple colours may also be regarded as a prototypical

feature of the genre, present in all except one of the calendars surveyed. The use of English for prognostic entries at the bottom of otherwise wholly Latin calendar pages may have served to highlight the utilitarian function of this information rather than contributing to genre marking. Functional specialisation in the choice of language between convention-ality and practical needs of users with reference to their tabular literacy may have contributed to the decision to render the column of saints' feasts in Latin while using English for the column labels in two late calendars. Some recurrently occurring non-language-specific abbreviations were identified as visual diamorphs contributing to both genre marking (espe-cially *KŁ*) and user accessibility (e.g. abbreviations for the *dies mala* and the epithet *saint*). In the latter function, such abbreviations were viewed as analogous to astronomical symbols for zodiac signs.

Use of a diachronic dataset distributed into ten 25-year date groups revealed some potential changes in genre features of English calendars during the *ca*.250-year span represented by the material (cf. Bateman 2008: 229 on detecting "generic trajectories of change"). While bearing in mind the unbalanced quantitative distribution of our materials with respect to the date groups and manuscript contexts (cf. Section 5.2), the findings nonetheless provide genre/area-specific information that tenta-tively supplements and fine-tunes our knowledge of some larger-scale developments such as the waning of the Roman calendar system and diffusion of Arabic numerals in the medieval West (cf. Halonen 2020: 61, 69–70 on medieval Nordic calendars). Our analysis also indicated that calendars with multilingual events on the page (in contrast to monolin-gual calendars) are most frequent in the later date groups [6] to [10]. This finding may be compared with Schipor's study of documentary texts from England written between *ca*.1400 and 1525, in which the period 1500–1525 was found to contain proportionally the largest number of texts with multilingual events – a feature possibly symptomatic of the vernacularisation of the genre (see Schipor 2018: 150, 261).

Acknowledging that there were complex patterns of influence between manuscript and print in the latter part of the time span represented by this study, it would be important to compare and contrast present findings with a dataset of contemporary English printed calendars from date groups [6]–[10]. Although the multimodal and spatial affordances offered by print were in many ways fundamentally different from that of manu-script production, the multiplication and wide distribution of printed calendars in this period probably left its mark on their generic properties too and should be addressed in a further study (cf. Mooney 1997).

Appendix. The Primary Material

The Appendix lists the 31 manuscripts whose calendars form the primary material for the present study. In addition to the location and name of the repository and the shelf-mark of the manuscripts, entries indicate their

main textual content and main language(s), foliation of the calendar and the date group (see Section 5.2 for the principles governing the choice of material and the date groups). An asterisk at the end of an entry indicates our use of a digital facsimile of the manuscript publicly available on the repository's website; for other manuscripts, reproductions obtained by us from/at the repository for private research purposes have been used. Boldface corresponds to the shorthand references to the manuscripts used in the body text above.

Cambridge, **Emmanuel** College, MS **34**. New Testament. English. 7r–12v. [4]

Cambridge, **Gonville & Caius** College, MS **343/359**. New Testament. English. 86r–91v. [4]

Cambridge, **St John's** College, MS **G.24**. Book of Hours. English. 1r–6v. [4]

Cambridge, **Trinity** College, MS **B.10.20**. New Testament. English. 1r–6v. [4]

Hereford, **Hereford Cathedral**, MS **O.VII.1**. Bible. English. 1r–5v. [5]

Glasgow, University of Glasgow, MS **Hunter 472**. Book of Hours. English. 8r–13v. [4]

Glasgow, University of Glasgow, MS **Hunter 512**. Book of Hours. English/Latin. 4r–9v. [5]

London, The British Library, MS **Add. 50001**. Book of Hours. Latin. 1r–6v. [6]*

London, The British Library, MS **Egerton 1171**. New Testament. English. 2r–7v. [5]

London, The British Library, MS **Egerton 3277**. Psalter/Book of Hours. Latin/French. 1r–6v. [3]*

London, The British Library, MS **Harley 273**, Pt. I. Psalter. French. 1r–6v. [1]*

London, The British Library, MS **Harley 937**. The Kalendarium of John Somer. English/Latin. 3r–6v. [6]*

London, The British Library, MS **Harley 6333**. Gospel harmony/ New Testament. English. 139r–144v. [6]

London, The British Library, MS **Lansdowne 455**. New Testament/ devotional material. English/Latin. 49r–v. [5]

London, The British Library, MS **Royal 2 A XVIII**. Psalter/Book of Hours. Latin. 28r–33v. [6]*

London, The British Library, MS **Royal 2 B VII**. Psalter. Latin/ French. 71v–83r. [1]*

London, The British Library, MS **Yates Thompson 13**. Book of Hours. Latin/French. 1r–6v. [2]*

London, The **Wellcome** Library, MS **41**. 'Almanac'. Latin/English/ French. 7r–12v. [7]*

London, The **Wellcome** Library, MS **411**. Medical treatises. English/ Latin. 21r–26v. [8]*

Manchester, **Chetham's** Library, MS **Mun. A.4.99** (6680). 'Astrologica'. Latin/English. 4v–16r. [6]*

Manchester, John **Rylands** University Library, MS **English 80**. New Testament. English. 2r–7v. [6]*

New Haven, **Beinecke** Rare Book & Manuscript Library, MS **558**. Astro-medical miscellany. English. 51v–52r. [10]

New Haven, Beinecke Rare Book & Manuscript Library, MS **Takamiya 47**. Psalter. Latin. 10r–15v. [8]*

New Haven, Beinecke Rare Book & Manuscript Library, MS **Takamiya 95**. 'Planetary calendar'. English/Latin. 1v–13r. [6]*

New Haven, **Yale Medical Library**, MS **26**. Astro-medical miscellany. English. 6v–12r. [10]

Oxford, Bodleian Library, MS **Ashmole 340**, Pt. I. Astronomical calendar and tables. English/Latin. 1r–6v. [9]

Oxford, Bodleian Library, MS **Ashmole 391**, Pt. II. The Kalendarium of John Somer. English/Latin. 6r–11v. [6]

Oxford, Bodleian Library, MS **Fairfax 11**. New Testament. English. 1r–6v. [5]

Oxford, Bodleian Library, MS **Laud. misc. 388**. New Testament. English. 1r–6v. [5]

Oxford, Bodleian Library, MS **Rawlinson C. 259**. New Testament. English. 1r–6v. [5]

Worcester, **Worcester Cathedral**, MS **Q.84**. New Testament. English. 1r–6v. [6]

Funding

Notes

1 The relational database *CoKL: Corpus Kalendarium,* available at www.cok ldb.org, for example only contains calendars found in Books of Hours of which a large majority are of continental origin.

2 Mid-century catalogue datings of the type "c1450" or "15med." are included in the chronologically earlier quarter.

3 The one so-called 'physician's folding almanac' in our dataset (BL Harley 937) is not structured as a codex, but it technically conforms to the one month per page design when unfolded. For the navigation principles of such books, see Silva (2018).

4 Royal 2 B VII (Latin Psalter [1]), Trinity B.10.20 (English New Testament [4]), Gonville and Caius 343/359 (English New Testament [4]), Emmanuel 34 (English New Testament [4]), Fairfax 11 (English New Testament [5]), Takamiya 47 (Latin Psalter [8]).

5 Harley 273 (French Psalter [1]), Add. 49,622 (Latin Psalter [1]), Lansdowne 455 (English New Testament [5]), Chetham's Mun. A.4.99 (Latin/English 'Astrologica' [6]), Add. 50,001 (Latin Book of Hours [6]).

6 Yates Thompson 13 (Book of Hours etc. in Latin/French [2]), Egerton 1171 (English New Testament [5]), Ashmole 391 (English version of the *Kalendarium of John Somer* [6]), Wellcome 411 (English/Latin medical treatises [8]).
7 Harley 273 [1], Trinity B.10.20 [4], Fairfax 11 [5], Lansdowne 455 [5], Egerton 1171 [5], Add. 50001 [6].
8 Rylands English 80 [6], Takamiya 47 [8].
9 Egerton 1171 [5], Fairfax 11 [5], Rawlinson C. 259 [5].
10 Emmanuel 34 [4], Gonville and Caius 343/359 [4], Hereford Cathedral O.VII.1 [5], Laud misc. 388 [5], Harley 6333 [6].
11 Laud misc. 388 [5], Worcester Cathedral Q. 84 [6].
12 Laud misc. 388 [5], Wellcome 41 [7], Wellcome 411 [8], Ashmole 340 [9], Yale Medical Library 26 [10].
13 In our citations from the manuscripts, abbreviations have as a rule been expanded silently. If abbreviations are relevant to the discussion at hand, they have been expanded within parentheses.
14 Ashmole 391 [6], Harley 937 [6], Wellcome 411 [8], Ashmole 340 [9].

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