# Between Herbals *et alia*: Intertextuality in Medieval English Herbals

by

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## Abstract

This study reports a corpus-based study of medieval English herbals, which are texts conveying information on medicinal plants. Herbals belong to the medieval medical register. The study charts intertextual parallels within the medieval genre, and between herbals and other contemporary medical texts. It seeks to answer questions where and how herbal texts are linked to each other, and to other medical writing. The theoretical framework of the study draws on intertextuality and genre studies, manuscript studies, corpus linguistics, and multi-dimensional text analysis.

The method combines qualitative and quantitative analyses of textual material from three historical special-language corpora of Middle and Early Modern English, one of which was compiled for the purposes of this study. The text material contains over 800,000 words of medical texts. The time span of the material is from c. 1330 to 1550. Text material is retrieved from the corpora by using plant-name lists as search criteria. The raw data is filtered through qualitative analysis which produces input for the quantitative analysis, multi-dimensional scaling (MDS). In MDS, the textual space that parallel text passages form is observed, and the observations are explained by a qualitative analysis.

This study concentrates on evidence of material and structural intertextuality. The analysis shows patterns of affinity between the texts of the herbal genre, and between herbals and other texts in the medical register. Herbals are most closely linked with recipe collections and regimens of health: they comprise over 95 per cent of the intertextual links between herbals and other medical writing. Links to surgical texts, or to specialised medical texts are very few. This can be explained by the history of the herbal genre: as herbals carry information on medical ingredients, herbs, they are relevant for genres that are related to pharmacological therapy. Conversely, herbals draw material from recipe collections in order to illustrate the medicinal properties of the herbs they describe.

The study points out the close relationship between medical recipes and recipe-like passages in herbals (recipe paraphrases). The examples of recipe paraphrases show that they may have been perceived as indirect instruction.



Keywords: medieval herbals, early English medicine, corpus linguistics, intertextuality, manuscript studies

# Preface

This study grew from several separate but simultaneous observations on medieval medicine in England. My first contact with medieval manuscripts and Middle English medicine was a snippet of a manuscript that I edited as course-work for *Manuscripts Studies and Historical Dialectology VEG 333i*, a course given by the English Department at the University of Helsinki. The text was alchemical and medical in character, and it introduced me to the world of medieval science.

Later, I edited another manuscript text for my MA thesis. The text was a copy of *Rosemary* (translated by Henry Daniel from Latin into English) in Stockholm Royal Library MS X.90. This was the first herbal text I studied in detail.

At that time, Dr. Irma Taavitsainen and Dr. Päivi Pahta (later both my supervisors) were on their way in compiling the *Corpus of Early English Medical Writing*, which later spawned three corpora, *Middle English Medical Texts*, *Early Modern English Medical Texts*, and *Late Modern English Medical Texts*. As my dissertation was on herbals, they kindly employed me to help compile the corpus. I was also able to proceed with my collection of medieval texts that eventually became *A Corpus of Herbals in English*. The work with the corpus team was valuable training in corpus and empirical linguistics, and it also enabled me to become acquainted with other medical texts of the Middle English period.

One of my first observations on herbals in the Middle English period was that in addition to plant-names and plant descriptions, the genre was characterised by passages that are almost like recipes. I say almost, because the passages are closer to the argumentative text type than to the instructive. I was intrigued by these common passages, which syntactically were presentations of plant-related information and descriptions of processes used in preparation of medicines, but were also so accurate that by following the descriptions of the processes one could actually use them as medical recipes. The paraphrasing of recipes in this manner seemed to be a phenomenon restricted to herbals, and thus governed by genre constraints. Perusal of more medieval medical material (*Middle English*

*Medical Texts*) proved that the phenomenon did not occur in herbals alone, although the herbal genre was clearly the main seat of this quasi-instruction. It soon became apparent that herbals and recipe collections, at least, shared such text material, although the parallelisms detected were almost never verbatim copies of each other. The material called for further investigation.

I am grateful to several people for helping me to shape and complete this work. First and foremost, I want to thank my supervisors, Professor Irma Taavitsainen and Professor Päivi Pahta, who provided me with a job, an office, and an intellectual environment to foster my PhD project. I owe them for many things; here, I would like to single out Irma's unfailing optimism, which at times became my lighthouse in the dark, and Päivi's determined realism, which taught me to trust the facts and nothing else.

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There are several institutions I wish to acknowledge. The Department of English at the University of Helsinki is my *alma mater*. It took me several conferences to realise that I had earned my Master's degree in one of the few great centres of English historical linguistics in Europe. In addition to travel grants and salary from VARIENG, I have enjoyed funding from the Research Funds of the University of Helsinki and the Emil Aaltonen Foundation, and received travel grants from the Chancellor of the University of Helsinki. I was able to attend courses organised by LANGNET, the Finnish Graduate School in Language Studies, in 1999-2002.

I would like to express my gratitude to Professor Douglas Biber, my opponent, and Dr. Merja Stenroos, the other reader of my thesis. Their

invaluable comments on the first version of the thesis helped me to transform the research into a proper book. Professor Biber receives my thanks also for a lucid course on corpus linguistics, given in Helsinki in 2000. Dr. Stenroos is also to be thanked for the fact that this thesis is finished now and not six months later.

Other colleagues who have left their impression on my thinking and on my work, or otherwise helped me in my post-graduate career are Dr. Anneli Meurman-Solin, Dr. Leena Kahlas-Tarkka, Dr. Matti Kilpiö, Professor George Keiser, Professor Jeremy Smith, Mr. Peter Murray Jones, Dr. Ruth Carroll, and Dr. Sachiko Kusukawa.

At VARIENG, I have enjoyed the company of junior colleagues. I would like to name some of them here: I thank Ms. Paula Korhonen and Ms. Irmeli Valtonen for their congeniality when sharing offices with me. Ms. Carla Suhr and Ms. Maura Ratia both served their time in an office with me, and I thank them for their good humour, their patience with me, and for letting me in on the baby news, every time! Other people with whom I have been fortunate enough to share an office are Mr. Turo Hiltunen and Mr. Jukka Tyrkkö. I am especially grateful for Turo's dedication to corpus work when the corpus of *Middle English Medical Texts* was nearing completion. Jukka has been the source of many an interesting talk, and he granted me the joy of introducing him to the world of Linux. I thank Mr. Alpo Honkapohja and Mr. Ville Marttila for their interest in medievalia and for our discussions on theatre and the fantastic. A thank you is also due to Ms. Noora Leskinen, Ms. Johanna Lahti, Mr. Ville Hyvönen and Mr. Jukka Tuominen, with whom I have worked on various occasions. I would like to thank Dr. Diana ben-Aaron and Dr. Anna Solin for inspiring and perceptive talks on genre and intertextuality. Last, I would like to express my gratitude to Ms. Salla Lähdesmäki who has been a true friend and a colleague with whom I have shared most of my time in academia, save for a few spells of paternity and maternity leave.

There are people who have greatly, although sometimes unintentionally, influenced my choice of career and the shape of my current work. I would like to thank my lower secondary school English teacher, Mr. Olli Salmi, for an enthusiastic attitude towards any language

and for making English lessons so enticing that my future aspirations were set at the age of 14. I would also like to thank my god-parents, Professor Anneli and Professor Lars Aejmelaeus, for providing me with a window into the world of research. I am grateful to Mr. Jari Vänttinen's for his introductions to Open Source philosophy and for persuading me to study Linux systems. Mr. Paul Brown receives my thanks for putting me up on several occasions during my research trips to England. Ms. Bethany Fox checked the language of this thesis, for which I am grateful. Any remaining mistakes are my own.

I have no words to express my gratitude to my parents, Sirkka-Leena and Aarre Mäkinen. I know I owe them everything, and especially for showing me that one really can go over the mountain to see what one can see. I thank my brother and sister, Antti and Hanna Mäkinen, for their interest in my work and for their support in word and thought.

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My most profound and heart-felt thanks are due to my wife, Marjo Petäjäaho, for never doubting the point of studying medieval herbals, for her belief in my ability to complete this project, and for just being there, through thick and thin. Should I ask her, what I owe her, I would not be surprised if she answered in the words of the poet Heli Laaksonen:

*Nothing, and everything you have.*

This I am willing to grant her.

Finally, I dedicate this book to my sons, Anselmi and Matias, who are still very small. I would like to thank them for giving perspective to my life, and for still believing me in everything I say.

Helsinki, November 2006 *Martti Mäkinen*

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# 1. Introduction

## 1.0 A prefatory example

Two medical texts from fifteenth-century England present the same information as follows:

(1) for swelling fote for travaile
Take mogwort stamp it put ther to barowis is grece frye hem to gadir make a plastir and ley it to the sore
*Naples recipes*, p. 33

(2) Arthemesia [...] Also þis herbe mad to powdyr and medelyd wyth talwe it helpyth and puttyth awey akynge and sorhede of mennys feet.
*Agnus castus*, p. 124

Both extracts are therapeutic in nature, i.e. they belong to the medical register. Extract (1) is from a recipe collection, and (2) is from a herbal. The extracts convey information related to mugwort, *Artemisia vulgaris*, which was a herb well known in the Middle Ages for its medical properties. They differ on the level of syntax, and in the order they present the information. However, the content is undeniably similar: *mogwort* corresponds to *Arthemesia*, *swelling fote* to *sorhede of mennys feet*, *barowis is grece* to *talwe*, and *stamp it* to *mad to powdyr*. These two examples can therefore be deemed as parallels. They attest to material intertextuality, but not to structural intertextuality.

## 1.1 Aim of the study

This dissertation presents a corpus-based study of medieval English herbals, which belong to the medieval medical register. It charts intertextual parallels within the medieval genre, and between herbals and other contemporary medical texts. The results, based on qualitative and quantitative analyses of material from three historical corpora, will answer the questions of where and how herbal texts are linked to each other and to other medical writing.

## 1.2 Basis for the study - medieval medicine in England

The majority of medicine committed to paper in medieval Europe, including knowledge on the medicinal properties of herbs, was derived from the medicine of Ancient Greece. Original compositions were rare in the Middle Ages, and furthermore, the few Classical texts accessible were written by such authorities that anything disputing the knowledge disseminated by them was unthinkable. The Greek sources were transmitted to European scholars either through Latin, via the Italian peninsula, or through Arabic, via Northern Africa and Spain (Talbot 1967: 36, 44). Arabic medical scholars were, in fact, great preservationists of Greek medical knowledge, and had it not been for their translations of Classical texts, many medical treatises would have been irrevocably lost in the early Middle Ages. The influx of medical texts preserved in Arabic revived the Latin medical tradition from the tenth century on. Toledo in Spain and Salerno in Italy became well known centres of medicine and translation.[1]

The language of Western science was Latin until the late Middle Ages. During a pan-European process later named vernacularisation, texts from all genres and registers were translated into vernacular languages. In England, the pioneering science in the vernacular was medicine (Taavitsainen and Pahta 1997a: 212). The translation processes associated with vernacularisation started in earnest in the latter half of the fourteenth century. The reasons for translating were many, varying from charity to the rise of national identity (cf. section 4.4.2). By the end of the fifteenth century, English boasted a full repertoire of medical genres (Voigts 1989).

The medieval medical genres can be divided into three traditions of writing: surgical texts, specialised texts, and remedies and *materia medica* (Taavitsainen and Pahta 1998, see also Voigts 1982; cf. section 5.1.3). Surgical texts contain directions for operations, but also theoretical discussions on the anatomy of man. The origins of surgical texts are mostly learned and academic, although there is overlap between the traditions. Specialised texts encompass encyclopaedias, texts dealing with

1 For a history of Western medicine, see Siraisi 1990.

specific illnesses or maladies, embryological texts, specific methods of therapy, such as bloodletting, and prognosticatory literature related to the theories of medicine or therapy. The intended audience for specialised texts was academia, but here, too, the texts transgress to the practical side of therapy from time to time. Texts assigned to the category of remedies and *materia medica* include recipe collections, prognosticatory literature (practical and medical), regimens of health, dietary treatises and herbals. The emphasis in the genres of this tradition is on treatment and the practical applications of medical theories, but a theoretical passage leading up to practical applications (i.e. recipes) is not uncommon in the texts of remedial literature.

### 1.2.1 Herbals and medieval medicine

Herbals are texts that report the physical and medical properties of medicinal plants. Their role in medieval medicine was ancillary to other medical writing: herbals provided apothecaries, herbalists and physicians with information on the ingredients listed in recipes and charms. The identification and correct use of plants were vital for people who worked in the prescription and production of medicines.

In their organisation of knowledge, herbals are akin to encyclopaedias. Herbal information is usually organised according to plant-names, in alphabetical order. Each entry starts with a headword, the name of a plant, followed by information related to its appearance, habitat, and medicinal properties (possibly with some recipes).

Herbals as a genre belong to the tradition of medical writing that also includes the genres of recipe collections, regimens of health and dietary treatises, i.e. the tradition of remedies and *materia medica*. *Materia medica* literature comprised texts providing information on herbal, animal and mineral substances that could be used therapeutically, and was therefore a predecessor of pharmacological literature. Because of the medicinal qualities and uses of herbs, herbals are also closely related to recipe collections and to any other kinds of medical literature where medicinal ingredients are relevant. It is therefore probable that, textually speaking, herbals are mostly linked to recipe collections and other remedial

literature.

### 1.2.2 Transmission of herbals

In the history of Western herbals, Classical herbal knowledge was filtered through the works of Diascorides and Pliny the Elder, both writers of late Antiquity. Writers in the early Middle Ages received their sources for herbals through these two authors; the stimulus of translations from Arabic into Latin in the medical register was not effective before the tenth century (Talbot 1967: 36). It is therefore reasonable to assume that the medieval field of herbal and medical writing was teeming with intertextual links, including cross-references, quotations, allusions and other forms of text re-use.

## 1.3 Motivation and research questions

Extracts (1) and (2) in section 1.0 present the motivation for this study in a nutshell. Given the history of Western medicine, with the constraints on sources until the tenth century, and the authoritativeness of Classical texts, which virtually prohibited any original composition, the re-circulation of material seems inevitable. So how come the two passages share the same content, but not the same form? Why is a recipe linked to a passage from a herbal? What is the point of presenting information clearly inherent to recipes in another format or text type? Why do herbals not use the text type of recipes?

This study ventures into an uncharted area of medieval medical writing which consists of intertextual links between herbals, and between herbals and other contemporary medical writing. The information that will be accumulated outlines the affinity of herbals to other medicine by quoting actual shared passages, and by calculating the extent to which each medical genre and tradition is related to herbals. The analysis will also point out hitherto unrecognised textual parallels.

The method of this study will combine a genre model, computerised corpus tools, traditional close reading of parallels, and multi-dimensional scaling in order to measure the intertextuality attested by textual parallels. The combination of these elements is an innovation, and

it provides a tool for showing the affinities of texts in the period of study.

In this study, my aim is to answer the following questions:

Are there patterns within the genre of herbals formed by interlinked texts?

Which other texts and genres within the field of medieval medical writing form intertextual links with herbals?

Are the intertextual links material or structural, or both?

How is the shared material presented in each genre?

What were the actual affinities of the herbal genre in relation to other medical writing?

## 1.4 Method

I will examine intertextuality in medieval herbals and other medical texts from two complementary perspectives, combining corpus-based qualitative and quantitative methods of analysis. I will look for evidence of intertextual links in three historical English special-language corpora containing material from c. 1330 to 1550. One of them, *A Corpus of Herbals in English*, was designed and compiled for this particular task. The other two are the corpora of *Middle English Medical Texts* and *Early Middle English Medical Texts*[2] (cf. chapter 5 for more information on the corpora).

It is possible to find candidates for textual parallels by running automated searches on the corpora. The focus of my study is herbals, and therefore the searches I carried out used plant-names as keywords. The contexts of the keywords provide material for the qualitative analysis of intertextual links, and textual parallels are established by a close comparison of the contexts.

A multi-dimensional quantitative method known as multi-dimensional scaling is used for analysing the textual parallels established on the basis of the qualitative analysis. The method combines information on sources, passage forms, and informational structures to define and visualise

2 Both corpora are compiled by the Scientific Thought-Styles project team, at the Research Unit for Variation, Contacts and Change in English, University of Helsinki.

the relations between the established parallels, and to measure the degree of intertextuality attested to by parallel clusters. The aim is to calculate the extent to which each passage pertains to the default conventions of the genre from which it derives. The resulting scatterplots will illustrate how the passages and their genres may have been perceived in relation to other genres of the medical register.

## 1.5 Dissertation outline

Chapter 2 will define the key concepts and theoretical framework that will be used in the course of this book. The main issue in this chapter is the connection between text, intertextuality and genre, and how these terms can be applied in the analysis of medieval material. The relationship between the three terms is exemplified by a model of genres, which also functions as the basis for the quantitative analysis. The chapter will also introduce the characteristics of text production in the Middle Ages, as knowledge of this is essential for the formulation of research questions and for the justification of the assumptions that lead to the use of corpora in this study.

Chapter 3 is dedicated to the method, drawing on the terms and the theoretical framework established in chapter 2. The chapter briefly introduces corpus linguistics, and describes the corpus linguistic tools and methods used in the analysis of the material. Some of the evidence that supports the argument and the formation of the method is reported in later chapters, which also provide in-depth discussions and examples on the concepts defined in the terminology of this study.

Chapter 4 outlines the history of Western herbals. It surveys the sources of the medieval genre, and maps the attested routes of herbal lore in time and space. The vernacular genre will be presented in relation to other contemporary English medicine, and the insular vernacularisation process will be discussed in general terms. This chapter presents information on the conditions under which medieval medical texts were written and reproduced. It is pivotal for understanding the reasons for the close-knit textual network that was formed by medieval medical and herbal texts and is attested to by the surviving manuscripts.

Chapter 5 describes the three corpora that are used as the material of the study. The chapter argues for the empirical study of language, and for the idea that historical strata of a language can also be subjected to corpus linguistics, as long as certain constraints are acknowledged. The chapter also introduces two relatively new reference tools in the study of medieval scientific texts and concludes with two empirical surveys, one of the surviving manuscript reality, and another of plant-names across the corpora used. The relevance of the surveys is to confirm empirically what is traditionally known of medieval medical genres and their relationships. The function of the first survey is to present the medical genres in their manuscript contexts and to show that a medieval medical codex was not always a haphazard collection of texts, but the co-occurrence of texts was often intended. The second survey, the survey of plant-names, is used to predict the final results of this study. The surveys support the theoretical framework and provide a philological view into the material of the study.

The basic herbal unit, the herbal entry, will be introduced in chapter 6. The herbal entry is divided into sub-sections according to their content. The detailed division of the entry provides a means to handle and classify the information that is produced by corpus searches. The sub-sections are also used to identify the *loci* in herbal entries that have intertextual links to other genres. The information on the contents of the herbal entry is also important for the definition of recipe paraphrases.

Chapter 7 provides a detailed account of the medieval medical recipe. The concept is focal in the study, as recipes can be embedded in herbals and recipe collections are the medieval medical genre hosting most of the intertextual links between herbals and other medical writing. This is logical because herbals present information on *materia medica*, medicinal ingredients, which are one of the main elements in recipes. The chapter contains a description of the components of the medical recipe and their sequential organisation, which is used in the analysis for differentiating between the informational structures of the parallel passages.

Chapter 8 will cover recipe paraphrases in a similar fashion to how the medical recipe was presented in the previous chapter. The main aim in this chapter is to show that recipe-like information can be conveyed

without the formal linguistic characteristics of recipes, hence the name "recipe paraphrase". This is effected through examples, and by explicating the phenomena through direct and indirect instruction. The chapter will present evidence that supports the definition of recipe paraphrases in chapter 2.

Chapter 9 contains the analysis of intertextuality in herbals. The analysis considers six herbs and the passages retrieved from the corpora by using their names as keywords. The qualitative analysis provides material for the quantitative analysis, and the phenomena observed in the quantitative analysis are explained by a qualitative appraisal of them.

The final chapter, chapter 10, contains the discussion and the conclusion of the study. Extensive tables referred to in the analysis and surveys and the lists of corpus bibliographies are appended after the references.

# 2. Terminology and theoretical framework

## 2.0 Abstract

The concept of *text* is crucial for this study, because everything else will build on it: *intertextuality*, *genre* and *register* systems, or textual affinity, all draw on the definition and perception of text. In this chapter, I will give definitions of the above-mentioned terms, and other terms that are essential for my method. I will also address those special characteristics of medieval texts which pose a challenge for textual analysis. The chapter also introduces the concept of *textual space*, a model for visualising genre systems on the basis of intertextuality. The model provides a useful tool for grasping the abstract concepts in the chapter, and functions as the base for the quantitative analysis of data.

## 2.1 Text

Etymologically, a *text* is something woven, with threads of language making an entity that may be perceived as a fully-fledged text, with a beginning and an end, and a function (*OED Online* s.v. *text,* Halliday and Hasan 1985: 10). Therefore, a text can be said to be a length of speech or writing with a certain purpose. Usually requirements for coherence and communicativeness are also added to the list of text properties (Werlich 1982: 13-14). The last two items on the list emphasise the fabric-like image of the text: the threads used in the making of a text do not not stop at the edges, but continue, and may function as material for other texts elsewhere. This image represents the interconnectedness and coherence of texts: a text with no contact points to other texts or to reality is uncommunicative and even unintelligible (Plett 1991: 6). A text needs to be connected before its message can be conveyed or its function realised.

### 2.1.1 The versatility of medieval texts

The modern definition of a text is problematic when applied to medieval texts, and the complex diversity of the concept of a medieval text is one of

the key issues in this study. Very few medieval manuscript texts have survived to our days in holographs, i.e. originals written in the author's hand; in most cases what has survived is a copy of a copy. Many texts survive in multiple copies, which may sometimes differ from each other to such an extent that they can be perceived as individual texts. Furthermore, a single copy of a text may contain information from several underlying layers of copies.[3]

Medieval texts are also prone to fragmentation: a passage of text that appears on its own, as a separate entity in a manuscript, may have been extracted from a longer text. The opposite can also happen: texts can be created by fusion, when earlier discrete texts or extracts begin to circulate together. Physical codices are known to have been split apart and rebound, producing whole new compilations of works. The effects of text fragmentation and fusion are reflected in manuscript catalogues, where texts are identified by a title or an *incipit*, the words by which the text begins (Lat. *incipit*). It is not unusual for scholars to disagree on where the textual boundaries in a particular medieval text are.[4] It is a question of the division of texts, of where a text begins and where it ends, or whether certain consecutive paragraphs should be treated as one text or two.[5]

Finally, one must not forget the wear and tear of time and use, which may well have damaged and destroyed manuscripts during their life cycle. This means that there have been texts that we, in the present, know of, but that have not survived to this day. As such, they are still active

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3 A Middle English text that is a copy of an original or a previous copy may contain linguistic information in several strata. A scribe could do one of three things while copying a text: 1) he could produce a high fidelity copy, with no alterations to the text; 2) he could translate the text into his own dialect; and 3) he could do something between 1) and 2). All these were common for scribes in medieval England, case 1) being perhaps the rarest of them all (McIntosh 1975 [1989]: 36). This means that any Middle English text may contain dialectal forms from two or more locations, as well as temporal variation of linguistic forms.

4 For an example of a medieval medical text with especially fluid boundaries, see Pahta 1998: 98-100.

5 *Incipit* is a technical term, and it is restricted to text identification. The use of the term thus reflects the interpretation of a scholar, and it does not have the variety of meanings in which *text* can be used in medieval studies.

factors that affect our concepts of text lineage and genres related to the texts, although the texts themselves cannot be studied anymore.

Therefore, *text* in the medieval setting (or in medieval studies) may mean multiple things: from the physical script on a manuscript page to a set of copies of one text; or from a passage of text referred to by an incipit in a manuscript catalogue to the *incunabula* that recycled the medieval material in the early days of the printing press. These points will be further addressed in sections 2.2.2 and 5.3.

## 2.2 Intertextuality

The term intertextuality is rarely used in the study of medieval non-literary or utilitarian texts. In my mind, Julia Kristeva's maxim-like proposition "every text is the absorption and transformation of other texts" expresses the idea behind medieval text production in a nutshell, and it is literally true of the medieval method of text production (Schwartz 1996: 13-14; Allen 1999: 39). Since she published the formulation quoted above, Kristeva's thinking and writings on intertextuality have developed in a direction that is less pertinent to medieval textual studies, but the original idea is viable and very applicable to the analysis of medieval material.

### 2.2.1 Types of intertextuality

In this study I will concentrate mainly on the apolitical manifestations of intertextuality, and keep to the "formal linguistic view of meaning" (Lemke 1995: 23), i.e. the post-modernist development in the scholarship on intertextuality and the textual politics pursued in Systemic Functional Linguistics or Critical Discourse Analysis will not be applicable to my research questions.[6]

The strands or threads of language mentioned in 2.1 form a text where the strands are forced together by a language user. The composition of a text usually happens for a reason: texts have pre-designed functions that their authors wish them to fulfil. This implies that the language

6 For issues in intertextuality and SFL/CDA, cf. Lemke 1995, Fairclough 1992, and Solin 2001.

features selected by the author are not irrelevant.[7] Actual language use defines the linguistic features that we perceive as intertextual: the choices made in syntax, lexis and prosody all affect the process of text classification, and therefore they may also fuel the processes of genre recognition and interpretation of a text.

The types of intertextuality that will be applicable in this study are material and structural, or a combination of the two. Material intertextuality means simply the repetition of signs, i.e. the closest association is the lexis. Structural intertextuality means the repetition of rules, and this refers mainly to grammatical features. The third kind of intertextuality is the combination of material and structural intertextualities, which refers to the repetition of signs and rules in texts (Plett 1991: 7). These intertextualities can be studied in two analytical dimensions, the syntactic and the pragmatic (Plett 1991: 8).[8]

### 2.2.2 "Mosaics of texts" and medieval medical texts

A text actually consists of a multitude of quotations which pull the reader's strings of recognition (Kristeva 1986: 37; Irwin 2004: 228). In section 2.1 I claimed that a text in isolation from the rest of the textual world is practically inconceivable: a text, to be intelligible, requires interconnectedness with other texts. This was understood and conveyed as early as the thirteenth century by St. Bonaventure when he listed types of writers, stating that even the author[9] of a text relies on the words of others, i.e. nobody writes in isolation from the preceding textual world (Burrow

7 The composition and selection of linguistic features from those available resembles the Saussurean concepts of *langue* and *parole* in action, or Chomsky's ideas on competence and performance (Allen 2000: 9; Plett 1991: 8).

8 Plett's motivation for excluding the dimensions of semantics and introspection is probably the wish to create a precise and clear apparatus for the study of intertextuality.

9 St. Bonaventure's full list of writers is "scribe, compiler, commentator and author". None of these is said to write solely his own material: thus all these – scribe as a faithful copyist, compiler as a synthesiser of several texts, commentator as an explainer of others' texts, and author – draw on the previous, canonical tradition of written knowledge (*In primum librum sententiarum* (prooem. quaest. Iv; cf. Wogan-Browne *et al.* 1999: 3 for the quotation).

1982: 30).

The other rendering of Kristeva's maxim, in which each text is said to be a "mosaic of quotations", is the key to the method of this study. A medieval author was usually not creating anything new, but his interests and intentions lay in being in accordance with tradition, and in the reformulation of a known text. Kristeva's original idea was complemented by Roland Barthes, when he overthrew the author of a text and replaced it with a scriptor, or a scribe. "The Death of the Author" was based upon the intertextual elaboration that "texts derive their meanings, not from some author creating *de novo* and *ex nihilo*, but only through their relations to other texts" (Irwin 2004: 230). The implication of this thought is that no matter what the authorial intentions are, the audience will always write the text anew upon reading it, and therefore it is fitting to call the person committing the words to paper a scribe, as s/he will have no idea of and only limited influence on how the text will be read.

Any student of medieval genres will find the theoretical applications of "the Death of the Author" obvious: if the author's original input was mostly in the choice of diction and stylistic devices, and the story, plot or content were usually given or borrowed, there is good reason to admit that *author* had a different meaning in the Middle Ages (Wogan-Browne *et al.* 1999: 4, 6). Furthermore, it was seldom the case that the actual author wrote the words we encounter in manuscripts. Scribes and copyists were usually the persons responsible for the dissemination of texts, and it is probable that often the authorial meaning and intention did not reach through to them. A compilator and his book wheel were all that was needed for the fragmentation of the work of several authors and the textual cohesion they had built up; in cases like this it was the compilator's intentions that were conveyed through the resulting text. And finally, a commentator is an example of a case where the audience is literally defining or confirming the meaning of a text.[10]

10 This means writing the meaning of the text anew, not rewriting the physical text. On the one hand, a commentary had its roots firmly planted in the text it commented upon; on the other, the text was firmly embedded in the commentary (sometimes even literally) which explicated the meaning and the point of the text (Taavitsainen 2004: 39). Therefore the interpretation, or the reading provided by the commentary

Medieval text production in the medical register was regulated by many factors: the authors of Antiquity and their texts, the genre constraints (the expectations of the audience), and the static world-view. There was space for a writer's personal mark in the formulation of the message, but the actual message was usually given: one of the functions of a medical text was to preserve knowledge and the theoretical system, not to refute it with new observations or theories. Text production and the convention of free use of sources without formal acknowledgement were governed by the Scholastic ideology that preferred tradition and conservatism to originality (Wogan-Browne *et al.* 1999: 4).

Reverence for the written word and the prevailing intellectual culture required the kind of compositions that would nowadays be deemed unoriginal (Bergner 1995: 48). The canonised *auctores* of the Antiquity were the measuring rod against which new compositions were evaluated: the *auctores* and their texts or names were the sign of authority and authenticity (Schoeck 1984: 108-110).[11] A new text was fitted into a world view that was built on words, not observation. Adding a text to a canon would have meant tampering with the whole cosmological world order, and thus it was not done (Schoeck 1984: 109). Rather, the texts produced were reflecting and repeating the words of the canon, and in this way gained their place in the order of texts, or textual universe, becoming part of the supporting structures of the system (Jauss 1979: 185). The reasons for writing were thus not the wish to create new knowledge, nor the recursive 'evaluation and update' of the world, but more the needs of the audience (the need for a specific text, or piece of information) and the wish to further knowledge. It was a problem-solving case, where an author, given the assets (the canon and the world view), sought to come up with a realisation that would convey his intentions to the audience, but would also be in line with the canon and the world created by it.

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were the commentator's, which was not the same as the author's intention, although it did make the author and the commentator more alike (Minnis 1979: 387).

11 Famous *auctores* were acknowledged in texts, even when they originally had nothing to do with them (Taavitsainen 2004: 42). For example many herbal texts were falsely attributed to famous authors: Antonius Musa did not write *De herba vettonica*, nor did Aemilius Macer compose the poem *De viribus herbarum*.

## 2.3 Genre

*Genre* will be one of the key terms in this study. I have adopted the hierarchical system of text classification: *registers* are umbrella categories that are defined according to the general situational language use (Biber and Conrad 2003: 175). Genres are text identifying devices that are defined by the extralinguistic features of texts. Registers may encompass several genres, as genres encompass texts. *Text types* are co-occurrence patterns of linguistic features, and as such often abstract concepts, i.e. a text type is realised in a text, and texts usually employ several text types, such as instruction, description or argumentation (cf. Werlich 1982); exceptions, or texts that employ only one text type are e.g. formal prayers, or recipes.[12]

However, genres can also be described as complicated interresemblance between texts (Fowler 1982: 38, 40-1; Swales 1990: 46). This description cannot be restricted to extralinguistic features alone, because the audience of a text is as likely to detect syntactic affinity between texts as they are to detect the extralinguistic function of a text. Biber and Conrad admit that, despite the extralinguistic criteria used in defining registers, there is important linguistic variation between registers (2003: 175, 193). Keeping text-external and internal features apart in a definition of genres may not be easy; for example, to include the topic of a text in the list of diagnostic genre features is essentially to admit the lexical aspect of texts into the definition (Lee 2001: 38). Nevertheless, it is undeniable that genre recognition may be as easily triggered by extralinguistic features as by intralinguistic features: it is a phenomenon governed by multiple factors. Knowledge of the text types a genre employs helps us to identify the genre(s), and therefore the distinction between text-external and -internal criteria of identification is not clear cut (Taavitsainen 1997: 49).

Genre is a kind of matrix which conveys information about the text to the recipient: the recipient's previous knowledge of the genre arouses expectations of certain styles or text types, diction, sentence structure etc., and the interpretation of a text starts from the identification of the genre

12 For a good discussion on the different uses of terminology in register and genre studies, see Diller 2001.

(Taavitsainen 1997: 49-50; Jauss 1979: 182). The identifying features of genres are called genre conventions or constraints. These conventions are usually set by the social and situational context for which the text is intended. The expectations of the audience partly determine the conventions the author is able to use to make his text recognisable as a member of a genre (Kress 1988: 136-137; Taavitsainen 1993: 173). Therefore the genre matrix also functions as a communicative device at the stage of composition of the text, not just at its reception.

Genre conventions function partly to preserve a genre, but also partly to allow changes in it. The author of a text is able to explore the boundaries of a genre and even transgress them by contributing new characteristics to the genre. This is possible with permission from the audience, as there is no one determined set of features which should always be present in the texts of one particular genre (Fowler 1982: 38-42; Taavitsainen 1993: 171).

### 2.3.1 Genre and prototype theory

Models akin to the preceding characterisation of genre have been applied in cognitive semantics and systemic-functional linguistics, and have given impetus to a description of genres along the lines of prototype theory (Taavitsainen 1997: 50-1; de Geest and van Gorp 1999).[13] Genre prototypes are elaborations of Eleanor Rosch's prototype theory (see Rosch 1975). The theory is based on the notion of the prototypicality of categories ('category' is not used in the Aristotelian sense here), i.e. that each genre, for example, is a conglomeration of entities that are grouped around a core. The core is the most prototypical combination of features associated with the genre, whether or not it is actually embodied in any given entity or text of the genre (Diller 2001: 6). The edge of a genre is fuzzy, in the sense that the texts that are most different from the genre core may have much in common with other nearby genres, but are still

13 Fowler (1982: 41-2) discusses the Wittgensteinian concept of "family resemblance" in terms familiar from genre models based on prototype theory, although he does not use Rosch's psycho-linguistic works as sources. Diller critisises the open-endedness of Wittgenstein's model but admits that it has given rise to sounder genre theories (2001: 8-9).

counted as members of the genre.

The model of genres as prototypes is quite suitable for the definition of genre which states that no set of genre conventions or constraints occurs as such in any one text of a genre. Furthermore, it seems that no text is rigidly bound to only one genre, i.e. a text realising just one set of genre conventions is basically an abstraction (Fairclough 1995: 189). The model of genres as prototypes will be further developed in section 2.4.2.

## 2.4 Genre, intertextuality, and textual space

### 2.4.1 Metaphors in genre analysis

Metaphors illustrating genre have been used for as long as the term *genre* itself has existed. As genre is an abstraction, an intangible concept, metaphors provide us with a mental handle to grip the notion, process it in thought, and convey the new ideas further, sharing them with others (Fishelov 1993: 2-3). In the following I suggest a model, *textual space*, which will be applicable on many levels of textual affinity. The textual affinity in textual space is powered by intertextuality. The metaphor introduced will serve as a frame for the setup of the analysis, described in chapter 3.

### 2.4.2 Textual space

The human perception of texts is always multi-dimensional, as the factors or features influencing the family resemblance between texts are always multiple. I will use the term *textual space* to describe the human perception of texts within genres and registers.

The term textual space was inspired by Rosch's prototype theory and advances in genre studies and pragmatics (Rosch, 1975; de Geest and van Gorp 1999; also cf. semantic fields and pragmatic space by Jucker and Taavitsainen 2000: 74-6). The term implies that there are forces that affect texts and their position in the textual space and around the genre cores. These forces are not unlike the gravitational force of astrophysics: the different textual and linguistic phenomena function as if texts were celestial bodies. Texts attract each other. I will use the term intertextuality

to denote the phenomena in the textual space which cause texts to be organised into systems of genres and registers.

The model I am suggesting illustrates the dynamic characteristics of the universe of texts, where texts are drawn to each other for certain reasons. Intertextuality is the engine of genre systems. Proximity or distance between texts is maintained by intertextuality, i.e. texts sharing form (structure) or contents (material) are drawn towards each other, but as the intertextual pull is in all directions, no general amassing of texts can take place. Closely related texts form systems, or text constellations.

The constellations correspond to genres, or registers, depending on the kind of intertextuality in question: as the model of textual space cannot be restricted to the pull of only one kind of features, texts will show affinity on all levels, be they linguistic or extralinguistic, e.g. the purpose, social setting, or functions of texts. This means that a map of textual space drawn according to situational language use will look different from a map drawn according to topics, the former pertaining more to registers, the latter to the divisions of genres. Intertextuality is an undeniable phenomenon in any layer; in some layers, the multi-directional pull may have reached an equilibrium, and little change can be perceived over a period of time, whereas some layers seem to be in constant motion.

According to the requirements of communicativeness and coherence in the definition of text, new texts cannot come into existence out of void, the generation of texts must be related to the preceding textual space. Therefore, textual space is a dynamic actor in text composition, text reception, and text perception. In general, all these take place in the minds of authors and audience, and for this reason genres are relative. This is simultaneously the crux and forte of this model: the implication is that the relative positions of texts and genre cores are as they are perceived. This partly explains the dynamic character of genres, and also allows for the renegotiation of the meaning and function of texts upon reception. The relative positions also depend on how well read the audience is: since the mind seeks to understand and create order in what is perceived, the knowledge of a text shapes the textual space as much as the lack of knowledge. In either case, the perceived textual space is whole: not

knowing a text does not leave a gap in the textual space, the picture is just different.

An author composes a text, and in his mind it is positioned where he intends it. The position of a text tells us about the relation of the text in respect to other texts and genres, and the distances from different genre cores tell us about the intentions of the author and the function of the text. The audience may perceive the position of the text differently from how the author intended it, and that position is subject to constant shifts in the minds of the audience as new material keeps pouring in, i.e. the genre system is constantly re-evaluated through the introduction of new texts.

The strata of texts that are accumulated as time passes gradually sink into oblivion, the less important a text is, the faster. The diachronic aspect of genre produces interesting patterns in the textual space; this aspect is also based on personal perception and knowledge of texts. Any member of the general audience has knowledge of texts from several time periods, therefore genres are also perceived as having extension in time.[14] A notable fact, however, is that an older text that is still known and remembered is still actively affecting the composition of the genre core, and is thus also affecting the relative position of the genre in the textual space. This means that a text is seldom written for a one-off effect, irrespective of the authors intention.

### 2.4.3 Intercultural/intracultural intertextuality

In the textual space, intertextual pull can be detected between and within cultures and languages (i.e. between texts in any language): this means that texts in one language are not unaffected by those in another language. Translation from one language to another is known have brought about the birth of genres (Fishelov 1999: 62; cf. section 4.4.1). If a culture is in need of a genre, a means of conveying information in a particular field in a particular way, the easiest way is to import the form – the genre conventions – and the contents from another language's existing texts. A concrete example of this kind of intertextuality is given in chapter 4, where

14 According to Bonheim (1999: 15), genres are retrospective models, as the perception of the textual space cannot be built over-night.

reasons for translating Latin medicine into English are introduced. Intracultural intertextuality refers, for example, to the influence of the intended audience, and this may be reflected in various choices, especially those of language and diction.

### 2.4.4 Material intertextuality

Material intertextuality becomes apparent, for example, in passages quoted from one text in another. It is related to the influence that texts have on their audience and on each other. The borrowing of passages maintains the message, the genre, and the world view. Maintaining the message is the most obvious function, and borrowing strengthens the message merely by adding to the frequency of its repetitions (the intertextuality of quotations is thoroughly explored in Plett 1991). Maintaining the genre is a by-product, but it happens necessarily and automatically for as long as the genre is needed: this is necessary in order for a text to be recognised as a member of a genre, and received as a text. Maintaining the world-view happens on two levels: the actual message is conveyed further, but so is the ideology that produced the quotation.

Material intertextuality may be triggered or indicated by a single word. There, the intertextual pull is primarily between a lexical item and its meaning plus connotations, but also between genres or registers whose choice of diction includes the word in question. The analysis of intertextuality in herbals builds partly on this kind of intertextuality, partly on structural intertextuality which is further discussed in the following section.

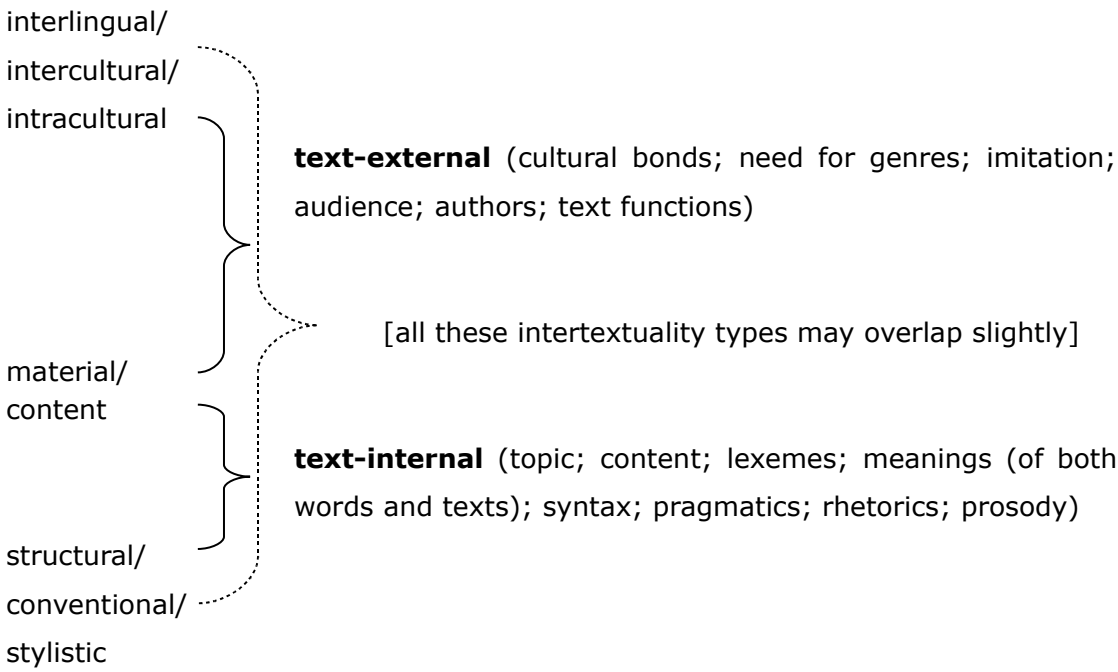
### 2.4.5 Structural intertextuality

This type of intertextuality, the intertextuality of form or structural intertextuality, binds together larger units, as it is effective across genre and register boundaries. The affinity between texts or larger systems in the textual space becomes apparent in the choices of syntax or informational structure. Here also the level of pragmatics is relevant, the choices made in order to give the message the form that is required (cf. the horizons of expectation, Jauss 1982: 23). Structural intertextuality may also involve the

choice of rhetorical means, or sounds and rhythm, thus striking a note that makes the audience perceive intertextuality and affinity between texts. In this study, structural intertextuality is mostly observed in the shared informational structure of the passages studied.

### 2.4.6 Summary of intertextuality

In the following typification of intertextuality in textual space, the focus moves from text-external features to text-internal features:




## 2.5 Other key terms and concepts

### 2.5.1 Herbals

According to *OED On-line*, a *herbal* (*s.v.*) is "a book containing the names and descriptions of herbs, or of plants in general, with their properties and virtues; a treatise on plants". An important point that must be added to the definition is that herbals are books or texts on medicinal plants, i.e. plants that were deemed medically useless did not have an entry in a herbal (for a fuller account of herbals and the herbal entry, see chapters 4 and 5). Texts

that were written in order to describe all the plants in the flora of a region are botanical texts, and that is a tradition that was not introduced in English before 1550.

The term *herbal* was not used in English before 1525,[15] when it appeared on the title page of *Bancke's Herbal*. Etymologically, *herbal* is probably a Latin derivation, from (*liber*) *herbalis*. *Herbal* is thus analogous with such text labels as *diurnal*, *missal*, and *ritual*. The first attestation of the term *herbal* in writing only gave a name to the *status quo* of the Middle English herbals: texts with herbal characteristics did exist before the date given to the term, e.g. most texts in the present study are earlier.

### 2.5.2 Medical recipe

The reason why a definition of *medical recipes* is needed in this study is that herbals form intertextual links almost exclusively with recipes in other medical texts. This can be assumed, as the history of the herbal genre suggests affinity with recipe collections, and plant-names function as ingredients in medieval recipes. My pilot study charting the intertextuality of recipes in herbals and other medical writing also pointed towards this (Mäkinen 2004).

Earlier studies have shown that the medical recipe in English was quite stable in its linguistic characteristics throughout its medieval history. According to Taavitsainen (2001a: 98-106), medical recipes use imperatives to instruct the reader. Involvement is conveyed by the use of second person singular verb forms and pronouns. Recipe style tends to favour paratactic sentence structure, and the clauses form a temporal sequence. Object deletion is rare, but occasionally observed (see also section 8.2, and the list of recipe features in Görlach 1992: 746).[16]

In a study of medieval medical recipe variants by Hargreaves (1981:

15 The date given in the *OED Online* (1516; s.v. herbal n.) is not accurate: Peter Treveris published *The Grete Herball* (the first source for the word as suggested by *OED Online*) in 1526; 1525 marks the date when the first English printed herbal (*Bancke's Herbal*) was published. Therefore herbal used on the title page of *Bancke's Herbal* seems to be the first attested use of the word in English.

16 Object deletion in Middle English culinary recipes is touched upon in Culy 1996. The material of the study is limited (only ten recipes), but also Culy notes that object deletion in recipes was rare in the Middle English period.

101-4), the requirements for a passage to be considered a recipe include an imperative VP, and information on the purpose, ingredients and recipe procedures, i.e. almost the minimum requirements for form and material in a recipe.

For this study, I have reduced the definition of medical recipes even further. A medical recipe needs to fulfil three criteria: it must contain information stating 1) the (medical) purpose, and 2) the ingredients; it must also 3) contain an instance of the imperative verb phrase *take*, or one of its synonyms.

The insistence on *take* is based on the prototypical schema of the medieval medical recipe, which begins with the Latin imperative *recipe*, or its vernacular synonyms: this is the verb phrase that gave the text type its name. A fuller discussion of medieval medical recipes is contained in chapter 7. Further justifications for the definition are presented in section 8.4.

### 2.5.3 Recipe paraphrase

*Recipe paraphrase*[17] is a concept that is partly explained by its name, but which requires examples in order to be fully understood. I will give an *a priori* definition of recipe paraphrases in this section, and refer the reader to chapter 8 for examples and discussion that will explicate the concept further.

Recipe paraphrases are derived from recipes. They are named after recipes because they contain information inherent to recipes, i.e. purpose, ingredients, and recipe procedures. The main difference between recipe paraphrases and recipes is that the former lack some characteristics of recipes, mainly the imperative verb phrases that convey the directive in recipes. In this study, I have taken the definition of a recipe paraphrase slightly further: recipe paraphrases are passages that contain the purpose and ingredient elements of medical recipes, but do not have the imperative *take*, or any synonyms. This allows for the occurrence of other imperative

17 This term was coined by prof. Irma Taavitsainen, and one case of a recipe paraphrase is documented in her article, although the term does not appear there (2001a: 106-7).

verb phrases in recipe paraphrases. The reason for this is explicated by example (3):

(3) Ether **drynke** betayn and it will kest vp the bones and hele the wounde
*Leechbook 1*, p. 40

The imperative VP *drynke* in the example packs the information of *take* and *produce a potion* into one single word. I regard this as a case of *recipe shorthand*, and therefore this kind of passage is a recipe paraphrase (cf. section 8.4).

### 2.5.4 Textual parallels

The concept of *textual parallels* among recipes and recipe paraphrases is already partly defined by the definitions of recipes and recipe paraphrases: as I am accepting similar content as an indication of parallelism (as was exemplified by extracts 1 and 2 in the introduction), parallels do not need to present identical cases of syntax. Furthermore, the exclusion of all other imperatives save *take* from the definition of recipes and the inclusion of imperatives other than *take* in the definition of recipe paraphrases implies that parallel clusters may present combinations in which a passage is syntactically a recipe, but a recipe paraphrase in terms of its content.

In the study of medieval medical recipe variants by Hargreaves (1981: 101-4), a narrow definition of textual parallels was used. Hargreaves' method accepted the re-organisation and omission of parallel constituents, but the elements defined as essential for recipes (imperative VP, recipe purpose, ingredients, procedure) had to be present.[18] In this study, I have

18 Hargreaves' aim was to exemplify variation among parallels in order to make a suggestion for a method of indexing recipes and recipe collections for *The Index of Middle English Prose*. His assumption that the convention of presenting recipes in recipe collections in the head-to-foot order is prevalent throughout the medical register was later disputed by Rand Schmidt (1994), who pointed out that many recipes and recipe collections do not follow the generalisations presented by Hargreaves. Rand Schmidt's observations are backed up by the concept of *discourse colonies*, which has been applied to the study of medieval scientific texts as well (for the full definition of discourse colonies, see Hoey 2001: 87-90; for studies of medieval scientific texts and recipe collections as discourse colonies, see Carroll

also allowed for the omission and re-organisation of parallel constituents, but the requirement of the imperative VP is not present in the definition. Thus, two passages need to present similarity in the recipe purpose and ingredients in order to be deemed as parallels, i.e. they need to attest to material intertextuality. Whether or not they are recipes or recipe paraphrases is irrelevant, i.e. any combination of the two is acceptable. Structural intertextuality will be relevant for determining the possible origin of the passages studied, and that will also be used as a variable in the quantitative analysis.

There are also passages with herbal-specific information, but such passages occur in herbals alone. This information includes passages with such information as the habitat of a plant, the time of blooming, and the names of the plant in various languages. Passages that occur in herbals alone have not been included in the quantitative analysis, as they do not have such comparable variables as recipes and recipe paraphrases. The parallels (that the exclusively herbal passages form) have been identified according to the type of information, i.e. the herbal-internal parallels have to attest to material intertextuality as well.

### 2.5.5 Informational structure of recipes and recipe paraphrases

The final term to be defined for the purposes of this study is *informational structure*. In this study, the concept is applicable to recipes and recipe paraphrases only. It means simply the order in which recipe purpose and ingredients are presented in recipes and recipe paraphrases, i.e. informational structure involves the same information that is used in establishing intertextual parallels. The concept is used to determine the possible source of passages studied: the default order for herbal passages is ingredients – purpose, and for other medical writing, non-herbals, it is purpose – ingredients. The reasons for the differing informational

2003, forthcoming and Alonso Almeida 2005). The main characteristics of discourse colonies applicable to recipe collections are the following: a colony comprises units that do not change their meaning if they are presented in another order; there is no textual continuity from unit to unit; the units can be read one by one, unattached from the rest of the colony; usually, the units share function with each other (Carroll forthcoming). Thus recipe collections are repositories of recipe information that can be easily extracted to be used elsewhere.

structures in herbal and non-herbal passages are introduced in chapter 8.

## 2.6 Textual affinity and textual space

Texts define each other and the surrounding textual space by the distance they keep: the proximity of texts in terms of shared topics, text, conventions, or style determines their place in the textual space. The kind of text collocation described in this chapter is related to categorisation in general: finding similarities and forming groups according to them is inherent to humans. Therefore, texts that share features are also deemed to be relatives, and if there is sufficient family resemblance between the texts they are perceived as a genre.

There are certain features of medieval texts that are not for the most part relevant to modern texts, such as questions of authorship and authoritativeness, the way of producing new texts that was prone to fragment earlier texts, and the fact that *text* may acquire several meanings. These acknowledged, modern genre terminology can also be applied to medieval text systems.

The terminology and concepts introduced in this chapter will all contribute to the method. Therefore, there are also some constraints set on them, in order to keep the analysis as consistent as possible. For the issues regarding the definitions of herbals, recipes, recipe paraphrases, and textual parallels, fuller discussions are given in chapters 4-8.

The model of textual space will be implemented in the analysis in this study. The quantitative method used in the analysis of intertextuality in herbals (multi-dimensional scaling, explained in section 3.3) is a way to illustrate intertextuality and textual affinity in which the concept of textual space becomes concrete. It provides a view into the relations between texts in the medieval register studied.

# 3. Method for establishing and measuring intertextuality

## 3.0 Abstract

This chapter recounts the method that was devised to answer the research questions presented in section 1.4. The primary target in the analysis is to identify textual parallels with similar herb-related information contents in the data, and to describe the ways in which they have been realised in different genres of the medical register i.e. the material and structural intertextuality that was discussed in chapter 2.

The material of the study, three historical corpora of medical texts (see chapter 5), provide a sample of the medieval medical register, and a starting point for the identification of the intertextual links between herbals and other medical writing. The quantitative analysis is embedded in qualitative methods which both pre-process the data for quantification, and also interpret the findings of the quantitative analysis. Linguistic data seldom allows for quantitative analysis only, and intuition and close reading can always be backed up with quantitative analysis. Corpus linguistic methods produce material for both approaches, as the items retrieved automatically also serve as data for qualitative analysis. In the following sections I will describe the different phases of the analysis and the tools that have been used. I will also illustrate the notion of textual space, my model for visualising the systems of genres in the material, through examples.

## 3.1 Corpus linguistics and current study

The main reason for compiling computerised linguistic corpora is to develop tools for more accurate and reliable description of languages, their use and their structures (Kennedy 1998: 88). Through the use of corpora linguistics has moved on from "armchair linguistics", or even from systematic but labour intensive manual sampling of language, to the empirical and effective study of linguistic performance.

The corpora used in this study (described in chapter 5) are second-generation and third-generation corpora.[19] The corpora of *Middle English Medical Texts* and *Early Middle English Medical Texts* are second generation corpora. They contain texts that belong to the medieval English medical register. *A Corpus of Herbals in English* is a third generation and a genre corpus, which was compiled specifically for this study. To my knowledge, this study is the first in the field of medieval medicine, where easy access to medieval and early modern texts through corpora is used to track intertextuality and to retrieve data for measuring textual affinity.[20]

## 3.2 Identifying textual parallels – recipes and recipe paraphrases

The object of this study is to identify textual parallels as indications of intertextuality. The focus is on recipes and recipe paraphrases (R&RPs henceforth) occurring in herbals and other types of medical texts, i.e. on intertextual links between different genres of medical writing; herbal-specific passages are analysed separately, as these attest to genre-internal intertextuality. The principles governing parallels were defined in chapter 2.

### 3.2.1 plant-names = keywords

As my research concentrates on herbals, plant-names were an obvious choice for keywords: they are cues to pharmacological therapy shared by

19 First generation corpora are multi-genre and multi-purpose corpora that are not designed for any specific research question. An example of a historical first generation corpus is *Helsinki Corpus* (see Kytö (ed.) 1996, and the on-line manual at http://khnt.hit.uib.no/icame/manuals/HC/INDEX.HTM). Second generation corpora are more specific, e.g. register corpora, but they can still be used for several research questions. Examples of second generation corpora are the *Zurich English Newspaper Corpus* (ZEN, see http://es-zen.unizh.ch/ for a brief description of the corpus) and *The Corpus of Early English Correspondence Sampler* (see the manual at http://khnt.hit.uib.no/icame/manuals/ceecs/INDEX.HTM Nurmi (ed.) 1998). Third generation corpora are task corpora that have been compiled for a specific reasearch problem, such as my research questions in this study pose.

20 Greco and Shoemaker (1993) have suggested ways in which to combine corpora and studies on medieval literary intertextuality. Automated measuring of text reuse has been explored in Modern and Early Modern English, cf. Piao et al. (forthcoming), and Piao and McEnery (2004).

passages of text across genre boundaries. The analysis is begun by retrieving the contexts of plant-names from the corpora used.[21] The automatic text retrieval system requires first the generation of lists of plant-names that are used as keywords for automated searches on the corpora. In the Middle English period, English orthography varied regionally, and therefore it is necessary to derive the plant-name lemmas from the corpus texts themselves; collecting spelling variants from dictionaries would result missing some of the relevant plant-name tokens in the corpora, as not all spelling variants are recorded in dictionaries.

For this study, I have produced plant-name lemmas for six plants. These plants are *Artemisia absinthium (Absinthium), Artemisia vulgaris (Artemisia), Betonica officinalis, Ruta graveolens, Rosmarinus officinalis* and *Verbena officinalis*.[22] By the choice of these plant-names I wanted to tap into different text histories: two of the plants chosen were considered so important that they have texts dedicated to them alone (*Betonica* and *Rosmarinus*); some plants were common panaceas, and were therefore attested to in most of the herbal and non-herbal texts (*Absinthium* and *Ruta*); two plants represent 'regular' herbs that were common, but not extraordinary ingredients in many recipes (*Artemisia* and *Verbena*).

For the plant-name lemma generation I have used a program called *MEMT Presenter*, designed by Raymond Hickey (University of Essen) to accompany the corpus of *Middle English Medical Texts*.[23] The program allows data-driven generation of word lists. I have chosen the variants for

21 In the corpora used, the sentence boundaries in Middle English texts are rarely marked. This imposes limitations on the design of automatic searches: I cannot retrieve a whole sentence (i.e. one clearly delimited passage) as I cannot define an exhaustive list of devices scribes used to distinguish two sentences from each other. However, it is possible to retrieve a whole line (i.e. a sequence between two line breaks in a corpus document), or to retrieve *n* characters from either flank of the keyword. This affects the nature of the study: for example, alignment of sentences between corpora or texts in the corpora is not possible.

22 These are the modern scientific names that probably correspond to the Middle and Early Modern English plant-names used in the texts of the corpora. The problems in the medieval vernacular plant nomenclature have been discussed in section 6.2; see also Norri 1988 and Hunt 1989a.

23 For a description of the program, see the manual on the MEMT CD-ROM (Hickey and Mäkinen 2005).

each plant-name lemma from corpus texts: the words have first been sorted and then presented as lists of all the types occuring in the corpora.

### 3.2.2 Analysis of keyword-in-context passages

The plant-name lemmas were used as search criteria for retrieving keyword-in-context passages. The passages were located using *MEMT Presenter*, and the searches were verified with *grep*, a program from GNU Core Utilities, which was developed for searching textual strings.[24] Hits in ACHE required a manual perusal of the contexts of the hits, as it is customary to refer to the headword of a herbal entry by a pronoun. I wanted to include all the references to the chosen plants in the study, therefore some of the herbal passages had to be extracted manually. Anaphoric reference to a plant-name by a pronoun does not occur in non-herbal texts in the corpora (for a discussion, see chapters 6 and 8).

The text passages retrieved were compiled into a sub-corpus that was subjected to a qualitative analysis. On the basis of close reading, the data was divided into passages that are R&RPs and other passages, which pertain exclusively to herbals. The herbal non-R&RP passages were treated separately in the analysis, and they were not used in the quantitative section.

The variables noted in the case of R&RPs were the form of the passage (a recipe/a recipe paraphrase), the informational structure (the order of purpose and ingredients), and the source (herbal/non-herbal). The following flow chart describes the procedure of the analysis from the retrieval of passages onwards:[25]

1. Is the extract an R&RP?

    **No** => finish analysis (Roughly 20 per cent of the extracts are not R&RPs; they are usually herbal specific passages, such as habitat, temperature, or *synonyma*, and they have a stable structure, i.e. there is little variation. They were studied separately from R&RPs)

24 For more information on *grep*, see http://www.gnu.org/software/grep/.

25 The flow chart is based on a chart presented in Mäkinen 2006: 200-2; I have modified it to better present the procedure of the analysis.

**Yes** => 2

2. Does it have an imperative form of *take,* or equivalent?

**No** => 3 (Only R&RPs with *take* (imperat.) (or synonymous VPs) are analysed as recipes proper (*take* also entails an object, and as they are occasionally realised by pronouns, the following question is #3).)

**Yes** => 3

3. Are any of the R&RP elements covered by a pronoun or a NP, the referent of which is not included in the R&RP?

**No** => 5

**Yes** => 4 (The referent of the pronoun must be found in order to analyse the NP and after that the original R&RP.)

4. Find the referent of the pronoun (or the NP), and then repeat 3 with the additional passage.

(This item in the flow chart is recursive: should the new, additional passage have a pronoun that covers one recipe element, then the referent of that must also be sought out.)

5. Does purpose come after ingredients?

**No** => 6 (Purpose – ingredients is the default non-herbal order for an R&RP; ingredients - purpose is the default herbal order for an R&RP. There may be recipe elements between the two, but the diagnostic feature is which comes first. This feature is further discussed in chapter 8.)

**Yes** => 6

6. Is the source text a herbal?

**No** => finish analysis (The order of elements may be indicative of the origin of an R&RP. The knowledge of the hosting genre will be one of the variables used in the quantitative analysis.)

**Yes** => finish analysis

### 3.2.3 Examples analysed

According to the flow chart, example (4) is a RP, as it does not have an

imperative form of *take*. It has an NP (*the leues* [of]) referring to an outside referent (in this case *rosemary*, the headword of the entry), and has the informational structure ingredients-purpose (the purpose is given with *a Canker*, the ailment treated). The example is from a herbal, i.e. it is a herbal RP with RP order of elements, thus almost as characteristic an extract from a herbal entry as can be:

(4) Breke the leues small to powder, & laye them on a Canker, and it shall slee it.
Macer Lynacro, p.

Examples (5) and (6) present one of the differences that is used in the analysis to distinguish between a recipe proper and a recipe paraphrase:

(5) For aman þat hath dronk venyme **Take** betoyn & stammp yt & temper yt with water & 3ef þ$^{e}$ seke to drynk fastyng. & $^{he}$ schall be hole with grace of godde
*Killeen Medical Texts*, p. 144

(6) Also for the dysease in the syde / **stampe** this herbe with Betayne & drynke it and it helpeth well.
*Bancke's Herbal*, f. H iv

The R&RP in (5) has the imperative form of *take*, indicating that it is a recipe proper. Example (6) has an imperative VP other than *take*, and is therefore a shorthand recipe or recipe paraphrase. Otherwise, the R&RPs share the recipe order of elements (purpose-ingredients).

### 3.2.4 Establishing parallels

After the initial analysis of individual passages, the sub-corpus of passages retrieved is used to establish textual parallels which form parallel clusters. This process involves close-reading of each passage retrieved by using a certain keyword lemma. As the only synonym maps used in this study are the keyword lemmas, the only way to get at the parallels is to use a

qualitative comparison of the passages.

The establishment of parallels follows the principles set in the definitions in chapter 2. On the one hand, the definitions show tolerance for variation between parallels, which is the most crucial principle in this study; on the other, the definition requires that the passages attest certain material intertextuality before they can be pronounced parallels.

Established textual parallels form a parallel cluster, which is the basic unit in the quantitative analysis. A parallel cluster may contain several passages, but also only one passage. The reason for this is the fact that as the corpora present samples of language, the existence of a passage with unique content in the corpora is not an implication that it was the only passage of its kind in the medieval medical register.

A parallel cluster is actually the field of possible variation in the presentation of certain content, at a given time in history and in the texts sampled in the corpora used. In this study, the content is plant- or herb-specific; the given time is the scope of the study, from c. 1330 to 1550. At its simplest, the content of one sentence concerning medicinal properties may be formulated as 'herb *N* is a good remedy against disease *n*'; this is a stereotypical example from a herbal entry. The non-herbal rendering of this information would be 'against disease *n*: take herb *N* ...', which is a stereotypical recipe.

The following four extracts describing the medicinal properties of *Verbena* exemplify a parallel cluster that has three passages from herbals and one from non-herbals:

(7) Also hyt wyll make gode brethe and do a-wey þe stynkynnes off þe mowthe.
*Vertues*, p. 91; RP, RP ACHE

(8) who that vseth it, it wyll make good breth, and do awaye the stynke of the mouth.
*Macer Lynacro*, f. U i; RP, RP ACHE

(9) Also who that vseth it / it wyll make a good brethe and dothe

awaye stynke of the mouthe.

*Bancke's Herbal*, f. I ii; RP, RP ACHE

(10) For the stenche in the mouth. Cap. xvi.

Take the Iuse of Veruayne, and brose it & put it in thy mouth & holde it a good whyle close in the mouthe, and it wyll take away the stenche.

Moulton, *Myrour of helth*, f. E iii; R, R EMEMT

The three herbal extracts (7-10) are almost verbatim copies of each other. Their following characteristics are relevant for my analysis: The extracts contain medical information, i.e. they are R&RPs. There is no imperative VP present, which makes them RPs. A NP (*hyt/it*) is used instead of the name of the plant as the headword of a herbal entry, which is the ingredient in the RPs. Information on the ingredient is given before the information on purpose (*it wyll make a good brethe and dothe awaye stynke of the mouthe*). The passages thus have the default informational structure of a recipe paraphrase, which is also the default informational structure of herbals.

Extract (10) represents a non-herbal text (a regimen of health, to be exact). The passage is a recipe, with *take* in the imperative mood. The purpose is clearly stated before the ingredient; therefore this extract is a non-herbal recipe with the default informational structure of a recipe.

The information derived from each parallel cluster is entered into a table. Table 1 presents the information from extracts 7-10:

**Table 1: Information derived from a parallel cluster (extratcts 7-10)**

| | ***R order herbal*** | ***R order non-herbal*** | ***RP order herbal*** | ***RP order non-herbal*** |
|---|---|---|---|---|
| **R** | 0 | 1 | 0 | 0 |
| **RP** | 0 | 0 | 3 | 0 |
| **total** | 0 | 1 | 3 | 0 |

In the table, the rows are used for information on the form of the passages (recipe/recipe paraphrase), and the columns combine the information on

the sources (herbal/non-herbal) and element order (recipe (R) order/RP order). The numbers will be used for calculating the values of variables in the quantitative analysis.

## 3.3 Quantitative analysis

I have chosen multi-dimensional scaling (henceforth MDS) as my quantitative approach to the data. The inspiration to use MDS was partly given by Biber's multi-dimensional (MD) approach (1988).[26]

As regards the multi-dimensional approach and this study, I have visualised my material in several dimensions, as that is how I see texts in the textual space, either as genre systems or co-occurrence patterns of language-external and -internal features. My material does not lend itself to multi-dimensional factor analysis: the features that I am interested in vary from the syntactic level to macro-structure level, and it is essential to consider the effect of the immediate context of the parallels.

MDS is a way to present and highlight the dissimilarities in the data in a graphic format. The idea is that in the visual presentation of the data, one point in a plot represents one point in the raw data, and the distances between the points in a plot correspond to the dissimilarities observed in the raw data. The dimensions are usually reduced to the minimum, but the opposite can be done in order to clarify the picture (see Cox and Cox 2001). The reasons for choosing MDS are, firstly, that I can choose the features that will be presented; and secondly, that I can also define the number of dimensions needed for the best presentation of the data. Accordingly, I can highlight certain phenomena by choosing the optimal space for the features. Bearing in mind the prototypicality of genres and the metaphors employed to explicate the concepts in this study, I will apply the metaphor of textual space in the quantitative analysis as well, and therefore also three-dimensional (3D) plots for the visual presentation of

26 The strength of the MD approach is that the definition of significant features and dimensions is data-driven, i.e. the influence of the researcher on the system is minimised, at least in theory. Biber's method has since been re-evaluated, and the 1988 study was recently replicated by David Y.W. Lee, reported in *Modelling Variation in Spoken and Written English: the Multi-Dimensional Approach Revisited* (forthcoming 2006; cf. David Lee's website at http://clix.to/davidlee for the synopsis of the study). The main point of critique is directed at the definition of the language the corpora used represent.

the data. The 3D plots created by this method are not too far removed from tables with three columns (in fact, the computing environment used to draw the plots takes .csv documents with three columns of values as its input, as will be seen later), but in the plot format the whole picture is easier to grasp. In essence, I am trying to create a visual rendering of the textual space of the medical register, derived from the information available in texts.

### 3.3.1 Quantification of nominal variables

Table 1 in section 3.2.3 (repeated in this section) defines three kinds of continua: the herbal – non-herbal continuum (*Sources* continuum), the recipe – recipe paraphrase continuum (*R or RP* continuum), and the recipe order – recipe paraphrase order continuum (*Element order* continuum). Each parallel cluster will be studied with respect to these three continua; this is how the R&RP clusters are situated in the textual space of medieval medicine.

**Table 1: Information derived from a parallel cluster (extratcts 7-10)**

| | ***R order herbal*** | ***R order non-herbal*** | ***RP order herbal*** | ***RP order non-herbal*** |
|---|---|---|---|---|
| **R** | 0 | 1 | 0 | 0 |
| **RP** | 0 | 0 | 3 | 0 |
| **total** | 0 | 1 | 3 | 0 |

The raw data require simple calculations which render the nominal variables as values between 1 and -1, which are the significant *termini* of each continua. This is necessary in order to make the different sets of parallels comparable with each other. For example, *R or RP* continuum value is calculated by subtracting the number of recipes in a parallel cluster from the number of recipe paraphrases in the cluster. The value calculated is divided by the total number of R&RPs in the cluster; the formula used is thus:

$$x = \frac{RPs - Rs}{RPs + Rs}$$

The resultant value is indicative of the prevailing form of presentation of the information in the parallels: if recipe paraphrase is the preferred form, the value is positive; a negative value indicates the preference for the recipe form in the presentation.

The information in table 1, when inserted in the formula, gives a result of 0.5. The continua values range from -1 to 1. This means that the ranges between -1 and 0 and between 0 and 1 each correspond to 50 per cent of the possible values. Therefore, in the example at hand, the value 0.5 indicates that 75 per cent of the parallels in this cluster are RPs. The reason I am not presenting the results as percentages is that the continuum values allow me to enter the data into an MDS plot, which will be helpful for grasping the full picture of the variation in parallel clusters at one glance.

In calculating the value for *Element order*, the number of parallels with the default recipe order of elements is subtracted from the number of parallels with the default recipe paraphrase order of elements. The resultant value is divided by the total number of parallels in the cluster:

$$x = \frac{RP\ order\ parallels - R\ order\ parallels}{RPs + Rs}$$

If the value calculated is positive, the preferred order of recipe elements in a cluster is the order used in herbals by default; if negative, the preferred order is the order used in non-herbals by default. In the example under discussion, this value is also 0.5.

*Sources* provides us with knowledge of the distribution of particular kinds of herb-related information in the medical register. When this co-ordinate value changes, the other values should change in proportion as well: the assumption is that herbal parallels will carry more herbal features (RP form and order) and non-herbal parallels will be characterised by non-herbal features (R form and order of elements). Therefore, the expected pattern of points in a plot would be a pattern along a diagonal line drawn between points -1, -1, -1 and 1, 1, 1. Any deviations from the assumed

norm will be of particular interest, and will be explained in the qualitative analysis of the passages.

The value for the *Sources* continuum is calculated as follows: the number of non-herbal parallels is subtracted from the number of herbal parallels, and the resultant value is divided by the total number of R&RPs in the parallel cluster. The formula is:

$$x = \frac{herbal\ parallels - non-herbal\ parallels}{RPs + Rs}$$

The value for the *Sources* continuum in the parallel cluster in Table 1 is 0.5. The three continua thus give the co-ordinates for data to be placed in 3D scatterplots.

### 3.3.2 Visualisation of data with *R* [27]

"*R* is a system for statistical computation and graphics", as the introduction states on the *R* project site (Hornik 2006). The developers of *R* emphasise that it is not a program or application, but an environment in which applications written for *R* are used in order to draw graphics based on data.[28] The forte of *R* is that it works in Unix, Windows and Macintosh operating systems, and that it can be made into a tool for almost any computational task through the use of add-ons. The add-ons can be produced by anyone, as *R* is an Open Source environment.

### 3.3.3 3D scatterplots

The 3D scatterplots used to visualise the data have been created using *R*. The add-on required for the task is called *scatterplot3d*, and it is activated after launching the *R* environment. The add-on uses .csv documents (comma separated values), where each line has one or more alpha-numeric

27 In order to avoid confusion between *R*, the computational environment, and R, the shortened form of recipe', I have decided to italicise the name of the computational environment. Thus all the italics, as regards *R*, are mine.

28 *R* was initially written by Robert Gentleman and Ross Ihaka of the Statistics Department of the University of Auckland. As it is an Open Source project, it has later been developed by programmers from universities from all over the world.

strings separated by commas, and each line has equal number of strings or fields for strings (an empty field is acceptable). A .csv document may be a plain ASCII text file with the correct extension, thus a file containing the information

```
Sources,RP or R,Element order
-1,0,-1
1,1,1
1,-0.33,-0.33
0,-1,-0.25
```

corresponds to a table with the same information:

**Table 2: Data table for *R***

| Sources | RP or R | Element order |
|---|---|---|
| -1 | 0 | -1 |
| 1 | 1 | 1 |
| 1 | -0.33 | -0.33 |
| 0 | -1 | -0.25 |

The axes that define the space represent the continua that are based on the variables of the data. I have chosen them to illustrate the phenomena that unite and differentiate herbals and non-herbals with respect to the research questions.

The continua *Sources* and *R or RP* are represented by x and y axis respectively, and they define the plane which can be perceived as the "floor" of the plot. The third axis, z, is the vertical axis in the plot, and it represents the *Element order* continuum.

### 3.3.4 Scatterplots: an example

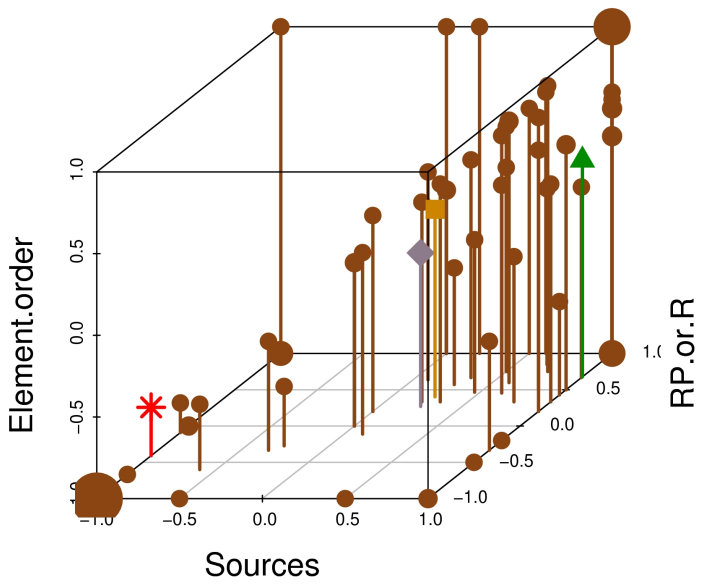



*Figure 1: Parallel clusters in 3D scatterplot*

The quantified variables give the values for the prototypicality (one could say "herbalness") of a cluster, and these values are used to draw scatterplots, such as can be seen in Figure 1. The closer each continuum value is to 1, the more prototypical of herbals are the parallels in the cluster. If the *Sources* value is exactly 1, it means that there are no occurrences of the information contents in non-herbals; if the *Element order* value is exactly 1, all the instances have the RP order of elements; if the *R or RP* value is exactly 1, all the instances are RPs, with no exceptions. Values close to 0 signal an equal preference for herbal and non-herbal strategies in the presentation of the information contents, or that the information contents can be found in roughly the same number of parallels in both herbals and non-herbals. Finally, values tending towards -1 indicate a strong preference for the non-herbal strategies of presenting the information in relevant R&RPs, or in the case of the *Sources* continuum value -1 that there are no instances of this information content in herbals.

The three co-ordinates $x$, $y$, and $z$ plotted in a 3D grid for several clusters produce a plot with a scattered cloud of points. It is important to

realise that there is only one single point depicting each cluster and its position with respect to the three continua.[29] The intertextual aspect of the sharing of the content (and at times also structure) is tangible in this presentation of data: each point represents different content from any other point; yet the clustering of points reveals affinity between passages that carry the information.

The points of the scatterplots have been extended into bars that project the points to the 2D base of the plot (to the *x* and *y* co-ordinates), in order to facilitate the perception of depth in the plot. The tops of bars indicate the place of a cluster in the space, and the length of a bar is the same as the co-ordinate value on the z axis (*Element order* continuum).

### 3.3.5 Qualitative analysis revisited

After the quantitative analysis and the visualisation of data, the observations made on the basis of the scatterplots and quantified data must be verified by a qualitative study of the parallel clusters. Quantitative data alone cannot be used as a basis for explanations; quantitative analysis serves as an indicator of interesting and salient features, and it may indicate correlations between phenomena, but it is qualitative analysis that can reveal the reasons for the phenomena studied, be they then text-internal or -external.

## 3.4 Appraisal of the method

In a genre model based on prototype theory, each text can be studied as a representative sample of the genre. Some texts are more prototypical than others, but the distance from the genre core is not the issue: as each text is added to an analysis of a genre, the genre core is re-defined and its position in the textual space shifts slightly. This is what happens in the reception of texts: each text we read shapes our knowledge and perception of genres, and the resolution of our personal genre system becomes finer.

The method described in this chapter treats the period studied as one chunk, because the visualisation of text reception and perception in

29 This does not imply that overlap of data points in scatterplots would not be possible; see chapter 9 for examples of this.

the textual space is the main criterion. The apparatus is labour-intensive to use, partly because so much human interaction is required in the analysis. However, the potential for resolution and the possibility of locating each parallel cluster individually in the textual space offers new opportunities for measuring intertextuality in general. MDS is not the only possible solution for processing the quantified data; there are other methods of measuring intertextuality through calculus. For this study, MDS and the visualisation of data are a good solution, as the variables chosen are not comparable with each other as such.

# 4. History of Western herbals

## 4.0 Abstract

The history of herbal texts provides a background to the instances of intertextuality that can be observed in the surviving medieval texts. Herbals as a genre have always been subservient to other medicine, beginning as early as 2500 years ago in Greece: after all, herbals exclusively describe medicinal plants, therefore the applicability of such texts is limited. The history of herbals and the transmission of the knowledge they contain follows the same path as other medical texts took in their progress from Ancient Greece to the rest of Europe. This chapter outlines that progress, and goes on to describe the situation in medieval England during the translation processes later known as vernacularisation.

## 4.1 Intertextuality hypothesis based on herbal transmission

The observation on the scarcity of original sources for herbals in the Middle Ages was one of the key factors in the formulation of my research question. Although the later textual field of the medieval medical register is broadened by translations and compilations, it is still the same material provided by the ancient authorities that is re-circulated in new combinations, and the result is texts which are closely related to each other.

## 4.2 Greek and Latin herbals

The written history of Western herbals begins in the Ancient Greece. The *Corpus Hippocraticum*,[30] one of the earliest collections of medical writings, also contains early plant lore, and c. four hundred plant-names are mentioned there (Singer 1927: 2; Brodin 1950: 16). The earliest known text

30 There are 52 surviving works in the *Corpus Hippocraticum*, which dates to the fifth and fourth centuries BC. None of the texts has been proven to be Hippocrates' own composition; none of them has been proven not to be his. The works were most likely written by Hippocrates' school, and that may or may not include Hippocrates himself (Clagett 1955: 39).

with the sole function of a herbal was written by Diocles of Carystos in the fourth century BC. The text of the herbal has not been preserved, but traces of it may be detected in Aristotle's biological texts and Theophrastos' botanical texts *Enquiry into Plants* and *Causes of Plants* (Singer 1927: 2).

Theophrastos[31] (373 or 370-285 BC) was the first person to write on plant taxonomies and he has been called the father of systematic botany, i.e. his interest in plants was not only medical (Morton 1981: 27-37). However, another 1800 years would pass before the systematic, taxonomical study of plants was revived by the work of Andrea Cesalpino (1519-1603) (Morton 1981: 127-41). Until then, the herbal tradition mainly involved the copying and citation the great authors, such as Dioscorides, Pliny, and Galen. All of these drew on Theophrastos' material, although their emphasis was not on the botanical knowledge of plants, but on their medicinal use.

The most important extant Latin texts that contain herbal sections are Pliny the Elder's *Historia naturalis* and Cato the Censor's *De re rustica.* These two texts have no original material to present, and they draw on Greek predecessors, especially on Theophrastos' work (Pliny also draws on Krateuas' herbal,[32] and Sextius Niger's lost herbal (first century BC)) (Singer 1927: 33-4; Arber 1986: 7). *Historia naturalis* is an encyclopaedic text covering a variety of topics within natural philosophy, and *De re rustica* is an instructional text about farming.

The development of herbal pharmacology in Antiquity culminated in Dioscorides' *De materia medica.* According to Galen, no book on medicine was as complete as *De materia medica* (Sadek 1983: 3; Siraisi 1990: 3). Dioscorides' work was completed by c. 60 AD, and it became one of the most influential texts in medicine in the Middle Ages. The text includes over 600 plants with descriptions of their uses, 35 animal-based subjects, and 90 minerals. Dioscorides' sources are Krateuas and Sextius Niger, and

31 The earliest surviving herbal fragments are from Theophrastos' texts (Singer 1927: 3).

32 Krateuas (132-63 BC) was the first botanist known to have used illustrations in his botanical texts. This is known through Pliny's work (Singer 1927: 5; Sadek 1983: 2).

Pamphilos' *Synonyma*, an alphabetical list of plant-names in various languages (composed in the first century AD) (Singer 1927: 21-4; Collins 2000: 31). The sources are partly the same as those used by Pliny, and indeed, Pliny and Dioscorides have both borrowed 106 almost identical passages from Sextius Niger (Arber 1986: xxv-vi). The two contemporary herbalists never refer to each other, though (Collins 2000: 32). *De materia medica* remained the standard of Western herbalism and pharmacology until the beginning of Renaissance.

Galen (129-199 AD) is best known for his role as the conciliator of medical schools, which was his original contribution to medicine. He also wrote on herbs, and his main source is said to be Dioscorides, but he also used texts attributed to Aristotle and Hippocrates. His herbal is known as *De simplicibus*, written in the second century AD, and it later served as a source for Matthaeus Platearius' *Circa instans* (Morton 1981: 67-72). It was to be the last influential Classical herbal text.

### 4.2.1 Greek herbals preserved in Arabic

Greek was widely understood in the Mediterranean region in the late Classical era. The decline of the Western Roman empire marked the beginning of deterioration of the cultural bonds between Greece and Western Europe, and thus a need for translations of Greek medicine into Latin arose. Greek texts were transmitted into the West through two routes: the earlier and primary one was through Italy and its medical centres, especially Salerno (Talbot 1967: 44). The other channel was slightly more complex: the Arabic written culture developed rapidly after the death of Mohammed the Prophet, and Arabic scientists and translators such as Rhazes, Haly Abbas and Avicenna, to mention just a few, made good use of Greek medicine. The interest in Classical medicine and science in general within the Muslim learned world led to the preservation of many texts that would otherwise have been lost. The Arabic works spread to the West along the Northern coast of Africa, and at a later stage translations from Arabic into Latin were made from manuscripts written in Spain; Salerno was also an important centre for translations from Arabic into Latin. The influence of the translation activity from Arabic into Latin on

Western medicine was apparent from the tenth to eleventh centuries onwards (Talbot 1967: 36).[33]

The first translation of Dioscorides' *De materia medica* into Arabic was made between 847 and 861 AD (around the same time as the first translation from Greek into Latin was made). The translators were Stephanos and Hunayn ibn Ishaq. The Arabic Dioscorides contained seven books, althought the Greek original only had five: the Arabic authors did not leave the import of medical material at mere translating and copying, but furthered the science, and Western medicine also profited from this (Fahd 1996: 817-9). The translation of the first four books is credited to Stephanos, and the latter three to Hunayn; Hunayn also revised the whole translation later (Sadek 1983: 7-12). Dioscorides was used by Ibn Sina in his *al-Qanun*, especially for the second book which deals with simple medicines. The herbal entries in the book are in alphabetical order, thus differing from the original and Arabic translations of Dioscorides (Sadek 1983: 48).

Theophrastos' *Causes of plants* and Nicholas of Damascenus' *De plantis*[34] were translated into Arabic at the same time as the first Arabic translation of Dioscorides was made (Fahd: 1996: 817). Between the ninth and eleventh centuries, Rhazes composed *al-Mansuri* and Ibn Sina *al-Qanun*. The former drew directly on Galen; the latter used Galen and the Arabic Dioscorides as sources, and was also influenced by the Arabic *De plantis* and Theophrastos' *Causes of plants*. Rhazes was the main source for the later Haly Abbas, whose works with Rhazes became the sources of the Latinate Galen, *Tegni*, and *Liber Pantegni* (translations attributed to Constantine the African). *Liber simplici medicina* (a.k.a. *Circa instans*), translated in Salerno, is also derived from one of Galen's works. Those of Dioscorides' works that arrived in the West in the works of Ibn Sina were translated into Latin in Spain in the twelfth century by Gerard of Cremona.

33 The credit for the influx of fresh texts from Northern Africa to Italy has been awarded to Constantine the African, who allegedly brought with him several Arabic medical texts as he moved from Africa to Italy. Unseen Arabic versions of the Classical texts increased the literary activity in Salerno, near Monte Cassino in Southern Italy, which was already a blooming medical centre upon Constantine's arrival.

34 Damascenus' *De plantis* is one of the texts whose Greek original has not survived.

*Al-Qanun* became *Canon medicinae*, and the Rhazes version translated by Gerard became *Liber almansoris*.

## 4.3 Herbal transmission in the Middle Ages

Figure 2,[35] below, illustrates the transmission of texts from the Greek originals to Arabic, Latin, and eventually to English manuscripts. The most important observation is that the Classical herbal knowledge that was accessible in the Middle Ages in the West was transmitted through only two channels, that is Dioscorides and Pliny. The effect of Nicholas Damascenus' *De plantis* was felt only from the twelfth century onwards, when the text was re-received through Arabic translations.

The late medieval Latin works in Figure 2 were all translated into English (save Rufinus' herbal), and therefore the setting for the intertextuality observed within Middle English herbals is more or less already present in the Latin tradition. Dioscorides was not translated into English from Greek before the seventeenth century, therefore all the Middle English texts reflect the tradition carried over from the Latin translations.

I have earlier argued that Old English herbals probably did not affect the composition and translation of herbals into Middle English (Mäkinen 2004: 152), and there is little evidence to believe otherwise. The intertextuality detected between OE and ME herbals is more likely due to re-translation of the same source texts into ME.

35 A schematic version of Figure 2 has been presented in Mäkinen 2004: 150. This revised version is based on Singer 1927, Thorndike 1946, Brodin 1950, Flood 1975, Morton 1981, de Vriend 1984, Arber 1986, Hunt 1989a and 1990, Seymour et al. 1992, Cameron 1993, Burnett and Jacquart 1994, Collins 2000, and Pollington 2001.

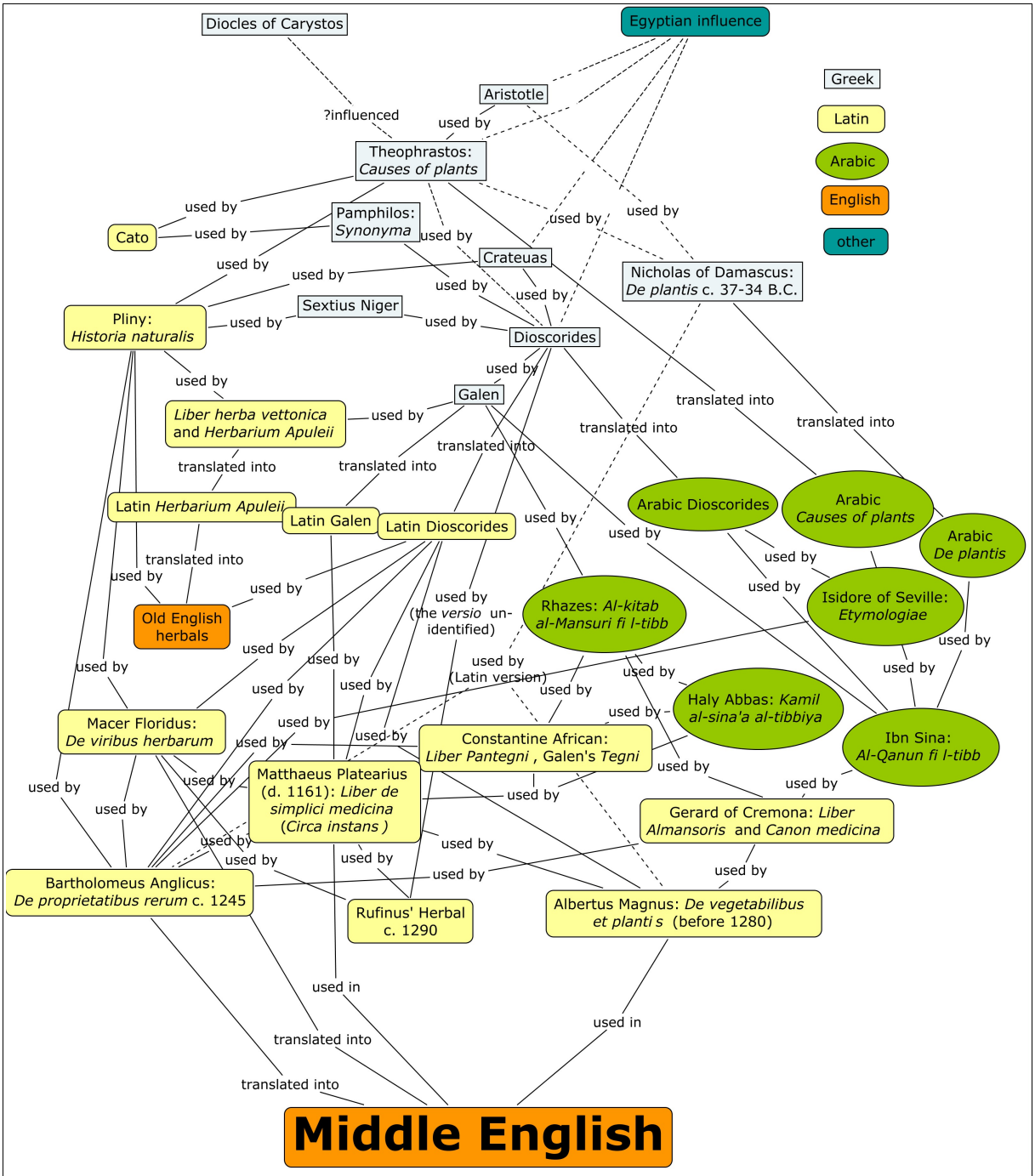



*Figure 2: Herbal transmission in the Middle Ages*

The circulation of medieval herbal material continued well into the Early Modern period. In England,[36] new, original works on herbs were first

36 In central Europe, a herbal containing new material was published as early as in 1530; however, the new material was not text, but illustrations. Hans Weiditz engraved the plates used to illustrate Otto Brunfels' *Herbarum vivae eicones* (published

published in 1538, in Latin: William Turner's *Libellus de re herbaria novus* disputed a lot of the medieval plant nomenclature, and he included first person observations on the plants in the text (Turner 1999: 8-10). In English, the first original piece on herbs was Turner's *The Names of Herbes* (based on *Libellus*), published in 1548.[37]

## 4.4 Herbals as part of medieval medicine

The genre of herbals was, obviously, an ancillary genre to other medical genres. If the register of medical writing is considered as a group of genres that arose with the need for therapy, and for the need to jot down the notes to effective and good therapy, it seems natural to think that plant lore would have first appeared in written form in recipes, and only after that in herbals. This is confirmed by *Corpus Hippocraticum*, which does include attestations of herbal lore, but not texts that could be considered herbals (Singer 1927: 2).

### 4.4.1 Vernacularisation of medicine

The need for English herbals became immediate after the translation of other medical texts into English. In sciences, the process that has been called vernacularisation, took first place in medicine which then opened the way for other non-literary registers and genres (Taavitsainen 2001b: 189).

Latin remained the dominant language of the medical register until the fourteenth century. The beginning of the third quarter of the century witnessed a clear rise in practical treatises translated into English. Translation into the *lingua franca* in England was not a new phenomenon, but the distinct rise in the activity can be observed through the extant manuscripts of the era. The vernacularisation process affected every field of writing. Among the genres covered, medical texts seem to be most prominent when measured in numbers (Getz 1990: 3).

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by Schott of Strasburg in 1530). The text was derived from Italian authors and ultimately from Dioscorides (Arber 1986: 52-5).

37 McConchie has considered the textual and typographical novelties that Turner's publication introduced (forthcoming).

### 4.4.2 Motives for translating

The motives for the vernacularisation of medical texts in particular were at least partly charitable in England, to benefit the poor and unlearned, as has been suggested by Getz (1990: 8-9). Also the wish for furthering of education and instruction in the vernacular has been attested to in the surviving medical manuscripts (Pahta 1998: 66).[38] In the Tudor period, the introductions in medical treatises used motivations based on charity for justifying translation into the vernacular, but the real users and owners of the texts seem to have been members of higher ranks and medical practitioners (Slack 1979: 237-8, 257-8).[39] There is evidence of various motives for translating in the surviving texts, Jasin, for example, points out that Henry Daniel's careful translation of terms in the vernacular *Liber Uricrisiarum* in Wellcome MS 225 shows an attempt to really serve the common people with the English text (1993a: 314).

Translation in itself was an activity that was though highly of in the Middle Ages; nevertheless, it required justification (Taavitsainen and Pahta 1997a: 213). The opposition to the translation of Latin texts into the vernacular was partly due to the canonical properties of the texts in question, but also partly to the fear of misuse of texts. The fear of quacks misusing the medical texts in the vernacular was eventually soothed by the benefits of translated texts (Getz 1990: 1-2).

There were also other reasons for the rise of the vernacular: not only were English texts needed, but the translation of Latin texts was actually actively propagated. The process did not just arise by itself, but it was partly consciously initiated (Jasin 1993b: 509). The motives of the upper classes (which were the classes that had the resources and the original texts needed for the translation of Latin texts) must have been various and mixed, and were certainly affected by the French speaking

38 The translations of medical texts may have been either initiated by the author, or they may have been commissioned by customers or friends of translators (Pahta 1998: 66). E.g., Henry Daniel states in his proem to the English translation of *Liber uricrisiarum*, that his friend had constantly asked him to translate the text (BL Royal 17.D.1, f. 4r).

39 Nevertheless, the attested ownership does not rule out the possibility of these texts benefitting the poor.

monarchy and the suppression of the English language during the thirteenth and fourteenth centuries (Blake 1996: 135-6). The vernacularisation process was therefore also part of the nationalistic process which also involved the creation of the literary language, and later the standardisation processes of the language (Evans *et al.* 1999: 322; Watson 1999: 331-5 Taavitsainen 2000: 132; Taavitsainen 2001b: 190). Furthermore, it was an idea the time of which had come: the process was almost simultaneous in several European languages. Copies of medieval translations of medical texts are found in French, German, Castilian, Gaelic and Hebrew, at the very least (Pahta and Taavitsainen 2004: 9-10).

### 4.4.3 The linguistic situation in the late medieval English medical register

The medical register had thus become trilingual by the third quarter of the fourteenth century, English playing an equal part alongside Latin and Anglo-Norman or French (Voigts 1996: 816). The rise of the national vernacular into the rank of the languages of learning and science did not change the situation greatly before the end of the fifteenth century: it has been estimated that roughly 50 per cent of scientific manuscripts were bi- or trilingual between 1375 and 1500 (Voigts 1996: 814, 819), i.e. the late medieval medical register still also maintained the Latin and French traditions alongside with the English. The adjacency of the different languages in the late medieval medicine in England also takes place within texts, i.e. it is not uncommon to come across a polyglot medical text where the switch from one language to another may happen within a paragraph or even mid-sentence (see Pahta 2004a, 2004b).

Latin influence in general is very prominent in medieval scientific manuscripts: when studying a Middle English treatise one has to acknowledge that one is also studying the Latinate scientific tradition preceding the manuscript at hand (Voigts 1984: 315-16).[40] A given feature

40 The dominion of Latin over the sciences did not end before the rise of Empiricism in the sixteenth and seventeenth centuries, when in medicine, for example, first-hand observations were no longer embedded in Latin philosophical theory, but could be reported in the mother tongue (Taavitsainen 2001b 191-2; French 2003: 204). Of course, this required sufficient development of the scientific registers in

in a medieval English text will have a long history in the Latin tradition, and therefore the probability of chronological development that took place in the pre-vernacular era is high (Taavitsainen 2004: 37). There is also evidence that developments that were begun in the Latin tradition of medical writing were continued in vernacular writing, but not necessarily in the same direction: the history of medical compilation and commentary appears slightly different in the Latin and English registers (Taavitsainen 2006).

The choice of language seems not to have been regulated by the intended audience: Latin medical texts contain charms and prayers, genres that have traditionally been considered as unlearned, and in English manuscripts copies of learned texts belonging to university syllabi are attested (Getz 1998: 36). Similar tendencies can be seen in herbals: Trevisa's translation of the encyclopaedia *De proprietatibus rerum* includes a book on herbs, which was later copied alone and used as a regular herbal. Macer Floridus' *De viribus herbarum* was a set text of the university syllabus in Paris, and that text was also translated into English.

## 4.5 Intertextuality shaped by many factors

Middle English herbals are the product of a multi-lingual development in Europe that culminated in the translation of scientific and other texts into European vernaculars. The virtual loss of medical texts in Greek in the early Middle Ages, and their preservation only in Arabic led to a situation in which the availability of sources was limited. This combined with the reverence for Classical *auctores* (see section 2.2.2) meant that in the genre of herbals (and other medical writing as well) the same material was re-circulated from manuscript to manuscript, and that original herbal compositions were rare. The resulting textual space of the medical register became a maze of intertextual links.

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English: for example, the vocabulary of the medical register had progressed steadily from the fourteenth century onwards (Norri 2004: 108-10, 137-8).

# 5. Description of the material used

## 5.0 Abstract

In order to detect patterns of intertextuality in herbals and other medieval medical writing, a large repository of texts was required. The primary material for this study consists of three historical corpora: *A Corpus of Herbals in English* (ACHE), and the corpora of *Middle English Medical Texts* (MEMT) and *Early Modern English Medical Texts* (EMEMT). In this chapter, I will give a detailed description of ACHE and its compilation, as this is the corpus that I designed for this study. The other two corpora will receive slightly less attention, as they have been described elsewhere.

This chapter will also introduce two secondary sources that are indispensable for the philological study of science and medicine in Middle English: Voigts and Kurtz' *Scientific and Medical Writings in Old and Middle English: An Electronic Reference* (2001, henceforth eVK), and George Keiser's *Works of Science and Education: A Manual of the Writings in Middle English, 1050-1500* (1998, referred to as Keiser 1998). These are reference works that are indispensable for the study of medieval medicine. They were both consulted in the process of compiling ACHE.

The chapter concludes with two surveys, one of adjacent genres, and another based on the keywords used for automated searches of the corpora. These both serve to present a preliminary view of the interconnectedness of medieval medical genres and traditions. The former survey (based on eVK) considers the genre distribution of incipits in manuscripts that contain a copy of the texts in ACHE. The latter describes the distribution of plant-names across the genres represented in the three corpora.

## 5.1 Corpora

### 5.1.1 *A Corpus of Herbals in English*

The corpus I designed for this study, *A Corpus of Herbals in English,*

contains 19 texts of 500 to 33,000 words, making up a text collection of 184,018 words. The texts chosen were, naturally, herbalistic treatises on either one or several plants. The date range is from 1330-40 to 1550: the traditional border between Middle English and Early Modern English was transgressed, as in the first half of the sixteenth century publishers of herbals still used the medieval texts (Arber 1986: 43-49; see also Norri 1992). The texts are mostly in English, save in *synonyma* texts, where English is accompanied by French and Latin.

Compilation of a corpus entails preparing texts so that they will be in electronic format, computer-readable and usually modified so that one can process the texts with corpus software. In order to compile ACHE, I have scanned editions of individual texts into .txt files, and proof-read each file against the original edition. In the case of an early printed book, such as *Bancke's Herbal*, I have keyed in the text that I have wanted to include in the corpus. The file format that is used with *MEMT Presenter* is .rtf, and for *grep* I have prepared files in ASCII format.

For practical reasons, I have used previously edited texts only;[41] Daniel, *Rosemary* is based on my own edition (Mäkinen 2002a). Short texts have been included in full as they are presented in respective editions, but for longer texts I have made selections to cover the herbal entries that are shared by most herbals in the corpus. This means that some texts are represented *in toto*, and some in extracts. The following section contains descriptions of the texts in ACHE; for full bibliographical information, cf. *Appendix I: ACHE bibliography*.

The representativeness of corpora is always an issue. As the inclusion of all the text of a text type, a register, or a language is virtually an impossibility,[42] the areas represented must be sampled in such a way that the picture given by a corpus is as accurate as possible (Biber *et al.* 1998:

41 When medieval medical texts are studied through text collections one must remember that one is dealing with several layers of textual reality: at the bottom there is the pre-vernacular, Latin layer; then comes the extant manuscript reality; and only after that the edited reality that researchers interact with (Taavitsainen 2004: 37).

42 This is, of course, a matter of definition: compiling e.g. a corpus of all the *surviving* specimens of the language of Cicero and Caesar should be feasible.

251-3). The problem with the earlier phases of any language is the accessiblity of data. Preparing an edition of a manuscript text usually entails years of work; fortunately, the medical register in Middle English attracted researchers from early on, and there are editions of texts available. Published editions of medieval herbals were practically the only feasible way for me to compile a corpus. Therefore, the compilation of ACHE was partly dictated by earlier researchers and their interest in the history of medical language or botany. I have included every edition of medieval herbals that I know of, save some very fragmentary plant-name lists.[43] The editorial practices vary, but that is natural, especially when the time span between the earliest and latest editions is more than 150 years. As regards early printed books, the material was more abundant there, but many of the pre-1550 herbals were copies of the one and same text, mainly based on *Agnus castus*, a popular medieval herbal. ACHE is therefore a representative sample of the accessible material, although I do acknowledge that there are unedited herbalistic traditions that my corpus does not cover.

### 5.1.2 Information provided with ACHE texts

The set information given with each corpus text is the text name, the date the manuscript used for the edition was produced (from eVK and Keiser 1998), and the word count of the text extract. In addition to these, I have also given the name of the author and/or translator, if known, and the *Short Title Catalogue* (STC) number for printed texts. The extant manuscript copies have been listed in footnotes; the manuscript that the edition is based on has been set in bold type (this information is from Keiser 1998).[44]

## Prose

### *De proprietatibus rerum*

43 I am aware of recent unpublished editions of medieval herbals (*Lelamour's Macer* (MS Sloane 5) by Moreno Olalla and *Circa instans* by Garrido-Anes), but I was already past compiling ACHE when I first learned of them.

44 The information on the extant manuscripts is relevant as it gives perspective to the scope of the corpus and the remaining manuscript reality, showing how many copies there are per text, and how many of those are actually sampled in editions.

John Trevisa's translation of Bartolomaeus Anglicus' *De proprietatibus rerum* (*On the Properties of Things*) (1398; 19,320 words) is an encyclopaedia of medieval knowledge related to nature and theology, written for students of theology. The text relies on and upholds the order of the world as presented in the Bible. The herbal section is the seventeenth book of the work, and is organised alphabetically. As the text of the herbal section is based on plants mentioned in the Bible, there are also entries of non-medicinal plants, a rare phenomenon in herbals (Keiser 1998: 3600; Seymour and Colleagues 1992: 11-2, 183).[45] The parts of this encyclopaedia that gained a small circulation of their own are books 7 (on ailments and poisons), 16 (on stones and metals) and 17 (on herbs and plants),[46] and shorter extracts on various remedies and the zodiac (eVK; Seymour et al 1975: xi, 7-24).

### Daniel: *Rosemary*

Henry Daniel's *Rosemary* (c. 1425; 1,813 words) is a translation of a Latin original. It is a short treatise on one plant only, intended primarily for practical medicine and home medication. *Rosemary* was written in Latin for the Countesse of Hainault, and when she sent a copy of the text to her daughter, Queen Philippa of England, the text was eventually translated into English (after 1372) (Mäkinen 2002a: 305; Keiser 2005: 8). The text became very popular and was circulated widely, and even printed in the sixteenth century. It is extant in at least 19 MSS.[47]

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45 *De proprietatibus rerum* in its entirety is extant in MSS **BL Addit. 27944**; BL Harley 614; BL Harley 4789; Bristol City MS 9; Cambrige Univ. Library Ii.v.41; Bodl. e Musaeo 16; Columbia Univ. Library MS Plimpton 263; Pierpont Morgan Library M 875.

46 BL Sloane 983, ff. 95-103.

47 Bodl. Digby 75, ff. 51r-v; Bodl. Digby 95, f. 81r-83r; Bodl. Ashmole 1438, Part 2, pp. 107-9; Bodl. Ashmole 1477, Part 3, ff. 5v-6r; Pepys 1661, pp. 286-8; Cambridge Trinity Coll. R.7.23, pp. 248-55; Cambridge Trinity Coll. O.1.13, ff. 77v-82v; BL Royal 17.a.3, ff. 13r-7r; BL Sloane 7, ff. 40r-41r; BL Sloane 962, ff. 79r-82v; BL Sloane 2403, ff. 1r-3r; BL Sloane 3215, ff. 17v-30v; BL Sloane 3217, ff. 164r-71r; BL Addit. 27329, ff. 16r-8r; BL Addit. 29301, ff. 94r-5v; York Minster 16.E.32, ff. 120r-121r; **Stockholm Royal Library X.90, pp. 80-6**; Morgan Bühler 21, ff. 50r-2r; National Library of Wales Addit. 572D, ff. 9r-v, 8r-v (in this order) (Keiser 1998: 3824).

### Macer, *De viribus herbarum*

Macer Floridus' *De viribus herbarum* (c. 1400; 33,455 words), a prose translation of a twelfth-century Latin poem, is an example of general Middle English translated works on herbs. *De viribus herbarum* gives a good overview of the most important herbs in the Middle Ages, and also of the ailments and diseases of the era: it probably served as a practical reference book for a wealthy household. The text can be found in 15 manuscripts.[48]

### *Seven herbs, seven planets*

*Seven herbs, seven planets* (c. 1450-1500; 3,566 words) discusses the seven herbs which are most influenced by the seven planets: marigold, leek, horehound, saxifrage, peony, savory and sage. The entries for the plants are completed with instructions on their gathering and use in herbal remedies. The full name of the text is *The book of Alexander concerning seven herbs*, and it is often found with the *Book of Kyranides*, a Greek encyclopaedia on medical and magical remedies (Keiser 1998: 3629). Although the topic of the text is plants, it seems to share some of the characteristics of alchemical-medical texts. It is extant in 5 MSS.[49]

### *Agnus castus*

Agnus castus (c. 1425; 24,842 words) a translation of a Latin original, falls in the same category as Macer's text. The sources of *Agnus castus* are classical, and it served as a source for many later printed herbals, the best known being *Bancke's Herbal*. This text is extant in 39 versions in 36

48 Bodl. Digby 95, ff. 10r-80v; Bodl. Selden Supra 73, ff. 75v-82r; Bodl. Hatton 29, ff. 1r-55v; Bodl. Rawlinson A.393, ff. 88v-89r; Bodl. Rawlinson C.81, ff. 18r-57v; Cambridge Univ. Ee.1.15, ff. 24v-65r; BL Sloane 393, ff. 88r-145v; BL Sloane 1571, ff. 17r-17v, 20v-22v, 31v-33r; BL Sloane 2187, ff. 45r-48v; BL Sloane 2269, ff. 81r-112v; BL Sloane 2527, ff. 251r-293v; BL Sloane 3866, ff. 12r-13r, 73v-77v; BL Addit. 37786; ff. 2r-42v; Hunterian 497, ff. 1r-75v; **Stockholm Royal Library X.91, ff. 1r-45v** (Keiser 1998: 3823)

49 (Version a) All Souls Oxford 81, ff. 105r-118r; BL Sloane 353, ff. 51v-56r; BL Sloane 2984, ff. 52r-56v; **Glasgow Univ. Ferguson 205, ff. 49v-54v** (same scribe as in BL Sloane 353); (version b) BL Sloane 73, ff. 4r-7v (Keiser 1998: 3684)

manuscript codices.[50]

### *The vertues off herbes*

*The vertues off herbes* (c. 1450; 4,809 words). This prose text presents 32 plants, and has survived in 37 copies, in 32 MSS[51] (Keiser 1998: 3823) Some affinity has been detected between this text, *Macer* and *Circa instans* (Voigts and McVaugh 1984: 22).

### *Alphita*

*Alphita* (14th century; 1,290 words) is a plant-name list with occasional

50 Bodl. Addit. A.106, ff. 27v-41r + 48r-54v, 200r-219r, 221r-231v; Bodl. Ashmole 1432, Part 5, pp. 81-109; Bodl. Ashmole 1447, pp. 105-163; Bodl. Bodley 483, ff. 14r-56v; Bodl. Bodley 1031, ff. 1r-4v; Bodl. Bodley 536, ff. 21r-28v + 13r-20v + 29r-38v (Bodley 1031 and Bodley 536 form one continuous text, in the folio order presented here); Bodl. Digby 95, ff. 104r-111v; Bodl. Laud Misc. 553, ff. 7v-21r; Bodl. Wood D.8, ff. 193r-240v, Balliol Coll. Oxford 329, ff. 2v-35v; Corpus Christi Coll. Oxford 171, ff. 26v-35v; Trinity Coll. Cambridge R.14.32, ff. 1r-65r; BL Addit. 4698, ff. 16v-42r; BL Addit. 4797, ff. 79r-86v; BL Arundel 272, ff. 33r-62v; BL Sloane 2407, f. 5v; BL Harley 3840, ff. 139r-178v; BL Royal 18.A.6, ff. 64r-87v; BL Royal 18.A.6, ff. 89r-101v; BL Sloane 5, ff. 13r-17r; BL Sloane 7, ff. 30r-33v; BL Sloane 120, ff. 1r-61v; BL Sloane 135, ff. 90r-112r; BL Sloane 297, ff. 2r-6v; BL Sloane 962, ff. 249r-251v; BL Sloane 1315, ff. 70r-87v; BL Sloane 2460, ff. 2r-33v; BL Sloane 3160, ff. 99r, 101r-1v; BL Sloane 3489, ff. 12r-28r; Wellcome 409, ff. 109r-143v; National Library of Wales Peniarth 369B, ff. 19r-33v (pp. 35-64); National Library of Wales Addit. 572D, ff. 35r-63v; York Minster XVI.O.10, ff. 1r-6r; **Stockholm Royal Library X.90, pp. 156-216**; Huntington Library HM 58, ff. 1r-40v; Huntington Library MS 64, ff. 176v-183v; Yale Medical 47, ff. 73r-99v (Keiser 1998: 3822; eVK).

51 Bodl. Laud misc. 553, ff. 20r-3v; Bodl. Ashmole 1438, pp. 81-92; Bodl. Ashmole 1444, pp. 40 54; Bodl. Ashmole 1477, Part 2, ff. 36v-9v, Part 3, ff. 2v-5v; **Bodl. Bodley 483, ff. 57r-80v**; Bodl. Bodley 591, ff. 149r-154v; Bodl. Selden Supra 73, ff. 116r-22v; Cambridge Trinity Coll. O.1.13, ff. 1r-14v; Lansdowne 680, ff. 2r-21v; BL Royal 17.A.32, ff. 21r-42v; BL Royal 17.B.48, ff. 2r-10v; BL Royal 17.c.15, ff. 77r-84r; BL Sloane 393, ff. 13r-21r; BL Sloane 405, ff. 50r-4r; BL Sloane 540A, ff. 1r-2v; BL Sloane 963, ff. 85v-96v; BL Sloane 983, ff. 107v-108v; BL Sloane 1592, ff. 39v-42r; BL Sloane 1609, ff. 37r-40v; BL Sloane 3160, ff. 102r-8v; BL Sloane 3217, ff. 128r-40r; BL Sloane 3466, ff. 78r-96v; BL Sloane 3542, ff. 34v-7v; BL Addit. 12056, ff. 3r-12v; BL Addit. 19674, ff. 35v-42v; Royal College of Physicians 411, ff. 98r-107v; Rylands Eng 404, ff. 37r-42v; Aberdeen Univ. 258, pp. 3—6, 39-62, 128-40, 193-207, 257-73 (five copies); Glasgow Univ. Ferguson 147, ff. 92r-158r; Stockholm Royal Library X.90, pp. 18-32; Yale Univ. MS 163, ff. 76v-82v; Yale Medical School MS 27 (unfoliated); Yale Medical School MS 40, ff. 62r-6r (Keiser 1998: 3823).

references to the temperature of plants, and to their habitats. Sometimes an entry has the description of the plant as well. It is mostly in Latin, with name translations in English and in French. *Sinonoma Bartholomaei* (see later), *Clavis sanationis* (by Simon Januensis) and *Pandectae medicinae* (by Matthaeus Silvaticus) have been suggested as sources of the text; *Antidotarius Nicholai* has also been mentioned, although it has not been thoroughly compared with the text. An obvious source seems to be *Flos medicinae* of the Schola Salernitana, and thus it became one of the sources of Salernitan botany in England (Mowat 1887: v-vii; Stannard 1964: 357). The edition used here is based on two MSS from the fifteenth century (there are ten MSS extant, with eleven copies of this text),[52] and is presented in extracts.

### *Sinonoma Bartholomaei*

*Sinonoma Bartholomaei* (c. 1400; 413 words) is similar to *Alphita*, although the plant-name entries are shorter. The edition is based on one MS (the text is extant in seven MSS),[53] the text of which composed by one John Mirfield (Marfelde), and was written down or copied before or in 1387. Other texts in the codex are treatises on diseases and remedies, and the collection is called *Breviarium Bartholomaei*. In addition to Bartholomaeus Anglicus' works the texts draw on Gilbertus Anglicus' encyclopaedia, and the author himself mentions Constantinus, Avicenna, Galen, Rogerus Fucard, Arnaldus de Villa Nova, Rhazes, Ysaac de Dietis, W. de Conrado, *Macer*, Nicholas de Polonia, and Matthaeus Platearius (Mowat 1882: 1-2). The extract in the corpus is only 413 words long, comprising the entries defined in my plant-name cue list.

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52 **Bodl. Selden B.35, ff. 53r-84v**; **BL Sloane 284, ff. 1r-48v**; Bodl. Digby 29, ff. 38r-44v; Cambridge Caius 200/106, pp. 196-214; BL Royal 12.E.1, ff. 69r-107v; BL Sloane 5, ff. 4r-12v; BL Sloane 405, ff. 7r-17v; BL Addit. 15236, ff. 2r-9r, 172v-87v; Exeter Chatedral 3519, ff. 52r-61v; Huntington MS 64, ff. 125r-35r (Keiser 1998: 3826).

53 **Oxford Pembroke Coll. 2, ff. 343r-48v**; BL Arundel 42, ff. 92r-8r; BL Royal 12.G.4, ff. 134r-6v; BL Sloane 347, ff. 76r-97v; BL Sloane 962, ff. 252r-9r; BL Sloane 964, ff. 63r-82r; London University Coll. lat 11, ff. 335v-46v (Keiser 1998: 3826).

### *Trilingual herb glossary*

*Trilingual herb glossary* (late 13th century; 1,002 words) from Sloane MS 146 is the sole copy of the text extant.[54] The trilingual glossary of plant-names in English, Latin and Anglo-Norman is the earliest text in the corpora: the manuscript was most likely compiled in the late thirteenth century. *Synonyma* texts like this one may have been modelled after *glossae collectae* attached to a herbal. The text is closely related to a herb glossary in MS Hunter 100 in the Library of Durham Cathedral, also trilingual (Hunt 1989b: 289-90).

### *Bancke's Herbal*

*Bancke's Herbal* (1525, 23,161 words, STC 4720) is the first printed herbal in English. It is an amalgamation of many medieval English herbals, combining parts of *Macer*, *Loscombe*, *Rosemary*, and *Agnus castus*, the last being probably the main source for the text. The text is represented *in toto*.

### *Grete Herball*

*The Grete Herball* (1526, 15,968 words, STC 13176) was first printed by Peter Treveris in 1526. It is a translation of the French *Le Grant Herbier*, which draws on the Matthaeus Platearius' *Circa instans* and its derivation *Tractatus de herbis* (Collins 2003: 6). The text is presented in extracts.

### Braunschweig, *The vertuouse boke of distyllacyon*

Hieronymus Braunschweig's *The vertuouse boke of distyllacyon*, (1527; 5,476 words; STC 13435) is a text that falls somewhere between herbals, early pharmacological treatises, and alchemy; however, the strategies used to describe the properties of distilled waters are very close to the ways of conveying information in herbals. Furthermore, the entries are basically simples, i.e. the distilled waters are usually distillations of one plant at a time, which emphasises the similarity between herbals and this text.

### *Macer Lynacro*

*Macer Herbal practysyd by Doctor Lynacro* (?1530, 10,381 words, STC 17172) is

54 **BL Sloane 146, ff. 69v-72v** (Keiser 1998: 3827).

one of the many *Agnus castus* copies printed in the early sixteenth century, therefore is also closely related to *Bancke's Herbal* (Arber 1986: 274). It was probably printed in 1530, and thus is among the earliest English printed herbals. The reference to Thomas Linacre may be not genuine (EEBO).

### Becon, *Waters Artyfycialles*

*This Boke Doth Treate all of the Beste Waters Artyfycialles* (1550; 3,490 words; STC 1180), by Roger Becon, is related to herbals, early pharmacological treatises, and alchemy. Textually, it stands closest to *The vertuouse boke of distyllacyon*.

### Turner, *The Names of Herbes*

William Turner's *The Names of Herbes* (1548, 20,665 words) is one of the first systematic presentations of plant-names with reference to the author's own perception. In 1538 Turner had published *Libellus de re herbaria novus*, a Latin parallel to *The Names of Herbes* (*Libellus* also had examples of English plant-names). Both of these texts have been described as non-herbalistic and botanical in character, but they contain herbal elements, such as some medicinal properties or the temperature of plants given in degrees. However, the scope of *The Names of Herbes* is botanical rather than herbalistic, as Turner has included non-medicinal plants as well.

## Verse

### *Loscombe*

*Loscombe* (c. 1375-1425; 1,790 words) is a verse text. This text is from the period between 1375 and 1425, and is an example of English written in Ireland (Zettersten 1967: 9-14; Hickey 2003: 250-1). It is derived from Henry Daniel's *Rosemary*. As regards the provenance of the dialect, both Kildare (Zettersten 1967: 14-7) but also Pale (LALME I: 137) have been suggested. The text is a combination of English and Anglo-Irish traditions, the beginning of the poem displaying parallels to English texts, and the latter part being Irish in origin (Zettersten 1967: 13). According to Keiser (1998: 3644; see also Zettersten 1967: 13), the separateness of the

beginning and the end of the poem is caused by a missing quire between folios 16 and 17, i.e. the beginning and the end would belong to two separate poems. This is likely, as the parallels in the English and Irish traditions are found in separate texts. Copies of this text can be found in seven MSS.[55]

### *Tretys of diverse herbis*

*A Tretys of diverse herbis* (c. 1425; 6,634 words) is from one of the earliest editions of medical texts. It is a poem containing herbal entries with relevant recipes for various sicknesses. *Medical treatise* (Verse) is another variant of this text; the text used here is the longest extant variant (Keiser 1998: 3821). The text is extant in 22 MSS.[56]

### *Medical treatise*

*Medical treatise* and *A tretys of diverse herbis* (c. 1450-1500; 5,197 words) are variants of the same text, although both of them contain unique material. The extract in ACHE covers the herbal part of the edition (Keiser 1998: 3821). The text is extant in 22 MSS.

## Crophill, *Rosemary*

Crophill's *Rosemary* (c. 1450-1475; 701 words) is from John Crophill's

55 Bodl. Bodley 483, ff. 51r-4v; Bodl. Digby 95, ff. 83r-9v; Bodl. Ashmole 1379, pp. 19-26; Bodl. Ashmole 1442, Part 6, pp. 1-5 (this copy is from the seventeenth century); BL Sloane 3215, ff. 17v-24v; BL IA.55454 (unfoliated); **Wellcome 406, ff. 14r-20v** an extract of this MS (ff. 14r-16v) was published in *Reliquiae Antiquae*, in 1841, pp. 194-7) (Keiser 1998: 3824-5).

56 Bodl. Ashmole 1477, Part 3, f. 3r; Bodl. Ashmole 1397, Part 4, pp. 96-8; Oxford Corpus Christi Coll. 265, f. 55r; Cambridge University Dd.10.44, ff. 123v-8r; Pepys 1661, pp. 288-308; Cambridge Trinity Coll. R.7.23, pp. 186-209; Cambridge Trinity Coll. R.14.32, ff. 134v-9v, 144v-6v; Cambridge Trinity Coll. R.14.51, ff. 34v-47r; Cambridge Trinity Coll. O.2.13, ff. 179r-81r; BL Sloane 140, ff. 52r-6v; BL Sloane 147, ff. 94r-112r; BL Sloane 1571, ff. 14v, 18r-20r, 22v-3r, 24r-31v, 33r-6v; BL Sloane 2457, ff. 2v-7v; **BL Addit. 17866, ff. 5r-16r** (*Medical treatise*); BL Addit. 60577, ff. 119r-v; Soc. Antiquaries 101, f. 90v; Lincoln Cathedral Library 91, ff. 319r-v, 321r; York Minster XVI.E.32, ff. 119r-120r; **Stockholm Royal Library X.90, pp. 49-80** (*A Tretys of diverse herbis*); Morgan Bühler 21, ff. 26v-45v; Huntington Library HU 1051, f. 85r; Uppingham School (untraced) (Keiser 1998: 3821).

holograph medical miscellany from the latter half of the fifteenth century. The text is a verse rendering of a popular rosemary treatise, which was translated into English in the latter half of the fourteenth century (see the entry for Daniel, *Rosemary*). The text is extant in one manuscript.[57]

The prose part of ACHE contains 169,686 words. The verse part contains 14,332 words. The total number of words in ACHE is 184,018.

### 5.1.3 *Middle English Medical Texts*

The corpus of *Middle English Medical Texts* (MEMT)[58] is a second generation diachronic corpus. It is based on one register of writing: it contains medical texts from 1375 to 1500, and there are also three tri-lingual texts from c. 1330 that have been included in the collection. The corpus is mostly based on existing editions of medical texts, and the number of words in it is 495,322.

The texts have been divided according to the tripartite division of the medieval medical register (Taavitsainen and Pahta 1997b: 73-74; based on an earlier division by Voigts 1982):[59] in addition to *Surgical texts*, *Specialized texts* and *Remedies and* materia medica there is a section for medical verse texts (*Verse*) and another for three tri-lingual medical texts which fall outside the temporal scope of the corpus (*Appendix*).

*Surgical texts* are texts that have their origin in the world of learning, and some of them originated within universities. The text extracts[60] in this section represent the variation in surgical and anatomical texts, and thus they include not only practical descriptions of operations and surgical procedures, but also theoretical texts on the human anatomy.

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57 **BL Harley 1735, ff. 51r-52v** (Keiser 1998: 3644, 3825).

58 For a full account of the setup of the corpus of *Middle English Medical Texts*, see Taavitsainen, Pahta and Mäkinen 2005 'Middle English Medical Texts', and Pahta, Mäkinen and Taavitsainen 2005 'Editorial policy in text presentation and mark-up'.

59 There have been new suggestions for the division of ME medical material, e.g. Alonso Almeida and Carroll (2004) have proposed a model with a continuum from theoretical to practical, without clear-cut categories for texts.

60 The texts in MEMT are presented in roughly 10,000 word extracts. In some cases the extracts are shorter, due to copyright restrictions. If a text included is shorter than 10,000 words, it has been included *in toto*.

*Specialized texts* consist of extracts from encyclopaedias, treatises on specific illnesses, reproduction, and methods of therapy, and prognosticatory literature. The original domain of the texts is universities, although there are passages of practical information in the texts.

*Remedies and* materia medica texts mostly belong to the vast remedy-book tradition, including texts from recipe collections, herbals, prognosticatory literature, regimens of health, and dietary treatises. The emphasis in the text extracts is on treatment and the practical applications of medical theory, but there is overlap between the traditions, and for example in remedy-books the recipe sections may be preceded by a profound discussion of the theoretical issues leading to certain remedies.

The sections *Verse* and *Appendix* follow no particular division; thus *Verse* contains texts from the learned to the practical end of the medical register. *Appendix* contains three texts from the early years of the vernacularisation process (c. 1330), two recipe collections and one *synonyma* text, all tri-lingual (Latin, French/Anglo-Norman, and English).

### 5.1.4 MEMT modified and EMEMT

The corpus of *Middle English Medical Texts* (MEMT) has been described in full in the Introduction of MEMT (Taavitsainen, Pahta and Mäkinen 2005); here I will only list the modifications I have made to MEMT in order to avoid overlapping text material in MEMT and ACHE.

*Surgical texts* and *Specialized texts* have been included in this study as they are. From the section *Remedies and* materia medica I have excluded *Macer*, *De viribus herbarum; Agnus castus;* Daniel, *Rosemary*; and *Seven herbs, seven planets*, i.e. all the herbals. *Medical treatise*, *A Tretys of diverse herbis*, and Crophill's *Rosemary* have been removed from the *Verse* section. One text has been transferred from the MEMT *Appendix* to ACHE: *Trilingual herb glossary*. All in all, MEMT has been diminished to 453,093 words. All the excluded texts have been included in ACHE, either as they were in MEMT, or in extended form, e.g. the *Macer* and *Agnus castus* have both been included *in toto*, whereas the extracts in MEMT were 11,000 words long.

There are three non-herbal texts added to the pre-1500 period, all recipe collections. These (*In hoote somere*, *Stockholm prose recipes* and *Naples*

*recipes*) were excluded from the published version of MEMT for copyright reasons. The additional pre-1500 texts amount to 31,589 words.

As the temporal range of my study extends to 1550, I have also added some texts to my non-herbal task corpus from the corpus of *Early Middle English Medical Texts*.[61] The full list of additional texts can be found in *Appendix II: Texts in addition to MEMT and ACHE*. The additional post-1500 texts hold 216,731 words. The modified MEMT corpus together with the additional texts (both pre- and post-1500) make a corpus of (non-herbal) medical texts from c. 1330-1550 of 701,852 words. If the number of words in ACHE (184,018) is added to the number, the corpora used in this study total 885,431 words.

## 5.2 Secondary sources: eVK and Keiser 1998

The manuscript reference works used in this study are George Keiser's *Works of Science and Information* (in the series *A Manual of the Writings in Middle English 1050-1500*, vol. 10, published in 1998) and *Scientific and Medical Writings in Old and Middle English: An Electronic Reference* compiled by Linda Voigts and Patricia Kurtz (2000), Keiser 1998 and eVK respectively. These provide scholars of medieval science, and in this case, medicine, reliable tools for easily uncovering information on the multitude of Middle English manuscripts that are rendered invisible by the published editions. The sheer number of surviving medieval scientific manuscripts and incipits is astounding. The functions of eVK's database (an electronic reference database, published on CD-ROM) enable one to filter information on hundreds of manuscripts and thousands of incipits according to several parametres in seconds. Keiser 1998 (a printed manual) provides the user with a clear, thematic division of scientific material, which includes brief characterisations of each text and short text histories, where relevant, and

61 The corpus of *Early Middle English Medical Texts* is being prepared for publication at the Research unit for Variation, Contacts and Change in English (VARIENG), at the University of Helsinki. The corpus is the second part of the *Corpus of Early English Medical Writing*, the first part of which is MEMT. EMEMT will cover the years 1501-1700, and will contain c. 1.5 million words. The medical register during this time span is characterised by the emergence of new genres, the experimental article of scientific journals being the most prominent example. The expected date of publication is 2007/2008 (Taavitsainen, Pahta et al. 2006).

also a list of surviving manuscripts for each text.

The uses of the reference works are multiple: they can aid the researcher in defining the extent of a text stemma, or they can provide information on a particular manuscript and its location in the manuscript repositories of the world. For the purposes of the current study, these sources have provided information concerning the underlying manuscript reality, as well as initial evidence on the intertextuality between herbals and other medical genres (see the following section, 5.3).

## 5.3 Preliminary evidence on intertextuality I: a survey of incipits

Genres may be characterised by their physical closeness to other genres, as was suggested by the model of textual space introduced in chapter 2. In the era of manuscripts, a codex usually consisted of many different texts, and the co-occurrence of texts in one codex was usually not coincidental. The key assumption is that the most closely related genres (both thematically and textually) will be found in the same codex:[62] scientific texts keep company with other scientific texts; religious texts usually co-occur with other texts relevant to the Church. This is also attested in manuscript catalogues that list the incipits of texts included in manuscripts. In this section, I will use the information provided by the introduced reference works on scientific texts in Middle English, eVK and Keiser 1998, in order

62 The manuscript contexts of texts are also revealing about the ways in which texts were used and who used them (Taavitsainen 1988: 133; Pahta 1998: 59; Taavitsainen 2001a: 90-1). The intended audience for herbals, or any other medical text is often hard to describe accurately. It has been assumed that the audience for vernacular books was expanding outside the Latinate professions, and some Middle English herbals in particular are said to be written for women (Siraisi 1990: 52). What the audience was really like cannot be determined: only the size of it can be vaguely deduced from the amount of surviving Middle English medical texts (Getz 1990: 7-8). The literacy rate of the Middle Ages is another factor affecting the estimates, and which can only be discussed: current views on this are far from being unanimous, and the range seems to be set somewhere between 10% overall literacy to virtual illiteracy, the estimates for literacy within a particular region and class being sometimes even as high as 40% (for London merchants) (for a summary cf. Raumolin-Brunberg 1996: 25; for the readership of medical texts, see also Pahta 1998, Pahta and Taavitsainen 2004 and Jones 2004).

to carry out a survey on manuscripts that contain herbal texts. The aim of this survey is to describe the kinds of texts that co-occurred with herbals, and to take a look at the collections as they were received by their audiences. This survey will partly explain the distribution of intertextual links to and from herbals, both within and between genres.

For this survey, 127 indexed manuscripts were studied. All the manuscripts include at least one of the Middle English texts included in ACHE. Altogether the manuscripts surveyed contain 1,534 Middle English incipits. Incipits in any other language were ignored in this survey, as they are not covered by eVK or Keiser 1998. Each incipit was allocated to one genre according to the keywords given in eVK, so that the genre distribution of texts in each codex with herbals could be listed. The identified genres were then counted and the percentage of each genre that co-occurs in a codex with herbals was calculated. The percentages thus give a picture of the genres in the immediate vicinity of herbals, and they also suggest the distribution of intertextual links through genres, i.e. where and to what extent herbals are linked with other texts.

The number of incipits is given with a caveat, as Keiser 1998 and eVK divide the texts slightly differently: where Keiser 1998 indexes only one text, eVK might give incipits for two texts, usually a prologue and a text following it (eVK: *Introduction*—Prologues).[63] This reflects the general problems in editing Middle English texts, as has already been discussed in section 2.1.1. There are also differences between the two sources that are due to the scopes of the works: some texts that are indexed by Keiser 1998 are not included in eVK, e.g. encyclopaedias have been excluded from eVK. There is also material that eVK covers but which is not included in Keiser's work, e.g. *Circa instans* is not indexed in Keiser 1998, although it is

63 In eVK, clear reasons are given for this treatment of prologues and texts: texts and prologues do not always travel hand in hand. There are cases where a text has appeared with different prologues in two MSS; sometimes one prologue has been used to introduce two separate texts; a text may be introduced by a prologue that is not written by the author of the text, etc. It seems that prologues were not always regarded as an essential part of the main text. Voigts and Kurtz have been consistent in their treatment of prologues, and therefore even prologues that seem to be written to be used with the main text have separate entries in eVK.

mentioned there (pp. 3641, 3643).[64]

Another reason to treat the material with caution are the multiple keywords given to a stretch of text by eVK: a recipe collection may include recipes ranging from alchemical to medical to culinary, and therefore it is difficult to say which category would be the primary one. I have chosen to represent any text with a prologue as one contiguous text, and if the keyword *medical* has been mentioned, I have deemed it a valid text for this survey.

I have followed Voigts' division of medieval medical writing, modified by Taavitsainen and Pahta's additions, and distinguished between special treatises, remedy-books and *materia medica*, and surgical texts (Voigts 1984: 322; Taavitsainen, Pahta and Mäkinen 2005: MEMT *Introduction*; see also section 5.1.4).

Table 3 (based on information from eVK ) presents the layout of the scientific texts in the Cambridge University Library manuscript Ee.1.15. The *lacunae* in the folio numbers indicate a text in a language other than English, or a text falling outside the scope of eVK. The keywords given are from eVK, the main keyword used for categorisation is in bold type, and the category of texts is given with square brackets.[65] If an item in the manuscript is a herbal, the title of the herbal is given in parentheses.

**Table 3: Scientific texts in English in the manuscript CUL Ee.1.15**

| eVK item | folios | [text category] eVK keywords (herbal) |
|---|---|---|
| 4418 | 6-6v | [Other] **Lucky and unlucky days** |
| 1029 | 6v | [Materia medica] **Regimen of health**; Diet; Medicines; Coral |
| 6137 | 7-10v | [Materia medica] **Recipes, medical**; Ointments; Wounds |
| 7139 | 11 | [Surgical texts] **Anatomy**; Illustration |
| 4001 | 11v | [Other] **Calendar**; Verse; Seasons |
| 2630 | 11v | [Other] **Calendar**; Weather; Illustration |
| 6742 | 12-14v | [Specialised texts] **Prognostication**, by days of the moon |
| 4499 | 14v-24v | [Materia medica] **Recipes, medical**; Charms; Plague; Recipes, dental; Hemorrhoids |
| 3626 | 24v-65 | [Herbals] Herbs and herbal medicine; Degree (*Macer*) |
| 6211 | 65-70v | [Materia medica] **Recipes, medical**; Plague; Recipes, |

64 The discussion on the indexing of recipes is indicative of the problems in studies of utilitarian prose in Middle English. For discussion, cf. Hargreaves 1981 and Rand Schmidt 1994.

65 eVK items 3525 and 7456 at the end of this table count as one text in Keiser 1998 as regards the text division.

| eVK item | folios | [text category] eVK keywords (herbal) |
|---|---|---|
| | | dental; Aqua vitae; Distillation |
| 3411 | 73 | [Other] **Prognostication**, by Christmas day |
| 4069 | 73 | [Other] **Measure and measurement**; Astronomy; Verse |
| 7256 | 73v | [Specialised texts] Zodiac and signs of; **Bloodletting**; Table |
| 3297 | 75-77 | [Specialised texts] **Urine and uroscopy** |
| 1576 | 77-77v | [Specialised texts] **Urine and uroscopy** |
| 5217 | 78-100 | [Materia medica] **Recipes, medical**; Charms; Aqua vitae; Recipes, ink; Distillation; Recipes, dental; Ointments; Plague; Recipes, gynecology and obstetrics; Wounds |
| 7899 | 79v-80v | [Materia medica] **Recipes, medical**; Waters; Distillation; Herbs and herbal medicine |
| 3625 | 85-85v | [Herbals] **Herbs and herbal medicine**; Horticulture; Medicines, preparation and/or administration of |
| 3558 | 98v-99 | [Specialised texts] **Disease** |
| 2840 | 99v | [Other] **Weights and measures** |
| 4692 | 101v-25v | [Materia medica] **Recipes, medical**; Recipes, wine; Genital and urinary disorders; Recipes, culinary; Recipes, dental |
| 3508 | 118-19 | [Herbals] **Herbs and herbal medicine** (*Vertues of herbes*) |
| 5258 | 129v-34v | [Materia medica] **Recipes, medical** |
| 854 | 133-34 | [Specialised texts] **Sperm**; **Genital and urinary disorders**; Anatomy |
| 5456 | 141v-42v | [Materia medica] **Recipes, medical** |
| 5055 | 145-56v | [Materia medica] **Recipes, medical**; Genital and urinary disorders; Herbs and herbal medicine; Plague; Fractures |
| 3525 | 150 | [Other] **Prologue** |
| 7456 | 150-51v | [Herbals] Arboriculture; Medicines; Oak; **Herbs and herbal medicine** |

The manuscript CUL Ee.1.15 is an example of a co-occurrence of texts in a medical collection, and it is a source of information on the manner in which the texts were grouped by a scribe, and received by an audience. In this example from one manuscript, one can notice that most of the items deal with medical topics. Even some items of the category *Other* can be related to medicine, such as *Weights and measures* in item 2840 (f. 99v).

Table 4 presents the results of the full incipit survey:

**Table 4: Incipit distribution through genres in Middle English manuscripts with herbals**

| **Incipit distribution** | | | | |
|---|---|---|---|---|
| **Genres** | **Herbals** | **Specialised** | **Remedies** | **Surgeries** |
| **Percentage** | 14.9 | 26.7 | 42.0 | 1.0 |

Table 4 (based on eVK, full table in *Appendix I*, Table 1) shows the proportions of incipit distribution through genres or traditions of medical

writing in manuscripts with herbal texts. In manuscripts with one or more copies of the ME herbals selected for this study, roughly one text in seven is a herbal (c. 15 per cent). Remedy-books and *materia medica* texts are by far the most common genre cluster in manuscripts with herbal texts: almost every other incipit (42 per cent) begins either a recipe collection, a recipe, or instructions related to healing. The texts in learned writing and specialised treatises contribute to over one fourth of the incipits (almost 27 per cent). Surgical texts are very rare in manuscripts with herbals, only one per cent of the incipits included in this survey; the expected value would be c. two per cent. The final category is *Other*, which has been given over to texts including charms, prognostications with no medical relevance, calendars, astronomical and astrological treatises not directly related to medicine or the human body, culinary recipe collections, hunting advice, and practical instructions other than medical. Many of these would not be regarded as scientific today, but the definition used in eVK is based on the medieval views on the issue (eVK: *Introduction*). Other texts claim the same portion of incipits as the herbals do, c. 15 per cent.

The expected distribution of passages forming intertextual links with herbals is as Table 4 indicates: herbals share material mostly with other *materia medica* literature, mainly recipe collections. Specialised texts are expected to host second-most links, and with surgeries herbals should have hardly anything in common. My previous study on intertextuality in Middle English herbal recipes already pointed at this direction: herbals shared recipes with any other text, but not surgical texts (Mäkinen 2004: 169-70). This does not mean that herbs were obsolete in surgical texts; on the contrary, Wallner (1992) lists over 100 plant-names used in Guy de Chauliac's works alone. Therefore the implication is rather that the herbal textual tradition and the surgical textual tradition had very little in common, viz. sources.

The survey of incipits in manuscripts with herbal texts provides support to the initial setup of the research question: genres have patterns of co-occurrence and that may be reflected on textual level as well. Thus the survey also roughly suggests the distribution of material and structural links between genres that attest the intertextuality in the medieval medical

genre.

## 5.4 Preliminary evidence on intertextuality II: a survey of plant-names across corpora

The plant-names that I use as search criteria in the text retrieval phase of the analysis in this study have been used in a survey of plant-names across the corpora used. The purpose of this survey is the same as the survey of incipits in 5.3: to chart the probable distribution of intertextual links in medical genres and traditions of writing.

For this survey, I have chosen forty plant-names.[66] I have collected the variant lemmas of the plant-names, as was described in chapter 3. The plant-names chosen as keywords are not the most frequent in the corpora; rather, they have the most even distribution across the corpora. A high-frequency plant-name that occurs in only one or two texts was therefore not eligible as a keyword for this survey. The lemmas of the plant-names contain altogether 1,189 spelling variants, i.e. over 29 variants per plant. The list used as search criteria produced 7,784 hits (this number does not include the herbal passages where a plant-name is referred to by a pronoun; see section 3.2.2).

66 Plants, the Middle English variants of which have been included in this survey are (headwords as used by Hunt 1990): *Absinthium, Agnus castus, Allium Domesticum, Anisum, Apium, Aristolochia, Artemisia, Betonica, Camomilla, Cardomum, Celidonia, Centaurea, Cepa, Cerfolium, Coriandrum, Diptannus, Dragantea, Feniculus, Fenugrecum, Hysopus, Jusquiamus, Lactuca, Levisticum, Mandragora, Menta, Petrosillium, Pionia, Plantago, Porrum, Quinquefolium, Rosa, Ros Marinus, Ruta, Urtica, Salgia, Savina, Scabiosa, Spica Celtica, Verbena,* and *Viola*. The reason why I use the medieval Latin headwords from a secondary source is that it is an accessible reference work that points out some of the variation in the vernacular plant nomenclature. As regards the identification of plants mentioned in manuscripts, that is another issue; here I have identified the lemmas I have used according to the medieval tradition of *synonymae*, and disregarded the relationship between the medieval and modern plant-name correspondence.

**Table 5: Keyword distribution through corpora**

| **40 plant-names in ACHE** | | | | |
|---|---|---|---|---|
| | Number of words | Percentage of all text | Keyword count | Keyword percentage |
| **herbal** | 184,018 | 20.8 | 3,075 | 39.5 |
| **surgery** | 179,372 | 20.3 | 814 | 10.5 |
| **special** | 178,418 | 20.2 | 864 | 11.1 |
| **remedy** | 343,623 | 38.8 | 3,031 | 38.9 |
| **total** | **885,431** | **100** | **7,784** | **100** |

In Table 5, the two first columns (*Number of words* and *Percentage of all text*) indicate the number of words in each tradition of medical writing in the corpora used, and their percentage of all the text in the corpora. Columns *Keyword count* and *Keyword percentage* show the number of keyword hits in each tradition, and their percentage of all the hits.

Herbals contain the most hits, and it is expected that they will host most of the intertextual links as well. In the number of texts, remedy-books is the most prominent tradition in the corpora used, but only second in the raw number and percentage of keywords. Remedy-books will probably host the second most of links, and it can be assumed that the links are mostly formed between remedial literature and herbals, or among the text of the remedial tradition. Plant-names do not occur in surgical and specialised texts as often as the text percentage would let one assume. Intertextual links will probably not be attested in these two traditions as often as in herbals and remedy literature.

## 5.5 *Summa materiae*

The empirical study of language through corpora provides a means to observe actual language use, i.e. performance. The focus is on what is said or written, not on what can be said or written. Text sampling for a corpus has to be justified and consistent in order to produce a representative corpus. As regards the historical strata of a language, the greatest constraint is usually the availability of sources.

The corpora used in this study are historical genre (ACHE) and register (MEMT and EMEMT) corpora. These are all representative within

the constraints set by historical texts and their accessibility. When set in a wider context with the aid of reference works and databases such as eVK and Keiser 1998, the texts in ACHE can be used to predict the general trends in the upcoming analysis of the intertextuality of herbals.

# 6. Herbal entry

## 6.0 Abstract

I have analysed herbal entries in sections, in order to facilitate the handling of them, and also to elicit information that can be used in charting the intertextual links between herbals and other medieval medicine. The sections of a herbal entry will be called *components* or *herbal components*. This chapter introduces and exemplifies the elements used in herbal entries, and it also shows that they contain information (recipes and recipe paraphrases) that is very likely to form intertextual links with other medical texts.

A herbal entry is a passage of text which can be compared to an encyclopaedia entry; in fact, one of the herbals used in this study is from an encyclopaedia (John Trevisa's Middle English translation of *De proprietatibus rerum*). The keyword in a herbal entry is the name of the herb, and the information given in an entry may follow a scheme in which some elements are obligatory and some optional. The names of elements used here have been derived from John Gerard's *The Herball* (published in 1633).[67] They have a history similar to that of the name of the genre: as a genre label, *herbal* was not used before 1525 (cf. fn. 15); likewise, the labels for herbal components are not attested before the 16th century in English herbals.

## 6.1 Optional and obligatory components in herbal entries

As already defined, herbals are texts containing descriptions of medicinal plants accompanied by information on their medicinal properties, i.e. the virtues. *Names* seems to be the primary component of a herbal entry, and along with this there must be a component that informs the reader of the medicinal properties of the herb in question, in order to identify the text as

67 The pattern of a herbal entry differs slightly from the pattern presented in Mäkinen 2002b: this is mostly due to the differences between the material used in the present and the 2002 study.

a herbal.[68] A description, which is the prime component of an entry in botanical works nowadays, was important in the Middle Ages as well, but, as I will shortly demonstrate, it was not vital for a medieval herbal entry. The following diagram shows the components of a herbal entry, and their relative importance:

**Herbal entry**
- Names
  - Description
  - Temperature
  - Recipes/recipe paraphrases
    - Habitat
    - Plant history
    - Time of blooming
    - Gardening advice
    - Storage

The indentation indicates the importance of each component to the herbal entry: the less indented a component is, the more crucial it is to the entry and to the identification of the text as a herbal. The name, or names in several languages, of a herb is the obligatory component in a herbal entry, and it must be joined by one of the three following, semi-obligatory components, i.e. description, temperature, or recipes/recipe paraphrases. The rest of the components are optional. There may also be more components the content of which do not fit into any of the categories listed above.

## 6.2 Names

The name of the plant is the most important component in a herbal entry; everything else is more or less optional. This component of an entry states the name of the plant, may give the etymology of the name, and often provides synonyms in various languages for the first name mentioned. Synonyms for the name were very important, as it was vital to know which name in Latin or Greek corresponded to the English name of a plant. The

68 There are exceptions to this, cf. *Synonyma* texts later.

herbals that were translated into English usually described Mediterranean flora, and therefore the translators, who worked in countries with a flora different from the Mediterranean, had endless difficulties in pairing an entry with a vernacular name. This led to lists of names in various languages at the beginning of a herbal entry (Hunt 1989a: xvii; Hunt 1990: 19).[69] Adding synonyms after the name in the heading or incipit raised the probability of hitting a name variant the reader might find familiar, and thus also the probability of the reader preparing the medicine as intended (Stannard 1982a: 71, fn. 2). Example (11) illustrates the conventions of naming a plant in a herbal entry. The etymology of the name is also given, as is often the case in the entries in Trevisa's *De proprietatibus rerum*:

(11) De auena. Capitulum xvii$^{m}$.
Avena 'ote' is an herbe, [...] And haþ þat name auena for it comeþ and groweþ soone after þat it is ysowe, as Isider seiþ.
Trevisa, *De proprietatibus rerum*, p. 916

The Latin name is already given in the rubric, but it is also repeated in the text of the entry, and the vernacular name follows. After a brief description of the possible uses (omitted in the extract) the entry proceeds to the etymology of the name *auena*, according to Isidore of Seville.[70]

The function of the names component became most explicit in *Synonyma*, or *nomina herbae*, which were basically lists of plant-names in several languages, giving the synonymous names together. These indicate an acute need for the correct identification of herbs (Hunt 1989a: xlv-xlvi; Hunt 1990: 17). A *synonyma* text listing plant-names may be seen as a special

69 The lists of synonyms were already used in Antiquity, although for different reasons: any botanical author or physician collecting a plant list would include the synonymous names next to the one he used. This was to remind the reader of the fact that this plant was also known by another name. Recording of synonyms led gradually to the shortening of the description of plants (to save space), and this latter was at times reduced to a schematic description only, or entirely dropped (Stannard 1971: 172). This development is seen in many a medieval herbal as well.

70 Probably a reference to Isidore's *Etymologiae*, his well-known encyclopaedia, in which the etymology of a plant's name was an essential part of his herbal entries (Hunt 1989: xxxix).

case of herbals:[71] they not only present a parallel to the names component in herbal entries, but also sometimes include information on a particular herb's medical qualities:

(12) Calamentum magis, nepta idem; folia habet ad modum urtice set albiora. Specialiter ualet ad retencionem menstruorum. angl. catwort.
*Alphita*, p. 27

The insular synonymies containing vernacular names (in English and in Anglo-French, sometimes even in Irish) are the product of the thirteenth and later centuries; earlier, eleventh-century synonymies are monolingual (in Latin) (Hunt 1989a: xix, xlvi). The importance of the names component or *Synonyma* texts is further emphasised by the fact that there are very few surviving Middle English herbals that contain herbal illustrations, therefore the names component was often the only means of identification of plants given to the reader.

## 6.3 Description

Description, the expected means of plant identification in modern botanical texts, could have a very elaborate structure in medieval herbals, as in (13):

(13) Dragancia femina. [...] þis herbe ha3t lewys lyk to ywy but it ha3t quyte prykkes. and it ha3t a 3elwe stok þe lengthe of ij cubites sumqwat as it were a croked staf lyk to a snake and it beryth þe seed abowen lyk as it were a cloyster of grapys and quanne þe seed is ryp it is 3elw
*Agnus castus*, pp. 150-1

However, a schematic description that fitted any green plant seems to have been an equally popular format in herbal entries, and sometimes the

71 *Synonyma* texts for non-herbal *materia medica* are also known.

description was omitted entirely.[72] Descriptions like (14) or (15)

(14) It is a maner of busch
Daniel, *Rosemary* p. 320

(15) Alle men knowen wel þe shap of þis herbe.
*Macer*, p. 96, on *Inula helenium*

show either that the herb was well-known in England and that the author expected his intended audience to be familiar with it; or exactly the opposite: some translators of herbals or compilers of encyclopaedias were bookish, and had no first-hand knowledge of herbs and their physical appearance.

## 6.4 Temperature

Temperature defines a plant's complexion, according to the theory of humours and the qualities of four elements, the main characteristics being hot and cold, and moist and dry. The extent of a plant's potency with respect to these characteristics was usually given in degrees, which range from one to four. (Stannard 1980: 356; Mäkinen 2002b: 235-6).[73]

72 If description was omitted from a herbal entry, then either temperature or recipes/recipe paraphrases had to be present. *Synonyma* texts were an exception to this, as has already been noted. A widely known plant may not need a physical description, at least in the author's mind. An early modern example of this is rosemary in Nicholas Culpeper's Complete herbal, 1653: "Our garden Rosemary is so well known, that I need not describe it".

73 The theory of complexions and the differences between the four degrees were explained as follows in Lanfranc's *Chirurgia magna*:

> Neuereþelatter among alle þe complexiouns þat man mai fynde, þat is componed of dyuers qualitees, þere ne is noon so temperat, as is mannes complexioun; & hauynge reward to mannes complexioun, alle oþere þingis ys I-clepid, hoot, coold, moist, eiþer drie. Whanne þat a mete or medicyn haþ suffrid kyndely heete þat is in man, þat heetiþ him nou3t, ne drieþ him nou3t, ne moistiþ hym nou3t, so þat mannes complexioun may not conseyue wheþer it coldiþ him, heetiþ or drieþ or moistiþ him: it is clepid temperat & þilke þing þat we seie is hoot in þe firste degree, þat is I-heet of kyndely heete þat is in oure bodies, & heetiþ oure bodies wiþouten greuauncis & þilke we seien to be hoot in þe secunde degree, which þat

(16) RUbea is an herbe hote and drye in the seconde degre.
Grete Herball

As most diseases and bodily disorders were caused by either cold or moisture, or a combination of both, it seems natural that most of the medicinal herbs were hot and dry.

## 6.5 Recipes and recipe paraphrases

Recipes are the final semi-obligatory component included in herbal entries, and often in herbals the information contained in a recipe is rendered into something that has been termed a recipe paraphrase:

(17) To make a Gargarisme / take Pelleter & fygges and boyle the~ in vyneger or swete wyne and it wyll clense the brayne of superfluyte of flewme.
*Bancke's Herbal*, f. G ii

(18) II. For colde.
þis herbe drunke with wyn and peper purgiþ þe moder after þe childbyrth from alle corrupcon and filthe, and so it wol doo if it be put only vnder-nethe.
*Macer*, p. 79 (on *smearwort* (?*Aristolochia*))

Example (17) is a recipe proper, at least formally; I will return to the functions of recipes in herbals later. Example (18) illustrates the concept of recipe paraphrases, i.e. the linguistic characteristics of a recipe are not there (most markedly the absence of imperatives makes it a non-recipe), but the content required of a recipe is (ingredients, implied procedure,

is het of oure kyndely heete, so heetiþ oure bodi þat he ne my3te heete us no more wiþoute greuaunce þilke we seie to be hoot in þe þridde degree, which þat is het of kyndely heete bryngiþ to oure bodi sensible greuaunce. & þilke is in þe fourþe degree, þat is hot of vnkyldely heete, distroieþ þe bodi openliche & in þis same maner 3e moun knowe degrees þat ben colde I mai preue in þis maner, þat it is nessessarie a surgian to knowe complexiouns of bodies, lymes, & of medicyns.
Lanfranc, *Chirurgia magna 1*, pp. 11-12, MEMT

purpose), and thus it can be perceived as a set of instructions for the preparation of a medicine. I will discuss medical recipes in more depth in chapter 7, and recipe paraphrases in chapter 8.

## 6.6 Habitat, plant history, time of blooming etc.

In addition to the four obligatory and semi-obligatory components already presented, the non-obligatory text components in herbal entries are habitat, history, time of blooming, gardening advice, and storage.

**Habitat** is the description of places of growth, i.e. where one is most likely to find the plant. This was invaluable information for herbalists and pharmacists, and their subcontractors:

(19) This herbe groweth moche in woodes.
*Bancke's Herbal*, f. A iii (on *Oxalis acetocella*)

**Plant history** describes the introduction of a plant to the region the herbal deals with, e.g in the following example on rosemary (20), Jeanne de Valois, Countess of Hainault, sent rosemary cuttings with a herbal text on the herb to her daughter to England, and that was allegedly the introduction of rosemary in England:

(20) Rosmarine is bothen erbe & tre hot and drie of kende hys lewys arn euermore grene & neuer more fallyn as techyn bokes of fysik and ek bokys of skole of sallerne wrot to þe countesse of henaunde and sche sente þe copy to hyre dowter phelyp qwen of Ingelond[74]
Daniel, *Rosemary* p. 80

**Time of blooming** (and seeding or gathering) is an important component since flowers were often regarded the most efficacious part of a plant. This component may also contain advice on how to collect the herb (example (22)):

74 However, it is more likely that rosemary had been grown in England since the Roman occupation, and it was mentioned in the Old English translation of *Herbarium Apulei* (James 1902: 12; Harvey 1972: 14-15; le Strange 1977: 215; Vriend 1984: 120; Mäkinen 2002a: 305).

(21) In þe monthe of August on alle wise
It schal be gadered or þe sone rise.
*Medical treatise*, p. 165 (on *Betonica officinalis)*

(22) Als maistres vs telles he gadered schalbe.
w$^{t}$ pater nosters. And aues thre.
[\f. 9b\] ffastande if the weder be grill.
Be twix midde marche & mydde Aprill.
þ$^{e}$ gaderer moste be war and sle.
þ$^{e}$ mone be nought in ariete.
*Medical treatise*, p. 172 (on vervain (*Verbena officinalis*))

**Gardening advice** is a rare component in herbal entries, and is most often found in herbal treatises dedicated to a single herb, such as *Daniel's Rosemary*; example (23) is from Trevisa's *De proprietatibus rerum:*

(23) Plinius libro xix$^{o}$. capitulo ix$^{o}$. spekeþ of rue and seiþ þat rue wil be ysowe oþer ysette whan day and night beþ euene yliche longe in heruest, and hateþ wynter, dung, and humour, and liketh wel in druye weder, and wil be norisshed with poudre of stones and with aisshen. Aysshen shullen be medled wiþ seed þerof to destruye maleschagges and oþre wormes.
Trevisa, *De proprietatibus rerum*, p. 1039

**Storage** as a component in herbal entries explains to the reader how the herb should be stored, and often also the length of time for which the herb will keep its potency after harvesting. This is another rare component. The following example (24) is from Peter Treveris' *The Grete Herball*:

(24) And the floures ought to be dryed a lytell in the sonne whan they be gadred and they may be kept a yere and leuis lyke wyse.
*Grete Herball* (on *Rosmarinus officinalis*)

This example combines information that may be presented as separate components: information on gathering, which may also occur together with information on the time of blooming, is embedded in the same sentence as storage information.

## 6.7 Intertextually active herbal components

The list of herbal components introduced in this chapter is nearly exhaustive, i.e. there are only rare cases where the text of a herbal comprises an item that does not fit into any of these component categories.[75] The analysis of text retrieved from the corpora using plant-names as keywords shows that, in the corpora used, roughly 86 per cent of the keywords occur in the context of recipes and recipe-like passages. Therefore it can be assumed that the element in herbals that is most likely to form intertextual links to other medical texts is recipes and recipe paraphrases.

75 For example, *Rosemary* (Henry Daniel's translation, included in ACHE) has a passage in which the Roman emperor Tiberius' fear of thunder and lightning is recounted (MS Stockholm Royal Library X 90, p. 85; Mäkinen 2002a: 319, 321). The passage is an anecdote, and as such it exemplifies the properties of rosemary, but does not actually fit into any of the given categories.

# 7. Medical recipes in medieval England

## 7.0 Abstract

The main non-herbal text type that forms intertextual links with herbals is the medical recipe. The purpose of this chapter is to introduce the types of medical recipes in use in England in the Middle Ages, and also to present detailed descriptions of the types of information (*Fachinformation*) that were included in recipes. The sections in medical recipes will be called *elements* or *recipe elements*.

A knowledge of the inner structure and content of medical recipes helps the researcher to identify and sort the parallel passages that are retrieved in the text searches. The accumulated information is relevant to the analysis of the intertextuality attested between herbals and non-herbals, as it can be used to indicate the direction of borrowing between genres.

## 7.1 On the pre-English history of medical recipes

*Medical recipe* has one of the longest histories that can be ascribed to a text type. The form and function of recipes are millennia old, and recipes have preserved their characteristics remarkably well over time, despite the changes in the underlying theories that explained diseases and were applied in therapy (Hunt 1990: 1; Görlach 1992: 756).

The history of the medieval medical recipe (and recipes in general) has been studied widely in the last 25 years (cf. Hargreaves 1981; Stannard 1982a; Voigts 1982; Hunt 1990; Görlach 1992; Rand Schmidt 1994; Taavitsainen 1994 and 2001; Carrillo Linares 1997 and 2005; Jones 1998; Almeida 1998/99; Carroll 1999, 2003, 2004, forthcoming; Voigts and Kurtz 2000 (eVK); Mäkinen 2002b and 2004; Grund 2003 and 2005; Almeida and Carroll 2004). Hunt has produced a survey of insular receipt material including texts from the thirteenth century.

Considering the polyglot situation in the medieval medical register in England, and the fact that most medical texts in English were translations from Latin originals, it is obvious that the form of a recipe was

the result of non-English traditions (Voigts 1984: 315-6; Pahta 2004: 74-6). It was mostly Greek, Arabic and Latin learning that shaped the text type in the West. Therefore the types of English recipe that are in circulation at the end of the fourteenth century, although a relatively new genre in English, were not novelties in the originating register of Latin medicine. Therefore it is likely that the forms recipes had assumed were quite stable.

## 7.2 Types of recipe[76]

Middle English medical writing contains various recipe types. These are *receptaria*, *antidotaria*, and *experimenta* recipes. A distinction can also be made between simple and *composita* recipes, and finally, a functional paradigm of medical recipes contains therapeutic, prognostic, diagnostic, cosmetic, dietetic, and eclectic recipes (Hunt 1990: 16). The first three types are classified according to the textual tradition and internal conventions, and the last two according to the content and complexity of the recipes, for example how many ingredients are needed for a recipe. The last division is according to the function of a recipe. As a consequence, an individual recipe may be simultaneously classified, for example, as a prognostic *receptaria* type recipe, and a simple recipe.

### 7.2.1 *Antidotaria*/full recipes

*Antidotaria* recipes form the main body of *antidotarium* texts. They can also be called full recipes, as the ingredients are often numerous,[77] the procedures described highly detailed, and there is often a comment on the use and the effect of the medicine, i.e. they contain most of the recipe elements (described in 5.2). Full recipes are often given a proper name, such as *beve de Antioche*, and they are described as *antidota*, a Greek word for remedies or medicine given against a disease or an ailment (Becela-Deller

76 This section is based on Mäkinen 2002b and Mäkinen 2004; the material has been thoroughly revised. Possible differences in the conclusions between the above-mentioned articles and the current text are due to the differences in the corpora used then and now.

77 According to Hunt, excessively complex *composita* may have been intended for medical education, i.e. lists of ingredients may have functioned as teaching material, by way of good remedies for *x*, *x* being the indication of the disease at the beginning of a recipe (1990: 8, 15).

1998: 74-5).

Purpose, ingredients, procedure and administration are always present in *antidota*, whereas rationale (the arguments for the potency of the medicine) is an optional element, even in full recipes. Additional information is often included.

### 7.2.2 *Receptaria*/short recipes

Short recipes are characteristic of *receptaria* collections, short referring to both the number of ingredients and the number of recipe elements implemented. They seldom have a name, and are often recognised by their purpose, e.g. *Medicamentum ad...* or *another medecyne for...* or just simply *for...*, followed by the name of the ailment (Taavitsainen 2001a: 99). Comments on their administration or efficacy are rarer than in full recipes, and they are not as detailed in their description of procedure (Becela-Deller 1998: 74-5). They do, however, fulfil the first three prerequisites of a recipe: purpose, ingredients, and procedure.

### 7.2.3 *Experimenta*

*Experimenta* recipes are usually found in commonplace books that physicians wrote for themselves. The medical tradition represented by *experimenta* is based on first hand experience and observation, and word of mouth in the physician community, and thus the sources of the recipes are rarely of Classical origin. Commonplace books contained recipes that one had concocted oneself, or learned of from colleagues (Jones 1995: 49). The identification of an *experimentum* usually proceeds from the identification of the manuscript as a commonplace book. This is rarely possible if one cannot get hold of the manuscript in the compiler's holograph, and for this reason many *experimenta* may appear as simple or full recipes in later copies of the original.[78] There are cases where an

78 A commonplace recipe book was usually compiled by giving each heading an equal number of blank pages, and these pages were then filled with notes and recipes jotted down upon hearing them. A holograph commonplace book can be identified by changes in the colour of the ink (though not in the hand), and recurring blank spaces at the ends of sections (Jones 1995: 41). A copied commonplace book would not be distinguishable by these signs.

*experimentum* has been given the same title, *experiment*:

(25) Experiment for alle gouttynes rynnand and flyande. Tak lynsede & sethe it in water till it be thikke sothen. Þan draw it & stamp it & grynd it in a clene mortere & caste þer-to fresche schepe talghe & menge it wele with þe jus of henbayne & herbe benett & caste þan all grounden to-gedir in a pott &, when þe lynsede is sothen in, chaufe þam wele to-gedir & lay þam on þe gout.
*Liber de diversis medicinis*, pp. 65-6

### 7.2.4 Simples and *composita*

Simples are recipes for medicines prepared from only one *materium medicum*, and *composita* are recipes with several ingredients, as is stated in the following example from *Thesaurus pauperum* (emphases mine):

(26) Brother ther ben ij maner of medicines. On is cleped a symple medicine another is cleped compowned medicine. **A symple medicine** is but of on thyng as oyle and herbes and rotes of herbes a watirs imade of herbes and wyne and hony and sedes but symple medycynes. **Compowned medicynes** ben made of ij symple medicines or of more and ther be many medicynes of that kynd as tretis emplastours oynementis pociouns that ben cleped drynkes electuaries sirupes watris oyles.
*Thesaurus pauperum*, f. 31v

Full recipes (*antidotaria* type) are, by definition, always *composita*, whereas among short recipes (*receptaria* type) there are both simples and *composita*. The majority of recipes in herbals are simples, and of the *receptaria* type, as herbal entries deal with one plant per entry.

### 7.2.5 Functions of recipes

The six different functions of medical recipes listed by Hunt (1990: 16) are derived from thirteenth-century material. Due to the relative stability of the text type, these functions are also valid for the late medieval material.

*Therapeutic* recipes were for describing a remedy (Hunt includes supernatural remedies with pharmaceutical ones); *prognostic* recipes were used to elicit an answer to a question given in advance, a prototypical prognostication being "whether a man shall live or die"; *diagnostic* recipes helped in determining the nature of a disease; *cosmetic* recipes were for hair and skin conditions, often indistinguishable from other medical recipes with which they tended to mingle; *dietetic* recipes are closely related to the *regimen sanitatis* genre, and their domain is rather general well-being than specific maladies; and *eclectic* recipes were compilations of knowledge on a certain topic.

## 7.3 Recipe elements

Recipes have been picked out as a text type of special interest in this study, as most of the intertextual links between herbals and non-herbals are formed between recipes, due to the high occurrence rate of plant-names in the recipe passages. In order to facilitate the later introduction of recipe paraphrases, I have divided recipes into smaller information units, which each have a separate function. In this study, these units are called in this study *recipe elements*.

The elements of recipes have been identified and discussed in earlier literature. Hunt (1990: 16-24) lists six separate elements in thirteenth-century receipts: *rubric*, *indication*, *composition*, *preparation*, *application*, and *statement of efficacy*. Stannard uses the term *Fachinformation* for the six possible types of information he has identified in recipes.[79] These types are *purpose*, requisite *ingredients* and *equipment*, rules of *procedure*, *application and administration*, *rationale*, and *incidental data*. The four first types are deemed indispensable for a text to be recognised as a recipe (1982a: 60-5).

Other earlier literature is more set on describing the linguistic features of recipes than their standard parts. Görlach's survey of cookery recipes through the centuries does not overtly name the different recurring parts in them; rather, his lists are concerned with text-type related features

79 Stannard's study includes medical recipes, culinary recipes, and recipes known as *secreta*, i.e. recipes for dyes, ink, paste etc. (1982a: 59).

and the well-definedness of the types. However, he does mention, by way of an example, title, ingredients, procedure and how to serve the dish as standardised elements of the arrangement of information in cookery recipes (1992: 745-6). Carroll expands on Görlach's survey, and demostrates the well-definedness of the Middle English text types of culinary and medicinal recipes, areas in which Görlach's survey is not up-to-date (1999). Carroll does not identify recipe elements by name save the heading or title. Taavitsainen is also in line with Görlach and Carroll, and discusses only titles and efficacy formulae by name (2001).

I have chosen to use Stannard's terminology, but I will complement his study with Hunt's and Taavitsainen's work. The examples given will represent the variation in recipes found in herbals.

### 7.3.1 Purpose

The purpose[80] of a recipe is always present in the text, often in short form indicating the ailment for which the recipe has been written, as in (27). It is also possible to introduce a recipe with a conditional clause, as in (28), or with an anaphoric device, as in (29), referring back to a recipe purpose introduced earlier:

80 As seen earlier, in Hunt's study *purpose* corresponds to *indication*. Hunt differentiates between *rubric*, and *indication*, i.e. a rubric may contain a name a recipe is identified with (possibly derived from a physician's name, or the name of the main ingredients), or an identifying phrase (usually a NP) that may state the nature of the remedy in question (e.g. *Emplastrum bonum*...). Rubrics may be omitted in more popular material, and thus indication may serve as both the heading and a purpose for a recipe (1990: 17-8). The recipe element that Hunt calls a *rubric* is very rare in the herbal material. In fact, I was unable to find one example of a herbal rubric in the corpora used for this study. Stannard mentions *rubrics* clearly indicating that the term entails words inked in red, or with a red decoration. Rubric is most often a case of *purpose*, and therefore needs to address the malady the recipe is intended for. However, in the case of a rubric that refers only to a physician by name, the purpose of the recipe must be stated elsewhere in the recipe (1982a: 60-1; cf. Hunt's *rubric* and *indication*). In Taavitsainen's study, context has been accounted for in the study of recipes, and the pattern is that remedy-book recipes are usually begun with an NP + postmodification (as in Hunt's *Emplastrum bonum*), or by a prepositional phrase *For* + NP, which states the malady or condition the remedy is intended for. In surgical and specialised treatises the purpose of the recipe is often inferred from the context, and different recipes are separated from other text by indexing devices, such as *Also*..., *Recipe*..., *Another*... (2001: 99).

(27) **For þe stomak**. Take wermode...
*Macer*, p. 61

(28) **If a ma[n] haue wormes in his wombe** take þ[e] sede...
*Bancke's Herbal*, f. D iv

(29) **For þe same ewel** take þe mele of þis same herbe...
*Agnus castus*, p. 170

A recipe purpose may also be found at the end of a recipe:[81]

(30) Also take þe seed of þis herbe and stampe it and tempre it with þe sowrest vynegre or esyle þat þou may fynde and drynke it and **it schal stangche þe floux and make þe wombe hard**
*Agnus castus*, p. 163

One explanation for the placing of the purpose at the end of a recipe is that it usually provides some additional information in combination with a (principal) purpose or indication given at the beginning, which is maybe not as specific as the one at the end (Hunt 1990: 18). In recipes in herbals, the place of the purpose is usually determined by the structure of a herbal entry: as an entry begins with a list of names, the herb in question is henceforth given information. In a new item, a recipe or a recipe paraphrase, the order of information is customarily given-new, and thus the name of the herb (the names component) or the referent for it comes first, and the purpose, as new information, last. This particular order of elements in recipes will be pivotal to the analysis.

### 7.3.2 Ingredients, equipment and procedures

It is not possible to conceive of a recipe without the ingredients and procedures to prepare the medicine, nor without stating the equipment

81 Example 13 is an example of a prognostic recipe: it is used to obtain an answer in advance to a given question (cf. Hunt 1990: 18).

necessary for the preparation;[82] nevertheless, sometimes the specific amount of an ingredient, and more often the equipment used, is ignored:

(31) Tak **III rotes** of þis herbe and stampe hem, medle hem with **III cuppis of wyn** and with **also many of water**...
*Macer*, p. 71, ACHE

(32) Also take rewe and fenell off bothe **y-lyche moche** and stampe them bothe to-geder and temper them vpe with hony and evfraws...
*Vertues*, f. 62r, ACHE

(33) Take þe **iuus** of this centorie in haruyst tyme and dreye it at þe sunne and kepe it wel, for it wole be so gode to alle þe forseid causes and holsome.
*Macer*, p. 140, ACHE

Examples (31) and (32), both recipes proper, give us one example of accurate amounts of ingredients, and another of the omission of measurements. In recipes in herbals, both the inclusion and the omission of the measurements seem to be equally frequent. Example (33) uses shorthand to present the procedure: *iuus* implies certain preparatory steps to be taken before the audience can act upon the recipe's overt instructions. The omission of information such as specific measurements and the implication of a procedure or piece of equipment through the use of a carefully chosen NP are probably motivated by the assumed shared knowledge of the community of medical practitioners. The usual

82 *Ingredients* corresponds to *composition* in Hunt's study; *procedure* and *equipment* are covered by *preparation*. The omission of measures and weights is also common in thirteenth-century insular medical material. In the preparation section, a lot of the procedures are indicated through the choice of verbs (1990: 18-20). Remedy-books and surgical texts have been treated separately in Taavitsainen's study, and she observes that in remedial literature the measurement units are usually derived from body parts or items used daily (e.g. handful, pennyweight). Amounts are always vague in remedy-books (a good amount), but measurements expressed as portions of something are equally common in both remedy literature and surgical texts, with the exception that surgical measurements seem to be slightly more precise (2001: 103).

procedures and rules of thumb in the preparation of medicines were common knowledge, unlikely to change overnight, and were therefore not needed in the written versions of recipes (Stannard 1982a: 62). In addition, the VPs used for instructing the reader in procedure usually demand a certain kind of equipment (Hunt 1990: 20). Almost invariably, recipes in herbals present procedural verbs in the imperative.

### 7.3.3 Application and administration

The information for the application and administration of medicines in herbal recipes include the dosage, frequency and time of application, and other instructions.[83] This recipe element is usually given in recipes proper in herbals as shown in example (34):

(34) Also yff a chylde be dede yn h*y*s modyr wombe take mugworte and stampe h*y*t well *and* **ley hyt to her wombe colde** and sche shall be delyv*er*yd a-non w*it*h-ow3t perell
*Vertues*, p. 31

This recipe from *Vertues* includes information on the internal or external use of the remedy, the location of application, and the temperature at which the medicine described is to be administered.

The information on application and administration may also be reduced to an implication, as in example (35), or omitted altogether, as in (36):

(35) Alsoo take thou this herbe And Aysell and make **sauce** / & it wyll make the to haue a talent to thy meet.
*Bancke's Herbal*, f. E. ii

(36) XV. For laxatif.

83 This element is called *application* in Hunt 1990, and the content is mainly the same as in Stannard 1982a. The latter also mentions rituals, incantations etc. that are performed at the time of application of a medicine (Stannard 1982a: 66-7). This is rarely the case with herbal material: in herbals, rituals are usually performed when the herbs are being collected (cf. example (22) in section 6.6).

> 3if þou wilte solue þe wombe that is costyff, take tweye parties of aloe, take one parte of diagredium, and grinde hem well to-gydre, and this medecyne ys a noble laxatyff.
>
> *Macer*, p. 189

In (35), the NP *sauce* implies the manner of administration; in (36), the administration of the medicine has been left to the physician's experience and knowledge to decide. Reduction or omission of the information on application and administration is, as with the omission of quantities or measurements, probably due to the expected competence and shared knowledge of medieval medical practitioners.

### 7.3.4 Rationale

The recipe element *rationale* comprises the evidence presented in a recipe to prove its efficacy. This may entail complex elaborations of humoural theory (a rule of thumb: a plant classified as hot and dry would be good against diseases caused by cold and moisture), or references to the system of signatures (the habit of a plant indicates its medicinal properties, cf. Hunt 1990: 6).[84] The rationale aims at giving reasons for why certain ingredients are effective against certain diseases.

(37) This is called Rewe. This is hote and dry in þ~ .ii. Degre [...] For þ~

84 The doctrine of signatures is closely related to the maxim of homeopathy similia similibus curantur (Hunt 1990: 6, 23). It also has some things in common with the etymologies of plant-names, as can be seen in the extract from Trevisa, *De proprietatibus rerum*:

> De celidonia. Capitulum xlvi$^{m}$.
>
> Celidonia is an herbe wiþ 3olow floures and fruyt, and smytteþ hondes þat it toucheþ. And hatte celidonia for he springeþ oþer blowwiþ in þe comyng of swalwes, as Ysider seiþ libro xvii$^{o}$., for a swalwe hatte celidon in gru. And herto Ysider seiþ. Ouþer it hatte celidonia for he helpeþ swalwe briddis if here yhen ben hurt oþer yblende. And Plinius rehersiþ þe same and seiþ þat wiþ þe ius of celidony swalwe yhen torneþ a3ein to þe first astate if þey ben hurte oþer yputte oute.
> Trevisa, *De proprietatibus rerum* p. 939-40

> heed ache take the ioyce of rewe & hete it & put it into his nosethrylles **for it putteth out flewme & cle~seth þ~ brayne**
> *Bancke's Herbal*, f. H. ii

In example (37), the rationale uses the humoural theory, and points out that rue (*Ruta graveolens*), which is hot and dry by nature, and is contrary to phlegm, which is cold and moist by nature, and thus using rue will oust excessive phlegm.

### 7.3.5 Incidental data

Incidental data is the most varied category in Stannard's study (1982a: 70-3),[85] though in herbals most of this data falls into the category of efficacy phrases (Jones 1998: 199-200), such as *probatum est*, i.e. 'this medicine has been tried, and found effective' (see example (38)). There are several variants of efficacy phrases with various functions, which have been discussed in detail in Jones's article. Other information included in incidental data in herbals includes anecdotes, as in (39),[86] and quotations of

85 Stannard lists fables, legends, synonyms, etymologies, amulets, incantamenta, anecdotes, medical case reports, names of authorities, prognostications, etiologies of diseases, folk beliefs, superstitious practices, and efficacy phrases ("a curious, almost formulaic use of certain words", to quote him exactly (1982a: 72)) as the contents of incidental data. Hunt's corresponding element is named statement of efficacy (1990: 22-4). Hunt includes not only the formulaic expressions at the end of a recipe, such as probatum est, but also recipe initial formulaic expressions, effects and side effects, case reports, and references to sources and authorities: Hunt is thus, more or less, in agreement with Stannard. Jones's definition of efficacy phrases, "... are those which attest to the value of a recipe, and which are found in this final closing positions" (1998: 201) excludes everything else but the recipe final formulaic tag phrases; this definition is employed by Taavitsainen when she discusses the variation in the presentation of the efficacy of recipes. Her analysis includes case reports as well, and thus according to her article the contents of this element is similar to the results presented by Hunt and Stannard (Taavitsainen 2001a: 104-6).

86 The anecdote in Daniel's *Rosemary* is preceded by a recipe paraphrase, not a recipe proper:

> Also 3if on hyde hym-self in a busch þer of or ellys he be wappyd weel in his lewys & his braunchys no thonder no leuene schall hym towchyn ne smytyn ne deren Þe same doth þe lorer tre. as anemptis þe thonder nowth

influential authors' writings on the medicine, as in (40):

(38) þanne sowpe þer-of and hold it in þin mowth and do so oftyn and **þou schalt be hol in warantyse**
*Agnus castus*, p. 134

(39) We redyn þat Tiberie þe Emperowre of rome dredde thonder no man soo and because þerof he dede maken a gardeyn all of lorer and eueri thonder þere he hydde hym
Daniel, *Rosemary*, p. 85

(40) **Also galyan seyth** 3ef a chyld hawe þe fallyng ewyl. tak þe Rote of þis herbe. and hang it abowtyn þe chyldis nekke and he schal ben hol.
*Agnus castus*, p. 191

## 7.4 Recipe elements - relevance for the study

Recipe elements can be used to analyse the parallel passages in the study of intertextuality between herbals and non-herbals. The element labels can be used to differentiate between recipe elements that have been amalgamated into a single expression, as in example (33) with the noun *iuus*.[87] Furthermore, the order of recipe elements will be used as a criterion when the direction of borrowing of textual material is studied through the informational structure of R&RPs. The following chapter will discuss similar elements in herbals and recipe paraphrases.

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as anemptys þe leuene
Daniel, *Rosemary*, p. 85

87 The recipe shorthand that *iuus* represents includes both the elements of ingredients, and procedure: producing juice requires certain equipment and work phases, but also an ingredient that is used as raw material. Therefore, *iuus* in example (33) is a contraction of a subsection of the recipe: it could be expanded by labeling it as 'ingredients + procedure'. Recipe shorthand is further discussed in chapter 8.

# 8. Recipe paraphrases in herbals[88]

## 8.0 Abstract

In this study, I have chosen to consider material and structural intertextuality in order to establish intertextual links between herbals and other medical texts. As the material that forms most of the links between herbals and non-herbals consists of recipes and recipe paraphrases, a proper introduction of the latter is called for. Finding evidence of intertextuality in recipes and recipe paraphrases despite the apparent lack of structural conformity on syntax level is the main point of interest in this chapter.

The beginning of chapter 8 explicates ways in which instruction (the text type most closely associated with recipes) can be conveyed without actually resorting to the conventional linguistic features of instruction. I will also briefly introduce indirect instruction, as that concept is helpful in understanding the definition of the recipe paraphrase given in chapter 2. I have used the concepts and terminology of the Speech Act theory in order to name and relate the phenomena observed in herbals to the concepts of recipe and instruction. The latter part of the chapter provides a discussion on the functions of recipes and recipe paraphrases in herbals, and presents examples of recipe paraphrases and how the different recipe elements have been realised in them.

## 8.1 Instruction and directives – direct and indirect

Instruction is "the action of instructing or teaching; the imparting of knowledge or skill", or "the knowledge or teaching imparted, an item of knowledge imparted; an instructive rule, a precept, a lesson", or "a making known to a person what he is required to do; a direction, an order, a mandate (oral or written)" (*OED Online*, *s.v.*). In other words, instruction is formally "telling what to do", giving detailed information on the procedure for something, or anything that can be interpreted as giving advice on how

88 This chapter is partly based on Mäkinen 2002b and Mäkinen 2003.

to perform the required actions. In instruction the speaker or author tells the hearer or audience what to do in order to achieve the desired goal or effect. This definition was touched upon by Trimble: he claims that the rhetorical function of instructing can be broken into two major groups, instruction and instructional information. Instruction is further divided into direct instruction (usually in the imperative) and indirect instruction (usually accompanied by a modal verb) (1985: 92- 93). In this chapter, the focus is on the direct and indirect instruction in herbals.

In the terms of Speech Act theory, instruction is mostly realised by directives, one of the five basic speech acts defined by Searle (1976). A good summary of the notion of speech acts can be found in Crystal 1992:

> A communicative activity defined with reference to the intentions of a speaker while speaking and the effects achieved on a listener. In this context, the act itself is called a **locutionary act**; the intentional aspect is the act's **illocutionary force**; and the impact on the listener is the act's **perlocutionary effect**. (p. 362)

Directives are defined as "attempts by the speaker to get the addressee to do something" (Searle 1976: 11), i.e. the definition is not unlike from Trimble's definition of instruction. This chapter focuses on how instruction is conveyed without the overt signals of instruction, mainly without imperatives. This kind of instruction or directives can be called implied instruction, embedded directives (Ervin-Tripp 1976: 29), covert instruction, or para-imperatives (Hamblin 1987: 45). Even Grice's model of conversational implicature can be used to explain the intended message; in any case, in indirect instruction there is always the difference between a the pragmatic meaning and the semantic meaning of a proposition (Leech 1983: 6, 30-1). Thus, I am interested in the illocutionary force of recipe paraphrases, or the pragmatic meaning that recipe paraphrases reflect.

## 8.2 Recipes in Middle English herbals

In Middle English herbals, the most apparent (although not the most frequent) device of instruction is recipes, which dispense information on

how to prepare medicines.[89] Recipes are always direct instruction, i.e. the primary illocutionary force is to advise people on how to prepare the end product the recipe describes. Recipes in herbals are usually of the type:

(41) Also 3ef þou bledyst at þin nose. tak **betonye** *and* stamp **it** with a lytyl salt *and* put **it** to þinn nosethyrlys as moche as þou may with þin thombe and þin medyl fynger *and* þanne hold **þin nosethyrlys** with þe same fyngres *and* þin blod schal staunchen anon
*Agnus castus*, p. 134

The recipe in example (41) is a regular recipe. Imperatives have been underlined, **objects** high-lighted with bold type, and *clause co-ordinators* italicised. Imperatives are used to instruct the reader; involvement is made apparent by the use of second person singular verb forms and second person singular pronouns; the style of the passage is paratactic, and the clauses form a temporal sequence; only object deletion is not realised in the example[90] (cf. the set of recipe features in Görlach 1992: 746). As a speech act, this is a directive, in which the hearer's future action is predicated by imperatives.

Despite the direct imperatives of recipes, recipes are not primarily intended to be treated as instruction in Middle English herbals. This is implied by the fact that recipes are often embedded in the sequences that relate the medical properties or virtues of plants:

(42) The vertu of þis erbe ys take þe juse þer-of medle it with eysell and oyle dolyfe and boyle hem to-gethyr and make þer-of a noynment and it woll dystroye scabys

89 For my earlier study on instruction in herbals (a research poster titled 'Strategies of instruction in Middle English herbals', presented at the *International Computer Archive of Modern and Medieval English* conference, in 2003), I had collected 1,032 instructional passages from ACHE. Over half of the passages were cases of indirect instruction (53.7 per cent indirect, 46.3 per cent direct). 51.8 per cent of all the passages were recipe paraphrases, and 44.7 per cent were recipes proper; 1.8 per cent were instruction other than recipes or RPs.

90 As noted in section 2.5.2, object deletion in Middle English recipes is rare (Taavitsainen 2001a: 98-106).

*Agnus castus* p. 203

In example (42), the beginning of the passage is common in herbal entries: *The vertu of þis herbe ys...* . What follows, is a regular recipe beginning by *take*; the only deviation from a regular recipe format is that the main ingredient is referred to by a noun phrase *þe juse þer-of*, which is not the name of the herb ingredient. The recipe's function is to illustrate the properties or virtues of the plant. Pliny the Elder noted that the nature of plants cannot be fully understood unless their medicinal properties are known (Stannard 1982b: 6). Therefore, recipes in herbals were primarily examples of the medicinal uses of plants.

## 8.3 Recipes paraphrased

In the previous section, example (42) presented a recipe the primary function of which is not instruction. When the function of a text type changes, one can assume that such features in the syntax that serve only the function may be let go. Recipe paraphrases in herbals exemplify such cases.

Recipe paraphrase has been formally defined in section 2.5.3 (see also Taavitsainen 2001a: 107; Mäkinen 2002b: *passim*; Mäkinen 2004: 148).[91]

91 The prerequisites of a recipe as set down by Görlach (1992) seem very narrow when one considers all the textual strategies possible for conveying the information contained within a recipe. This has been discussed elsewhere as well, for example in Hamblin (1987):

> "In some other languages an impersonal subject is favoured, One rubs... or You rub..., or even (for example, in Polynesian) first-person plural, We rub... These formulations make a recipe resemble a description of an exisiting practice rather than a prescription for a contingent future one; and it is, after all, a normal feature of a recipe that it should express an ongoing practice, real or envisaged. A recipe is, as has sometimes been said of moral advice, universalizable; it tells you not just what to do on this occasion, but rather what to do (and what anyone should do) on all occasionsof a certain sort, namely, occasions that call for a batch of waffles or whatever.
>
> But this only says that a RECIPE is a certain sort of universal imperative, not that it is not an imperative at all."
>
> (Hamblin 1987: 12)

The most distinguishing text-internal features of recipes (imperatives, object deletion, involvement) are not present, but the information dispensed in the passage corresponds to that of a recipe. A recipe paraphrase is characterised by impersonal style and inanimate subjects, conditional clauses relating the recipe procedure and past participles reflecting the procedure processes.[92] Example (43) illustrates this phenomenon:

(43) Also þe same awtourres seyn 3if *þis herbe* be **sothyn** with smal-hache in water of sawge. and afterward *þe hyndere parte of þe hed of þe man þat is seke* be weel **wasched** and weel **froted** þer-wyth. *It* helyth and vnbyndyth an ewyl þat men clepyn þe lytarge. þat is clepyd a wodhed

*Agnus castus*, pp. 119-20

The conditional clause and the matrix clause have been underlined, the **past participles** set with bold type, and the *inanimate subjects* italicised. The conditional clause with past participles (*sothyn*, *wasched*, *froted*) relates the ingredients, and the processes of the procedure and administration; the matrix clause (beginning with *It helyth*…) gives the purpose. These features and the inanimate subjects (*þis herbe*, *þe hyndere parte of þe hed*..., *It*) render the passage and its style quite unlike the involved style that is encountered in recipes.

The apparent function of recipe paraphrases is, according to the Speech Act theory, assertive or representative. The underlying function may be interpreted, due to the sometimes very detailed nature of recipe paraphrases, as either directive or commissive. In a commissive recipe paraphrase, the herb or the ingredient of the recipe paraphrase is committed to its future effect, provided it undergoes certain processes which are described in recipe procedure and administration.[93]

92 Carroll noted in her 1999 article (p. 34, example 30; p. 35, examples 36-7) that on linguistic criteria alone, *Macer* is not a collection of recipes, "but another text-type". In this study *Macer* has been classified as a herbal, and the expected passage exemplifying the medicinal properties of a herb is a recipe paraphrase.

93 Alonso Almeida and Cabrera-Abreu (2002) have studied the formulation of promise in ME medical recipes according to the Relevance Theory. The variation in the

Therefore, recipe paraphrases in herbals usually state the propositional content condition related to the future effect of a medicine.[94] Another way to present this information is to use a main clause, in which the effect or potency of a medicine is stated or predicted, either in the present or the future tense, and the subject (usually the herb) modified by processes of a recipe which are indicated by past participles:

(44) For þe emoraudes. Aneyse sede rosted and leide to þe emoraudes wole hele hem and dissolue þe kernell in þe ers or elles-where.
*Macer*, p. 105

In herbals, recipe paraphrases are more common than recipes proper. This is probably due to the function of herbals: as herbals primarily offer help with the identification of a herb, and list some of the medicinal properties of the herb in question, recipe paraphrases in herbals must primarily exemplify the medicinal potency of the plant. For this reason a syntactic form which can only secondarily be perceived as instruction is preferred (Mäkinen 2002b: 283; Mäkinen 2004: 148). Functionally, this kind of passage can often be perceived as a recipe, both from the intention and the content.

application of medicine (*administration* in Stannard's terms) and the efficacy phrase determine the pragmatic meaning of a recipe. The logical formulation of the recipe chunks studied usually has the form "if P then Q" (pp. 146, 152), and thus is not unlike the formulation of recipe paraphrases.

94 *Will*, which is often used in Middle English recipe paraphrases, does not necessarily indicate a genuine future tense, as that is a later development of the underlying meaning of *will*, i.e. volition. However, some secondary sources do maintain that there are ME cases of genuine future tense (e.g. Mustanoja 1960: 489, 493; Horobin and Smith 2002: 97). In recipe paraphrases, it seems likely that a non-personal promise does not carry any traces of volition (cf. the discussion on *genuine future* in Bybee 1994: 244). This is further emphasised by the fact that the commissive speech act that is performed in the promise included in a recipe paraphrase binds inanimate subjects, not human beings.

## 8.4 Recipe elements in RPs

### 8.4.1 Purpose in recipe paraphrases

The recipe purpose, or an element performing the same function, is also always present in RPs. The recipe-like introduction to a remedy for an ailment is followed by covert instruction given in a sentence with an inanimate subject:

(45) **For sownyng in þe ere**. Þe iuus of wermode with oxen galle heliþ þe sownyng of þe ere.
*Macer*, p. 64

Purpose in RPs is often realised by a superordinate clause governing a subordinate conditional clause, which usually gives information about the procedure for the preparation of the medicine, and its application:[95]

(46) Also þe colys of hys stalkys bownden in a clene lynene clowt 3if þi teth ben well froten þer-wyth **it sleth wormys in þe teth & kepyth þe teth fro rotyng & fro ake & fro wormys**
Daniel, *Rosemary*, p. 84

The reader may have to wait for the statement of purpose, as the default order of recipe-like elements in RPs is not the same as it is in recipes proper (Mäkinen 2004: 153-4). The order of elements in RPs usually places the recipe purpose at the end of the sequence. This is probably due to the structure of the herbal entry: as each entry begins by introducing the herb in question, by the first recipe or recipe paraphrase the name of the plant is already given information. Therefore, the preference for the order old information – new information means that each new recipe or RP in a herbal entry begins with a reference to the herb in question, and that leaves only the recipe (paraphrase)-final position for the purpose. The use of anaphoric reference instead of the name of the plant almost forces the

95 It is worth noting that conditional clauses in recipes proper usually state the purpose of a recipe, whereas conditional clauses in recipe paraphrases state the procedure for its preparation and application.

*locus* of ingredients to be the first item in a recipe or RP, and the order of elements that follows (procedure – administration – purpose) is the simplest and most economical way to present the required information. Another factor that motivates the choice of the order described is that the recipes and recipe paraphrases (R&RPs) given in a herbal entry are often simples, and thus there is no possiblity of mistaking the referent.[96] This informational structure will be used in the analysis to elicit information on the direction of borrowing.

### 8.4.2 Ingredients, procedures, and equipment in RPs

(47) **Grene isope stamped** and **medled** with oxymel, þat is to sey **with a manere of drinke** þat is made with vynegre and hony, þe II parties vynegre and þe III:de parte hony, and drunken þus...
*Macer*, p. 99

(48) Also **the ioyce of this herbe** & **Myrre** and **Safron tempered togyder** in **whyte wyne** and a **lytell boyled ouer the fyre** and **clensed throughe a clothe** is good to hele rennynge eyes.
*Bancke's Herbal*, f. A iii

The omission of quantities in RPs in herbals seems to be more a rule than an exception, although proportions may be stated. Recipe procedures are either given with past participles, such as *stamped* and *medled* in (47) and *boyled* and *clensed* in (48), or implied by NPs, such as *a manere of drinke* in (47). Equipment is mostly left to the experience of the audience, although (48) is an example of an explicit statement of equipment (*throughe a clothe*), possibly because the procedure implied by *clensed* might be interpreted to mean other ways of cleansing the medicine, e.g. purification by fire.

RPs usually adopt strategies that either reduce the information on application to the level of a multi-purpose past participle, as is shown in (49), or omit it completely, as was already seen in example (48):

96 In the event of a *composita* in a herbal, the other ingredients are usually clearly stated, but the entry headword is only referred to.

(49) […] þe vertu is 3ef it be sothyn in wyn and **drounkyn** it schal dystroye alle the soris and the euel of a manys stomake [...]
*Agnus castus*, pp. 196-7

*Drounkyn* has multiple functions, as it indicates that the end product is a potable medicine, but it also carries information on the application and administration of the medicine. RPs like (48), without any indication of application, are very common, but it can be assumed that medical practitioners would have inferred from the context and their experience how to administer each medicine.

### 8.4.3 Rationale and incidental data in RPs

In herbals, rationale could be embedded in the component of temperature, which was an obvious way of presenting the reasons for the potency of a herb. Another way was to use the names component, and especially the etymology part that was sometimes attached to names. Incidental data appears in RPs in as many variants as it does in recipes proper.

### 8.4.4 Element analysis of R&RPs

The difference between the informational structures of recipes and RPs can be reduced to relate only to the elements of purpose and ingredients: as was mentioned in section 8.4.1, the other recipe elements will find their place even if purpose and ingredients change theirs. As examples have already shown, the recipe order of elements does not require the extract to be a recipe, or vice versa. The form of an R&RP is not regulated by the informational structure, as extracts (50) through (52) show (the recipe elements have been marked A for purpose, B for ingredients, C for procedure, and D for administration, all within square brackets):

(50) Also it is good [A] for y$^{e}$ hed ake [B] X kyrnellis of pepyr **to take** [C] And gry~des well w$^{t}$ [B] eysyl amonge, And [D] drinke or bynde to y$^{e}$ thone wo~ge.
*Stockholm verse recipes*, p. 350

(51) Ether [C + D] **drynke** [B] [betayn] and it will [A + F] kest vp the bones and hele the wounde
*Leechbook 1*, p. 40

(52) For the eeres E [A] Agaynst payne of the eeres [C] **mengle the iuce** of [B] bethoni with oyle of roses / [D] and put it warme in to the eeres with a tente and stoppe them with wolle.
*Grete Herball*

Example (50) has the R order of elements, but it lacks an imperative VP, the formal signature of a recipe. The verse form may be the cause for the choice of mood, but if the definition of recipe in this study is applied, this example counts as a recipe paraphrase. Number (51) uses the required mood in *drynke*, but the verb used joins both procedure and administration into one word, and thus makes the R&RP present a kind of recipe shorthand, in other words, it is a recipe paraphrase. The order of elements in (51) is RP order. Example (52) presents a problem similar to (51): the R&RP has the R order of elements, but *mengle the iuce* makes the formal imperative form *take*[97] unnecessary. Despite the imperative, a lot of information has been packed into the three words (*mixing* presupposes taking, and *juice* presupposes a procedure to produce juice), therefore the example must also be analysed as a recipe paraphrase.

The sequences used for purpose and ingredients often need some contextualisation, especially when they contain anaphoric expressions such as *item*, *the same* or *it*. Each of these may stand for purpose, ingredients, ingredients and procedure, or even ingredients, procedure and administration:

(53) For iche manere euele of [\f. 4va\] þe heued: Tac rue and lei it in eycil and smer þerwit þin heved al abouen.
[...]
[A] **Item** [B] verueyne and betoyne, wermoid, seledoyne, weybrede and rue, walwrt and þe rinde of hellerne and hony wit pepercornus, [C] poyne al hem togedere and wel hem in wyne [D] and

97 The verbs that have been accepted as indicators of recipes are variants of *tak, recipe, nym, pernez* etc., as long as they are in the imperative.

þerof drink fastynge ate morwen and last at euen til þou be hoil.
*First corpus compendium*, p. 95

(54) [at the beginning of a herbal entry]
BEtonica in latyn / The beste parte and tyme of his dystyllacyon is / the leues and steles of them that bereth browne flowres / dystylled in the ende of the Maye.
[...]
[the following quite at the end of the entry]
also [B + C + ?D] **it** [A] pulleth out broken bones.
*Braunschweig*, f. C iii

(55) XIII. For þe eyen. Betoyne leuys sodyn and emplasterid wole do huge goode to diuerse sorys of þe eyen, for it destroieþ þe terys of þe eyen wheþer she be ete or drunke in.
[...]
XIV. For neddre bytinges. [D] In þe same wise [B + C] **hit** [A + F] wole hele naddre bytynges and smytynges.
*Macer*, p. 107

(56) Also who hath þe fever tercyan. Take the rotys and þe croppys ther-off and stampe them and temper them with water and yeff þe seke to drynke yn hys acces. Also [A] for þe fever quartan vse [B + C + D] **þe same drynke**.
*Vertues*, p. 91

*Item*, in bold in (53), refers to the purpose sequence, and apparently also the word *tac* a couple of recipes away, thus the extract is an RP with R order of elements, and the particular reason for this categorisation is the lack of the imperative *take*. In (54), *it* refers to an entire paragraph at the beginning of the herbal entry which briefly summarises the name and time of gathering of the herb, and that it is a distillation that the author is speaking of. The functions it performs are thus those of ingredients and procedure, and it is followed by purpose (administration and dosage of medicine are left to the experience of the text user). *Hit*, in (55), also carries the information of

ingredients and procedure; the referent is a couple of recipes away. *þe same drynke*, in (56), refers to the preceding recipe, covering thus the functions of ingredients, procedure and administration. The order of elements is R order, but the shorthand makes this passage an RP.[98]

## 8.5 Significance of element order

As regards non-herbals, the order of elements is more important when defining the original genre of recipes or recipe paraphrases, while the R/RP distinction remains less important. This is due to the conventions of writing in each genre, and I believe that in the process of copying recipes or recipe-like passages, the mood of a VP would be more likely to change to match the conventions of the receiving genre than the order of recipe elements. In herbals, however, the distinction between recipes and recipe paraphrases is more important: most of the textual parallels with herbals seen in this study are parts of longer herbal entries, as has already been mentioned. The use of anaphoric reference creates cohesion within the entry, and partly dictates the order of elements in an R&RP. Therefore, a recipe encountered in a herbal entry stands out to some extent, especially when it breaks up a list of medical virtues conforming to the default herbal order of recipe elements and herbal genre conventions. Recipe-like passages tend to cluster in herbals and be scattered in non-herbals. The reason for this is that the passages in herbals are usually parts of a herbal entry, and therefore passages thematically linked by a plant-name keyword would occur in one entry.

The use of references to other parts of a herbal entry makes a consideration of the wider context of extracts from herbals necessary. Precise analysis of an extract is often not possible without an examination of the entire entry. I will make a note when it is obvious that the parallel is in fact part of a longer passage in the texts studied. This is common in herbals, but does also happen in non-herbals.

98 The RP starts with *Also for þe fever...* .

## 8.6 Recipes and paraphrases as evidence of intertextuality

The abundance of recipe paraphrases in herbals is apparent. The primary function of both recipes and recipe paraphrases in herbals is to exemplify the medical properties of plants. The secondary function is that of a recipe: as recipe paraphrases occasionally present very detailed information related to recipe procedures, it can be assumed that paraphrases may have been interpreted as indirect instruction. The second entailment is that herbals probably drew extensively on remedy-books.

In the analysis of intertextuality in herbals, all kinds of intertextuality must be considered as the evidence of links between texts: including only structural-material intertextuality, the established parallels would pair recipes with recipes, and recipe paraphrases with each other. If material intertextuality is the only criterion, the established parallels would attest to intertextuality only on the level of lexis, and the parallels would lack the important component of informational structure that can be used for determining the sources of passages. Considering only structural intertextuality, the evidence would include syntax and informational structure, but exclude the lexis, which is essential for the execution of textual searches on the material.

# 9. Intertextuality in herbals and other medical writing

## 9.0 Abstract

The majority of text in the context of plant-name keywords are recipes or recipe paraphrases. The retrieved text mass that does not consist of R&RPs contains exclusively passages from the herbal entry, i.e. the herbal components of names, habitat, plant history etc. are represented. As non-herbal passages are all R&RPs, I have included only R&RPs in the quantitative MDS analysis of material. The qualitative analysis and discussion of material includes both R&RPs and passages with no recipe-like information.

In this chapter, I have chosen to discuss the text material related to six plants. Each plant is treated separately. The sections begin with an overview and explication of the findings in multi-dimensional scaling, and then proceed to sample actual clusters of parallels that further illustrate the patterns observed in MDS.

## 9.1 On the analysis

I have used plant-name lists (lemmas) that derived from the corpus texts to carry out automatic keyword-in-context searches on the corpora. The amount of text retrieved was defined as 50 characters (including spaces) on each flank of the keyword. After the automatic text retrieval, I extended or cut the passages to include only one meaningful entity, e.g. an R&RP or a names component. The passages were then sorted into R&RPs and other passages.

The examples given in the analysis will be presented as follows:

(57) [A] Also 3if a man be paottacre tak [B] [betonye] and [C] sethe it in water in-to þe thyrdde-dell and þanne clense þat water. [D] and 3ef hym to drynke. or ellys tak [B] betonye [C] and stampe it and [D] ley it to hys feet and [F] so he schal ben hoolpyn

*Agnus castus*, p. 134; R, R MEMT

In the first section of analysis (on *Betonica officinalis*) I will use the letters ABCDEF in square brackets to indicate the recipe elements (A purpose, B ingredients, C procedure, D administration of medicine, E justification, and F additional information). The latter sections will not have this indication of recipe elements. The given examples will end with the name of the text: I will use the short corpus names; full bibliographical information on the texts can be found in *Appendices I* and *II*. Page number of the edition or early printed book will be given, if applicable. After the page number, the passage will be marked R/RP, R/RP. The first R or RP indicates whether the form of the passage is recipe or recipe paraphrase. The second R or RP indicates whether the passage uses the recipe order of elements or the recipe paraphrase order of elements. Finally, the passage will have an indication of the corpus it comes from: MEMT, EMEMT, or ACHE. These correspond to the corpus of *Middle English Medical Texts*, the corpus of *Early Modern English Medical Texts*, and *A Corpus of Herbals in English*, respectively. I have also used the abbreviation *Add.*, if the text in question one of the three texts added to the time period of MEMT (see chapter 5). Therefore, texts marked by MEMT or *Add.* are non-herbal texts from c. 1330-1500, those marked by EMEMT are non-herbal texts from 1500-1550, and those marked by ACHE are herbal texts from c. 1330-1550.

I will use the Latin names of the six plants chosen for the analysis (*Artemisia absinthium (Absinthium)*, *Artemisia vulgaris (Artemisia)*, *Betonica officinalis*, *Ruta graveolens*, *Rosmarinus officinalis* and *Verbena officinalis*), in order to differentiate them from other plant ingredients of R&RPs I will mention.[99] The keyword lemmas produced 1,857 hits (including the passages that were manually extracted from the texts of ACHE). Of these, 1,597 passages were R&RPs, i.e. roughly 86 per cent.

99 The Latin name is based on the plant that the names used in the medieval herbals are most often associated with by modern botanists. I am mostly relying on Hunt 1990, as regards medieval vernacular plant-names.

## 9.2 *Betonica officinalis* – betony

### 9.2.1 Preliminary view of *Betonica officinalis* parallels

I have used the information of all the R&RP parallels in the corpora that contain *Betonica officinalis* related information to produce the MDS plot in Figure 4. The method of calculating the place of each data point was explained in sections 3.3.1. A summary of the R&RPs that make up the data points in the plot can be seen in Table 6.

**Table 6: *Betonica officinalis* R&RP parallels – summary**

| | **R order herbal** | **R order non-herbal** | **RP order herbal** | **RP order non-herbal** | **TOTAL** |
|---|---|---|---|---|---|
| **RP** | 59 | 27 | 175 | 23 | *284* |
| **R** | 35 | 117 | 10 | 2 | *164* |
| **TOTAL** | *94* | *144* | *185* | *25* | **448** |

Legend: rows (RP/R) give the division of the material into recipes and recipe paraphrases; columns indicate the sources (herbals/non-herbals) and the order of recipe elements in the parallels (R order/RP order)

In the table, the rows (RP/R) give the division of the material into recipes and recipe paraphrases. Columns indicate the sources (either herbals or non-herbals) and the order of recipe elements in the parallels. The figures in the table thus give an overview of the material at hand: 1) parallels from herbals are more numerous than parallels from non-herbals, 2) RPs are more common than recipes, 3) recipe order of elements is preferred over RP order of elements, 4) the default pattern for presenting recipe-like information for herbals and non-herbals is RP/RP and R/R respectively, and 5) non-native textual strategies are attested more in herbals than in non-herbals. The table seems to suggest that herbals tend to lean towards non-herbals whereas the opposite is rarely the case.

The following figure (Figure 3) shows the preferred textual strategies used in the *Betonica* related R&RPs in percentages:

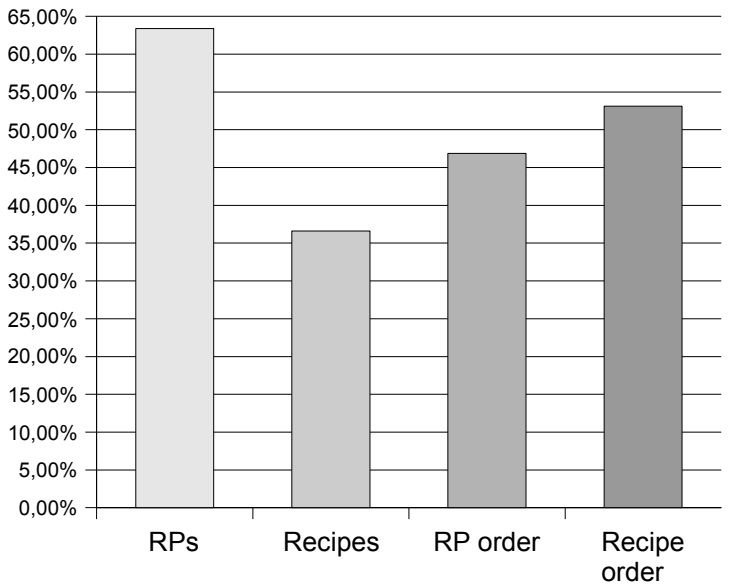


*Figure 3:* Betonica *R&RPs, R and RP order*

Herbals are clearly the prevalent source of *Betonica* related information (see Table 6), and accordingly the preferred R&RP form is recipe paraphrase, as can be seen in Figure 3. However, the recipe order of elements is used more often than would be expected on the basis of RP/R ratio. The reason for this seems to be that herbals either borrow material and informational structure from non-herbals, or that the traditions of recipe writing in herbals and non-herbals are separate, but herbals still tend to keep to the recipe conventions in presenting recipe-like information.

### 9.2.2 MDS presentation of *Betonica officinalis* parallels

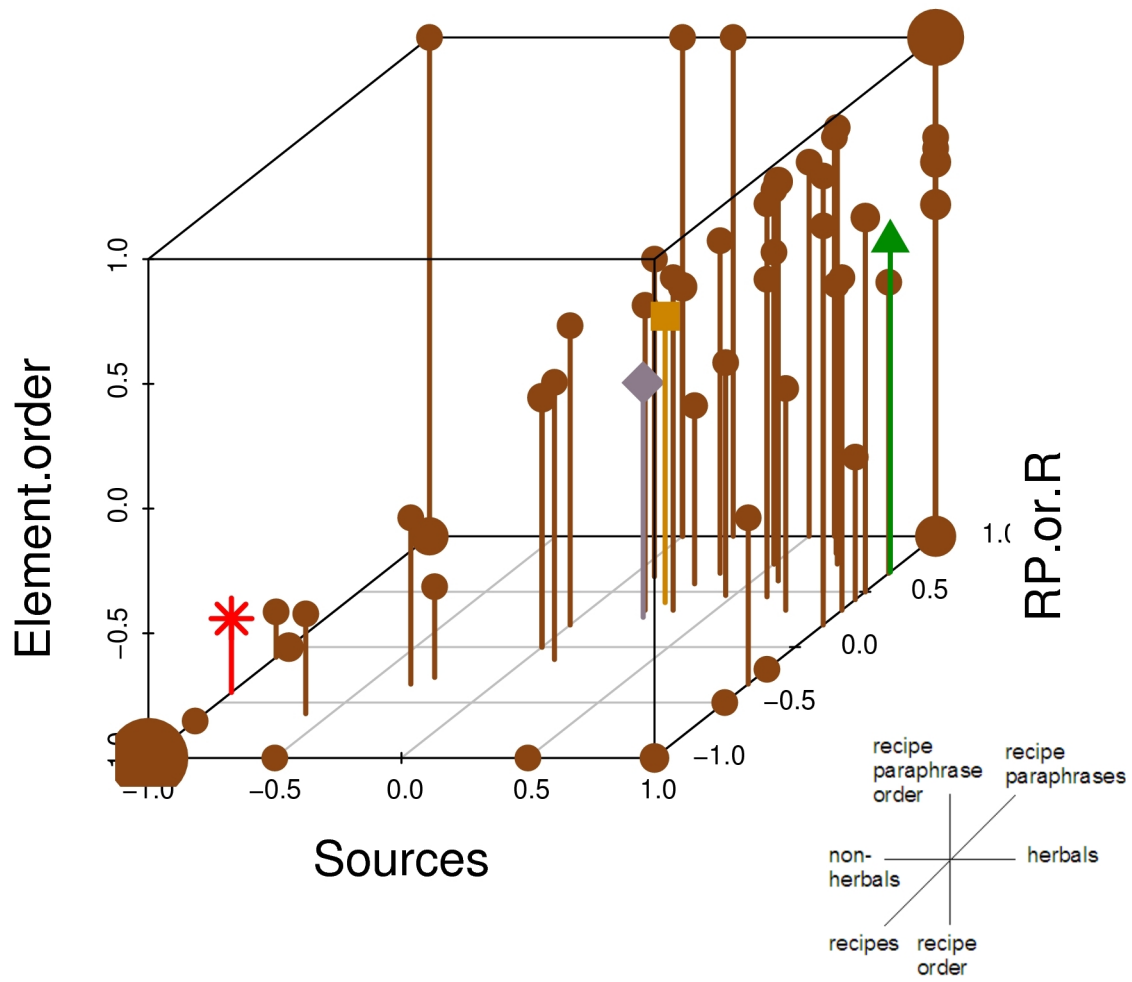


*Figure 4: Betonica officinalis R&RP parallel clusters*

Legend: ◇ mean of all parallel clusters; □ mean of clusters with herbal and non-herbal parallels; Δ mean of herbals only; * mean of non-herbals only

Figure 4 shows the prototypicality of the parallel clusters that contain *Betonica officinalis* related information. The 130 clusters that make up the plot contain 448 parallel passages in all. On average, this means 3.45 parallels per cluster. As will be seen in the course of the analysis, is a rather high average value, and it is indicative of the popularity of the herb.

There are 50 clusters with parallels from herbals only, and 49 clusters with parallels from non-herbals only. 31 clusters have parallels from both herbals and non-herbals, i.e. they contain information that is shared between herbals and non-herbals. The general observation of the plot thus is that the parallel clusters that attest to intertextuality between herbals and non-herbals are in the minority.

Overlap of data points takes place mostly at the non-herbal end of the plot (i.e. less data points are visible than there are clusters included in the plot), although there is significant overlap at the herbal end of the plot as well.[100] The overlap of points is indicated by an increase in dot size. Overlap indicates uniformity in the presentation of information, thus it can be claimed that in the non-herbal genres the presentation of recipe information varies less than in the herbal genre. The higher degree of variation can also be pointed out visually: the space confined by data points is both higher and wider at the herbal end of the plot than at the non-herbal end, and therefore the repertoire of used textual strategies and their combinations is also wider.

As noted, the number of data points as compared to the number of clusters with only non-herbal parallels indicates higher uniformity in the rendering of *Betonica*-related information in non-herbals. The higher degree of uniformity in the presentation of recipe information in non-herbals becomes also apparent in the non-herbal mean, marked by * in the plot.[101] The recipe element order is clearly the preferred informational structure for conveying information in non-herbals, as was also suggested by Table 6.

Herbals seem to use both R and RP order of elements (cf. the herbal mean, marked by Δ in the plot).[102] The *Element order* value for the

100 The co-ordinates for overlapping data points are -1, -1, -1 (37 parallel clusters), 1, 1, 1 (21 parallel clusters), 1, 1, -1 (ten parallel clusters), -1, 1, -1 (eight parallel clusters), 1, 1, 0.5; 1, 1, 0.33 (three parallel clusters each), and -1, 0, -1; 0, 0, 0; 0.6, 0.6, 0.6; 1, -1, -1; and 1, 0.5, 0.5 (two parallel clusters each).

101 The co-ordinates for the non-herbal mean are *Sources* -1, *R or RP* -0.41, and *Element order* -0.7.

102 The co-ordinates for the herbal mean are *Sources* 1, *R or RP* 0.68, and *Element order* 0.33

herbal mean (0.33) means that roughly 66 per cent of the herbal parallels use the RP order of elements, and conversely, 34 per cent employ the R order of elements.[103] The difference between the herbal genre and non-herbal genres becomes clear when these figures are compared with the corresponding figures from non-herbal parallels: 85 per cent of non-herbal parallels use the R order of elements. The figures seem to suggest that some of the material in herbal parallels may have its origin in the non-herbal genres.

As regards the overall mean[104] marked by ◇ in the plot, the value for *Element order* is of particular interest: the values for *x* and *y* (*Sources* and *R or RP* respectively) follow the expected genre pattern: the more parallels there are from herbals, the more herbal-like the preferred textual strategies of a cluster should be. However, the co-ordinate for *Element order* tells another story (the expected value is not in line with the other co-ordinates): the recipe order of elements seems to be far more preferred than the parallel ratio between herbals and non-herbals would lead us to assume. Therefore, the overall mean also seems to indicate that herbals draw material from non-herbals.

Interpreting the mean for shared information,[105] one can see that the ratio between non-herbal and herbal parallels is the same as in the overall mean, but the *R or RP* value would lead one to expect more herbal parallels than there are, i.e. the preferred form of R&RPs is the recipe paraphrase form, which is the default for herbal parallels. Conversely, the value for *Element order* indicates that the recipe order of elements is used more than expected. Thus, herbals seem to draw on non-herbals, and non-herbals seem to use more recipe paraphrase form than is expected.

---

103 The values given to the nominal variables in order to render them calculable mean that the continuums in 3D scatterplots all extend from point -1 to point 1. Therefore, a co-ordinate point with the value 0.33 corresponds to the percentage 66,5 (the calculus being the absolute value of a co-ordinate point plus 1 divided by 2 (the total length of the continuum), here the formula is (0.33 + 1)/2 = 0,665.

104 The co-ordinates for the overall mean are *Sources* 0.25, *R or RP* 0.27, and *Element order* -0.06.

105 The mean for shared information can be found at the co-ordinates *Sources* 0.26, *R or RP* 0.4, *Element order* 0.15.

The information in Table 6 and Figure 4 seem to be agreeing with each other: herbals tend to lean towards non-herbals and borrow informational structures (recipe order of elements) from them. Also, it can be stated that non-herbals do not solely keep to the recipe form when presenting recipe-like information; the reason for this must be sought for in the qualitative analysis of the clusters.

### 9.2.3 Qualitative analysis - *Betonica*-related information shared by herbals and non-herbals

In the qualitative part of the analysis, I will illustrate the patterns observed in the quantitative treatment of the data. I will also try to find reasons for the phenomena that cannot be explained by observing the numerical data.

The first parallel cluster considered contains recipes only. The recipe is for headaches, and describes the preparation of an ointment containing betony, horhound and penny-royal or wild thyme:

(58) [A] Take anoble onyme~t For hed werk good & prent, Take [B] ij vncis of Betoyne. And of horhowne ek as mayne, Viij of puliol reall, And [C] bray he~ alle to gedere small, And lete hem stondy~ [F] helyd fayre

*A tretys of diverse herbis*, p. 394; R, R ACHE

(59) [A] For werkyng of þe hed. [B] Take II vnces of betayne, and II vnces off hore-hone, and VIII vncys of pyliol ryoll, [C] and bray hem in a morter, and lat hem siþen stonden in a wessell, till it is mowlyd abouen; and siþen stampe hem a3en small, and frye hem in [B] oyle dolye; and put þer-to in þe fryinge an vnce of virgine-wex and I quarter of frank-ensens made in powder. [C] Whan it is wel boylled, wrynged þorow a streynoure, and put it siþen cold in a boyste. Who so haue heed-werk, [D] anoynte hym with þis oynement croswey in þe nekke, and folwe þe werkyng, wheder so it go abowthe the hed, makyng þer-on with þis oynement a cros.

*Stockholm prose recipes*, p. 69; R, R *Add.*

(60) [A] Pur le chef. Pernes [B] .ii. unces de [ Betoyne ] e .iii. unces de

> here torestre, 'þat is heyhowe,' e .viii. unces de puliole, þatys hulwrt', e [C] les fettis brayer en une morter. E kant sette iii. herbes sunt ben braes, fettes lez frire en une payele [B] de oyle de olive e mettez deins le payele un unce de sire verge e .i. quarterun de fraunc encens ben molu. [C] E kaunt il est ben bule, culez le parmy un drap e le lesses refreyder e cele unement mettez en une boyste. [D] E cant la dolour de cheif veint, oignies la fontayne de la teste en crois, e auxi cum sentes que la dolour sey remue, axi remuez le unement. [F] Aprez si garra certaynement.
>
> *First Corpus compendium*, p. 93; R, R MEMT

Every parallel in this list is a recipe proper, and all have the information order ABC..., i.e. that of a default recipe. Extract (58) is from a herbal, and one would expect the order of recipe elements BDC[...]A there. However, the origin of the recipe seems to be with non-herbal recipe collections, and despite the conventions prevalent in herbals, extract (58) is accordant with the conventions of its sources, i.e. it attests to the ABC... order of elements. There is variation within the cluster: extracts (59) and (60) seem to be closely related, sharing the same ingredients and same procedures; the herbal recipe in (58) contains only a part of the procedure (*and siþen stampe hem a3en small,* ...) in (59), and proceeds directly to additional information, i.e. the efficacy phrase. The recipe in (59) omits the efficacy phrase, which is attested in (60) (*Aprez si garra certaynement*).

The cluster with three recipes represents a case where a herbal R&RP is clearly derived from non-herbal sources. The degree of *accommodation* of the borrowed passage is very low: both the recipe form (including the imperative verb form) and the recipe order of elements or *Fachinformation* have been retained. By accommodation, I mean the application of genre-specific textual strategies to a passage whose content is shared by herbals and non-herbals.

The following series of extracts presents another parallel cluster (on "vomiting blood") with parallels from both herbals and non-herbals. As in the previous parallel cluster, the recipe elements have been tagged with letters from A to F:

(61) [B] II. Betoyn [C] drunkyn with [B] wyn [A] wole helpe hem þat speten blode.

*Macer*, p. 106; RP, RP ACHE

(62) [A] Also hyt ys gode for them that spewyth blode to [C] drynke [B] hyt with wyne and hony.

*Vertues*, p. 87; RP, R ACHE

(63) [A] For spettynge of blode. b To hem that spyt blode or rottenesse at the mouthe [C+D] gyue two dragmes of powdre of [B] bethony with two cyates of olde wyne [D] thre dayes / and [F] it wyll hele them.

*Grete Herball*; RP, R ACHE

(64) GG [C] Dronke [B] of the same [D] in the mornynge and at nyght / at euery tyme an ounce and a halfe [A] is good for spetynge blode and water / comyng of the brest and lo~gues.

*Braunschweig*, f. C iii; RP, RP ACHE

(65) [A] For iuele in þe mowit or in þrote:

[...]

[B] Tack mente, ache, rowe, Betoyne and [C] bulyt wel in [B] god-mylk.

[B] Tac puliole and betoyne and [C] mack puder þerof and do of þe puder [B] in to hony, [C] and het it, and do so þre dayes.

[B] Tack .iij. vnces of Betoyne and swet milk of a got and [C] temper togedere [D] and drinck it þre dayes.

*Second Corpus compendium*, p. 165; R, R MEMT

(66) Haemoptysis

[A] Item quo so spews blod: [B] Tac ache, mynte, rue and beteyne, of ilk olyche mychel, and [C] wel hem in [B] god wyn, or mylk is þe betre, [D] and drinck þre dayes.

*Second Corpus compendium*, p. 167; R, R MEMT

(67) [A] For spewyng of blode [B] Take ache mynt & rue & betoyne [C] & seth hem well in [B] gode mylk & [D] 3ef hyt þe seke to drynk & [A+F] þat ys gode for spewyng of blode & oþer spewyng all so
*Killeen Medical Texts*, p. 144; R, R MEMT

(68) [A] Pro expuentibus saguinem. [B] take þe jus of betonye, and [C] tempre hit wyþ [B] gootis mylke, and [C] tempre hem to gider, and [D] let þe seke drinke þer of þre dayes.
*Recipes 2*, p. 69; R, R MEMT

(69) [A] Pro eodem. [B] take smalache, &~ myntes, &~ rewe, and betonye [C] &~ boyle hem wel in [B] good mylke, [D] and sowpe hyt warme.
*Recipes 2*, p. 69; R, R MEMT

(70) [A] for spetyng of blode [...] [A] Anothir for the same Take the [C] jus of [B] betany [C] and temper it with [B] gotis mylke and [D] lete the sike drinke therof 3 daies [F] and he schal amende
*Naples recipes*, p. 43; R, R *Add.*

(71) [B] For speting of bloud. Cap. xciii. [A] Take ache, myntes, rue, & [betaine] [C] and sethe them well in [B] good mylke [D] geue it hym to drynke fyrste in the mornyng, and laste at nyght, [F] and he shalbe hole.
Moulton, *Myrour of helth*, f. G iii; R, R EMEMT

Four out of the ten extracts in this cluster are from herbals, the rest are from non-herbals, and all but one are from recipe collections. All herbal parallels are RPs, and all recipes are from non-herbals. The shared contents are the purpose (for spitting, spewing or vomiting blood), and the main ingredient, *Betonica officinalis*. Other ingredients vary from wine and honey to rue, ache, mint, penny-royal and milk. Essentially, the R&RPs are the same, although the very bare specimen from *Macer* (extract (61)) may seem

quite far removed from the *compositum* of extract (66), from *Second Corpus compendium* (cf. the variation at the two extremes of the parallel continuum presented in Hargreaves 1981). The variation in the number of ingredients may be due to text corruption, but as it is a question of utilitarian texts with direct applications in medical therapy, it may just as well be a case of additions to a known recipe by physicians (Voigts 1984: 323).

As regards the herbal examples, the extract from *Grete Herball* (63) is most like a recipe: it has an imperative verb form (*gyue*) and the informational structure adopted follows the default recipe order, i.e. purpose comes before ingredients. However, an explicit procedure is missing, as are the instructions for administering the medicine. The element order suggests an origin among non-herbals. *Macer* is a case of its own, as it is most prototypically a herbal R&RP: if the origin of the passage is among the recipe literature, it may also be the case that instead of copying the recipe as it was, the author of the herbal wrote down the basic idea of the recipe while applying the herbal conventions.

Half of the herbal parallels attest the default herbal textual strategies, and half of them mix strategies from both herbals and non-herbals, whereas the non-herbal parallels are all recipes with the default recipe order of elements. This agrees with the scatterplot in Figure 4, which shows more variation at the herbal end of the plot. A passages pertinence to the recipe strategies may indicate an origin in remedy-books.

In the process of accommodation of text imported from elsewhere, the text type seems to be as likely to change as the order of elements. In the case of herbals, this means changing the recipe form to RP form, and the recipe order to RP order. This is understandable: recipes that are copied into herbals would be copied into certain herbal entries, in order to illustrate the medicinal properties of a plant. The context in which the passage would be embedded is the given environment to which the extract has to be accommodated. As a herbal entry begins with the plant-name, the order of elements would change to the order "given – new", i.e. ingredients first, and purpose afterwards. This does not automatically entail a change from recipe form to RP form, but the change may take place simultaneously.

(72) [A] Also 3ef þou hawe sore teth [B] tak betonye and [C] sethe it in old wyn or in eysyle til it be sothyn to þe thrydpart [D] and þanne quanne it is cold. þanne sowpe þer-of and hold it in þin mowth and do so oftyn and [F] þou schalt be hol in warantyse

*Agnus castus*, p. 134; R, R ACHE

(73) [A] For tothache. [B] Betoine [C] iuus [D] holdyn longe in þe mouth [F] wole stanche þe tothache.

*Macer*, p. 108; RP, R ACHE

(74) [A] And if a man haue þe toith ake [B] Betayne [C] sothen in wyn he take. kepe it in his mouth euen & morwe. [F] And it schal dryuenn a way hys sorwe.

*Medical treatise*, p. 167; RP, R ACHE

(75) [A] 3if on hawe ye toth ake, [B] Betoyn [C] sothy~ & wy~ [D] he take And kepe it in hys mowth at ewyn & morwy~ [F] And it schall drywy~ away y$^{e}$ sorwe.

*A tretys of diverse herbis*, p. 366; RP, R ACHE

(76) [A] Also yf thou haue sore tethe / [B] with Vyneger or with Aysell / let it [C] sethe well tyll it be more than halfe wasted / [D] than as hote as thou maye suffre it suppe therof and holde it in thy mouthe tyll it be colde / than spytte it out / and do this ofte [F] and thou shalbe hole

*Bancke's Herbal*, f. B i; RP, R ACHE

(77) [A] Also yf thou haue sore teeth, [B] take Betayne [C] and seth it in olde wyne, or in eysell tyll it be sodde to the thyrde parte, [D] and holde it in thy mouth, [F] & thou shalbe amende.

*Macer Lynacro*, f. C i; R, R ACHE

(78) II [D] Kepeth [B/C] the same in the mouthe it helpeth [A] agaynst the payne in the tethe

*Braunschweig*, f. C iii; RP, RP ACHE

(79) [A] H Agaynst payne of the tothe / [C/B] sethe bethony in wyne or vyneygre / [D] and holde it hote a good whyle in your mouthe / and [F] it wyl take away the payne.
*Grete Herball*; RP, R ACHE

(80) it is good for the payne of the teeth,
Becon, *Waters Artyfycialles*, f. B i; RP, RP ACHE

(81) Item [C] seith [B] [ Betoyn ] in wyn or in eycil [D] and hold wel often in þi mowit. [A]
*First Corpus compendium*, p. 107; RP, RP MEMT

(82) Item [B] [ Betoyne ] [C] quissez en [B] eycil ow en vyn deke [C] a le terce part e [D] tenes ben chaude en la buche e [F] se fettez suvent.
*First Corpus compendium*, p. 107; RP, RP MEMT

(83) [A] Anoþer Ete rue and drinke þe jus oþer [C/B] boyle betayne in eysel oþer in wyne. to þe dridde partie. [D] and hold hit in þi mouþ wel hot. [F] forte þou be hol
*Leechbook 2*, p. 81; RP, R MEMT

(84) [B] Betayne [C] ytemprid wiþ salt oþer wiþ aysel [D] and hold hit in þi mouþ [F] is goud [A] for toþ ache
*Leechbook 2*, p. 57; RP, RP MEMT

(85) [A] For the tothe ache Cap. xi. [B] Take Betany and wildegordes [C] and sethe them in wyne or els in vyneger, [D] and than put it in thy mouth as hote as thou mayst suffer, & hold it a good whyle in thy mouth [F] and it wyll take away the payne.
Moulton, *Myrour of helth*, f. E ii; R, R EMEMT

This R&RP is found most often in herbals; however, the prevalent R&RP type is RP: only three parallels out of 14 use the recipe form, two of them

from herbals and one from a non-herbal. If the element order is considered, it reveals an opposite result: nine parallels use the recipe order of elements, and only two herbals employ the default herbal order.

The content is almost the same throughout the cluster; only *the same* and *it* in (78) *Braunschweig* and (81) *Waters artyfycialles* respectively refer to *Betonica* water instead of betony (for this reason, *the same* in (78) has been analysed as both ingredients and procedure). In example (85) there is an additional ingredient, *wildegordes*, but otherwise the R&RP is the same.

Considering the content and informational structure of the parallels, it seems that this particular piece of *Betonica* related information originates with non-herbals, and that herbals are still carrying the influence of non-herbals in the choice of the element order they most frequently present. However, when the text of *Leechbook 2* is studied more closely, the source of the *Betonica* passages is actually an extract from *The Virtues of Betony*, based on Antonius Musa's (attrib.) Latin treatise on *Betonica* (Howald and Sigerist: 1927). The passage covers three folios, and it has been copied there as it stands, apparently with no attempt to paraphrase it in order to accommodate it to the surrounding text. Thus, the passages from *Leechbook 2* are actually herbal passages, and the cluster must be treated accordingly.

### 9.2.4 Parallels only in herbals

In addition to herbal-specific components such as names, habitat etc., there are parallel clusters that have parallels only from herbals. The following parallel cluster (on nosebleeds) exemplifies one of these:

(86) [A] Also 3ef þou bledyst at þin nose. tak [B] betonye and [C] stamp it with a lytyl salt [D] and put it to þinn nosethyrlys as moche as þou may with þin thombe and þin medyl fynger and þanne hold þin nosethyrlys with þe same fyngres [F] and þin blod schal staunchen anon

*Agnus castus*, p. 134; R, R ACHE

(87) [A] VII. For to staunche blod at þe nose. [B] þis herbe [C] brosid wel and [D] put in at þe noseþrill [F] wol staunche þe blode þat rynnyth out at þe nose.

*Macer*, p. 106; RP, R ACHE

(88) [A] Also yf thou do blede moche at the nose / take [C] & stampe [B] Betyne with salte [D] and stoppe thy nose therwith [F] and it will staunche.

*Bancke's Herbal*, f. B i; R, R ACHE

(89) [A] Also yf thou blede moche at the nose take [B] Betayne & [C] putte it with a lytell salte, and [D] do it to thyne Nosethrylles, as moche as thou mayest with thy Thombe and thy medle fynger, and then holde thy Nosethrylles with the same fyngers, [F] and that blode shall stau~ce.

*Macer Lynacro*, f. C i; R, R ACHE

(90) [A] For bledynge at the nose G Agaynst flux of blode at the nose [C] medle powdre of [B] bethony with as moche salte & [D] put as moche as ye can take betwene two fyngers and a thombe in to þ~ nosethrylles [F] and the blode wyll staunche.

*Grete Herball*; RP, R ACHE

All the examples are clearly related, as they present the same ingredient with approximately the same instructions for administration of the remedy. *Agnus castus*, *Bancke's Herbal* and *Macer Lynacro* form a group of texts; after all, *Agnus castus* is one of the main sources that the printers of early sixteenth century used. They all use the recipe form and recipe order of elements. *Macer* and *Grete Herball* deviate from this pattern: both of them use the RP form for presenting the information. The example from *Macer* is a prototypical RP, and the example from *Grete Herball* is a recipe with no imperatives, thus an RP.

The examples are connected by the default recipe order of information, and that raises a question concerning the lack of non-herbal parallels in this cluster. It seems likely that the content originated with non-herbals, as all the examples in the cluster reflect the default recipe order of elements. The number of parallels from each genre cannot be indicative of the origin of the passage unless all the texts in the register are covered

by the corpus. The fact that there are no non-herbal parallels in the corpora for this piece of information is therefore most likely due to the coverage of the corpora, and it is probable that this content is attested in non-herbal genres, although they do not occur in the corpora used.

### 9.2.5 *Betonica* - textual affinity within herbals

A comparison of rhemes covered in herbal entries (cf. *Appendix III: Affinity of herbals, passages shared*, Table 1: *Shared Bethonica officinalis related information in herbal entries*) reveals that herbals form text clusters within the genre. What this means is that some of the herbals are more closely connected by the rhemes they present under one herbal entry (the theme) than other herbals.[106] One such cluster is *Agnus castus*, *Bancke's Herbal*, *Macer Lynacro* and *Grete Herball*. *Grete Herball* also shares a lot of material with *Macer*, which is most closely related to *Tretys of diverse herbis*, *Medical treatise* and *Vertues*. *Braunschweig* shares material almost equally with any herbal of those mentioned, although maybe least with *Macer Lynacro*, *Bancke's Herbal* and *Vertues*. The closest text to *Waters Artyfycialles* is *Braunschweig*, although links to other texts are plentiful as well; the texts with the fewest connections to *Waters Artyfycialles* are *Agnus castus* and *Vertues*.

106 The theme in R&RPs in herbal entries is naturally the headword of the herbal entry: as has been seen earlier, most of the R&RPs in herbals do not repeat the name of the plant at the beginning, but refer to the headword of the entry only by anaphoric reference.

## 9.3 *Absinthium* – wormwood

### 9.3.1 Preliminary view of *Absinthium* parallels

Table 7 below presents a summary of the R&RPs that were used for drawing the plot in Figure 6:

**Table 7: *Absinthium* R&RP parallels – summary**

| | R order herbal | R order non-herbal | RP order herbal | RP order non-herbal | TOTAL |
|---|---|---|---|---|---|
| **RP** | 39 | 37 | 65 | 2 | *143* |
| **R** | 9 | 93 | 4 | 1 | *107* |
| **TOTAL** | *48* | *130* | *69* | *3* | **250** |

Legend: rows (RP/R) give the division of the material into recipes and recipe paraphrases; columns indicate the sources (herbals/non-herbals) and the order of recipe elements in the parallels (R order/RP order)

In the table, the overview of the data related with *Absinthium* is this: 1) there are more parallels from non-herbals than there are parallels from herbals, 2) RPs are more common than recipes, 3) recipe order of elements is preferred over RP order of elements, 4) the default pattern for presenting recipe-like information for herbals and non-herbals is RP/RP and R/R respectively, and 5) non-native textual strategies are attested more in herbals than in non-herbals, i.e. herbals seem to use more non-herbal informational structures than non-herbals use herbal structures. The table seems to suggest that there is a tendency for herbals to borrow textual strategies from non-herbals; non-herbals rarely resort to herbal strategies of presenting recipe-like information.

The following figure (Figure 5) shows the preference for the textual strategies used in the *Absinthium* related R&RPs in percentages:

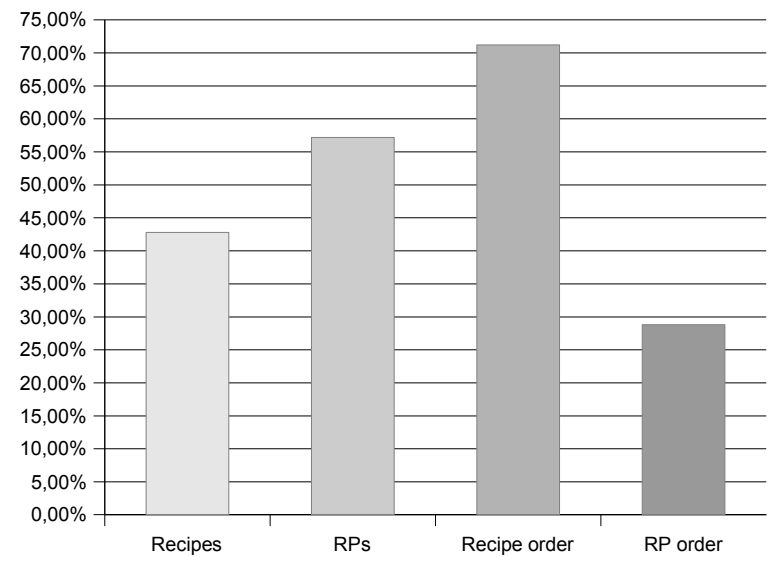


*Figure 5:* Absinthium *R&RPs, R and RP order*

Table 7 gives the raw counts of sources of the *Absinthium* related R&RPs. Despite the fact that parallels from herbals are almost on par with non-herbal parallels in numbers, the preferred R&RP element order is clearly the recipe order, as can be seen in Figure 5. Also the ratios of recipes-RPs and recipe order-RP order seem to be controversial. One of the reasons was that some of the non-herbal parallels would actually be recipes, had they not omitted the imperative *take*, therefore there are quite a few non-herbal passages which are categorised as RPs with R element order. If the R&RPs are presented in the order of preference, non-herbals favour patterns R/R and RP/R, and herbals favour patterns RP/RP and RP/R. All in all, the preference for the recipe element order is salient.

### 9.3.2 MDS presentation of *Absinthium* parallels

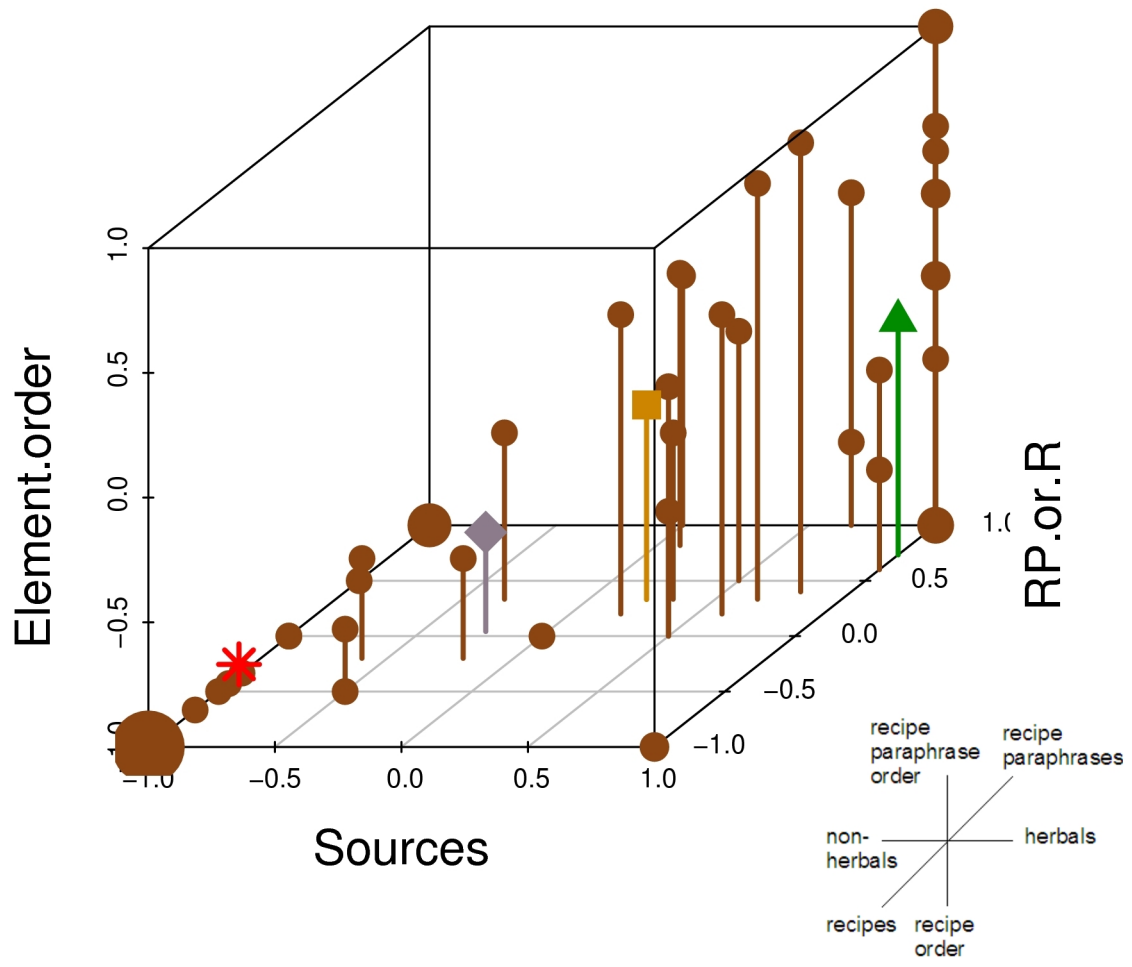


*Figure 6: Absinthium R&RP parallel clusters*

Legend: ◇ mean of all parallel clusters; □ mean of clusters with herbal and non-herbal parallels; Δ mean of herbals only; * mean of non-herbals only

In Figure 6, the 94 parallel clusters with *Absinthium*-related information contain 250 R&RPs, i.e. 2.66 parallels per cluster. The number is considerably smaller than the corresponding number for *Betonica* clusters. This is most likely due to the popularity of the plant: *Betonica* is one of the plants considered so important that there are texts on it alone (*Rosmarinus*

is another). *Absinthium* is one of the stock herbs to appear in any herbal, but not so important that it would have a treatise dedicated solely to the properties of it.

The prevailing characteristic of the parallel cluster set of *Absinthium* is the frequent occurrence of clusters with only one parallel. This implies content that is not paraphrased anywhere else in the corpora used. The natural consequence of this is that there are data points in the plot whose co-ordinates *xyz* are all either -1 or 1.[107] The overlap is also reflected by the overall mean, marked by ◇:[108] although the visible data points are more numerous at the herbal end of the plot, the number of actual data points at the non-herbal end is greater. The overall mean value for sources (-0.25) confirms this. This also means that the variation in representing the recipe information is greater among herbal parallels than among non-herbal parallels: non-herbal R&RPs tend to keep to the default recipe strategies, whereas herbal R&RPs employ both herbal and non-herbal strategies.

The mean for parallels occurring only in herbals is marked by Δ, and the mean for non-herbal parallels only is marked by *.[109] These mean values have the *Sources* value 1 and -1 respectively, as they should, because the clusters used for the means only had one or the other, herbals or non-herbals, as sources.

The *R or RP* and *Element order* values for the herbal mean are 0.80 and -0.02 respectively. This implies that in clusters with only herbal parallels the preferred form is recipe paraphrase by far. The choice of informational structure does not favour either of the strategies available: there are roughly as many herbal parallels with the R order of elements as there are parallels with the RP order.

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107 The current plot contains 32 data points the co-ordinates of which are -1,-1,-1, and six data points with co-ordinates 1,1,1. Other overlapping clusters are at co-ordinates -1,1,-1 (12 data points); 1,1,-1 (seven data points); 1,-1,-1; 1,1,0; and 1,1,0.33 (two data points each). The overlap of data points by an increase in point size.

108 The co-ordinates for the overall mean are *Sources* -0.25, *RP or R* 0.04, *Element order* -0.60.

109 The clusters with both herbal and non-herbal material have been excluded from these groups.

The non-herbal mean values are -0.35 (*R or RP*) and -0.92 (*Element order*). The mean for the use of recipe form is higher than one might expect (i.e. more recipe paraphrases are found than expected): this is partly due to the strict definition of recipe in this study. Mostly it is the case that the R&RPs in non-herbals are only discounted as recipes because they lack the imperative *take*. The mean value for the element order shows a clear preference for the recipe order of elements. This is an indicator that the non-herbal R&RPs employ mostly the default recipe informational structure (purpose before ingredients), even if they are not formally recipes.

### 9.3.3 Qualitative analysis - single parallel clusters[110]

Clusters with only one R&RP usually contain one recipe, as in example (91). A minority of single parallel clusters contain recipe paraphrases, as in (92). In terms of default textual strategies, this implies that most of the clusters with a single parallel represent non-herbals.

(91) And when þe posteme ys brokon, þou schalt knowe yt be quytur and corrupcion þat comyþe þer of. Take þen methe warmode and do þer to iij partes of dispumed hony and let hir receyue þe wey3te of a pounde þer of þorogh.
*Sekenesse of wommen 2*; R, R MEMT

(92) A bath of hit wol destruye 3ekyng.
*Macer*, p. 63; RP, RP ACHE

Example (91) is from a gynaecological treatise, and it the last recipe of a series, which all treat a morbid swelling or a boil. The purpose is therefore known, although in the passage quoted here it is only implied. The order of elements is purpose-ingredients. The recipe is formally a recipe, as the imperative *take* is present, i.e. no recipe short-hand is used.

Example (92) is the only occurrence in the corpora that names

110 Calling a passage in a single parallel cluster "a parallel" is justified. The corpora used comprise samples of the medical register, and the fact there is no parallel for a passage in the corpora means only that the parallel is not covered.

*Absinthium* as a good remedy for hiccup. The form is recipe paraphrase: the required information to prepare and apply the remedy is all there, but the formal characteristics of a recipe are lacking. Ingredients (*hit*) come before purpose, and thus the order is RP order.

The inclusion of R&RP passages with no parallels in the corpora is important, as they represent the mass of texts that affects text reception and genre recognition, although direct parallels and thus also intertextual links cannot be pointed to. The fact that there is no parallel for a passage in the corpora means only that the parallel is not covered, not that it does not exist. Therefore, omitting the single parallel clusters would produce an unrealistic picture of the textual space, with no loose ends.

### 9.3.4 Information shared between herbals and non-herbals

The frequent occurrence of parallel clusters with either herbal or with non-herbal R&RPs only would seem to suggest that there are separate traditions of presenting *Absinthium*-related R&RP information in herbals and in non-herbals. There are links between the two, however. Passages (93) through (97) give an example of shared content:

(93) Also 3yf þe iows of þis herbe be styllyd in-to a mannys nosethyrlys. it drywy3t out þe moysture þat renny3t fro hym.
*Agnus castus*, p. 123; RP, RP ACHE

(94) Also þ~ iuce of this herbe stylled in to a manes nos ethryle dryeth vp the moysture that ro~neth out of them.
*Macer Lynacro*, f. A iii; RP, RP ACHE

(95) And ius þerof ydroppid into þe eeren dryeþ vp moisture þat renneþ of þe eeren.
Trevisa*, De proprietatibus rerum*, p. 912; RP, RP ACHE

(96) The first parte of the body
[\f. 57v\] THe body is diuided in iiij. parties. The first parte is the heede, wherynne gadreth superfluites and yll humors, whiche thou

shall feele and knowe by theise signes folowinge: the yien waxen troubelous and dymme, the browes swellyn, the nosethrilles ben straight. And yf thou feele any of theise signes, take an herbe called aloyne, and lay it in swete wyne, and make it to boile with a roote called pugilchiny, so longe that half of the wyne be wasted. Put som therof in thy mouthe, and kepe it longe ynne, all-wey wasshing thy mouthe, till that thou feele that it doo the good.

*Secreet of secreetes*, p. 352; R, R MEMT

(97) For in þe heed gadreth all superfluytees and euyll humoures whiche thou shalt fele and knowe by these sygnes folowyng. The eyes ben troubled the heryng is thycked & þe nosestrylles ben stopped. Yf thou fele suche a dysease take an herbe called wormwood and sethe it in swete wyne tyll the halfe be wasted than holde it in thy mouth & wasshe it many tymes therwith tyl thou fele þat it dooth þe good

Robert Copland: *Secrete of secretes*, p. 353; R, R EMEMT

The shared information is related to the orifices of the head and the flowing of bodily fluids which may stop or block a nose.[111] Examples (93) to (95) are from herbals, and they are all recipe paraphrases with a similar order of elements. The passage from Trevisa's *De proprietatibus rerum* refers to ears instead of nostrils, unlike *Agnus castus* and *Macer Lynacro*, but the malady is basically the same, i.e. excess moisture in the head. *Secreet of secreetes* (96) and Copland's *Secrete of secretes* (97), both formal recipes with recipe order of elements, treat all the orifices of the head the same, and I have interpreted the obstruction of the head to be caused by the same (excess) moisture that is referred to in (93) through (95) (note that *Secreet of secreetes* uses the French/Anglo-Norman variant of wormwood, *aloyne*).

*Agnus castus* and *Macer Lynacro* are the closest to each other as regards the choice of wording, and *Macer Lynacro* probably used *Agnus* as one of its sources; the affinity between the texts has already been noted in the description of ACHE.

It is interesting to note that this piece of *Absinthium*-related

111 It is debatable whether *þe moysture þat renny3t* can actually cause a state described by *þe nosestrylles ben stopped*.

information exists at all levels of medical writing: *De proprietatibus rerum* and *Secrete* represent the upper end of the text continuum, whereas *Macer Lynacro* is the closest to a practical manual or reference work for everyday use. The recipe paraphrase strategies found in *De proprietatibus rerum* are less of a surprise: although this is an encyclopaedia text when surveyed as a whole, the part of the work from which this passage was extracted is a herbal in all its characteristics.

Examples (98) and (99) present the same R&RP, although in (99) there are additional ingredients. The purpose is the same, *bocches* or boils, but (98) is a recipe paraphrase and (99) a recipe:

(98) For þe hede or bocchis of þe hede. Stampe and sethe wormode in wyn and hony and make of it an emplastre and ley it to þe woundes or bocches of þe heede, and it wole hele hem.
*Macer*, p. 63; RP, R ACHE

(99) BOcches Jff thow will remeve heme oute of the place that thei bene jn Take wormod and mugworte & roden and stamp heme and drinke the juse i~ littell ale and then take a whike oyst~ and lay it on that place that þ~ wold drawe þ$^{e}$ boch to and þiderward it will draw hyme
*Leechbook 1*, p. 36; R, R MEMT

The reason I consider (98) to be a recipe paraphrase, is simple: it lacks the imperative *tak/recipe/nym* required by the principles set out in this study (cf. section 8.4.4). *Stampe and sethe* represents recipe short-hand, irrespective of the mood of the verb phrase: the elements of ingredients and procedure are merged by the omission of *take*. Otherwise, (98) is conformant with a default recipe, i.e. it has the recipe order of elements. (99) introduces ingredients that are not found in (98), and the procedures are somewhat different, but the elements in common are the purpose and the fact that *Absinthium* is associated with the malady.[112] The two passages are both from

112 The problem of differing ingredients has been addressed by Crossgrove (1982) and Voigts (1984: 323), and their view is that it the differences may be due to empirical enhancement of the recipe, and not textual deterioration over time and cycles of

practical manuals, the first from a herbal with clear (general) purposes for each R&RP,[113] the latter from a recipe collection intended for a practicing physician, for example.

The following list presents the largest parallel cluster with *Absinthium*-related information, comprising ten items altogether:

(100) þe vertu of þis herbe is to conforte þe stomak and clense þe herte.
*Agnus castus*, p. 122; RP, RP ACHE

(101) The vertue of this herbe is thus. It is good to conforte the herte and cle~se the stomake.
*Bancke's Herbal*, f. A ii; RP, RP ACHE

(102) For þe stomak.
This herbe comfortiþ and strenghiþ þe stomak in what-so-euere wyse a man take it. But betere is it þer-to, 3if þou sethe it in raynwater and lay it a-colde þer-oute and ofte drinke it in þis wise. It helpiþ diuerse sikenesses of þe stomak.
*Macer*, p. 61; RP, RP ACHE

(103) For the stomak.

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copying. The problem is also apparent when trying to identify parallels for complex *composita*: most parallels in such *composita* present a co-occurrence pattern consisting of one or more ingredients and the purpose; there may be ingredients unaccounted for, and other recipe elements may vary significantly form parallel to parallel.

113 The text of *Macer* in the Stockholm Royal Library MS X.91 is problematic in this respect: even though almost every R&RP in this text is provided with an in-text passage indicating purpose, the purpose is always repeated within the R&RPs, at the end. The purpose given before an R&RP is never referred to by a pronoun. For these reasons, I am inclined to think that the purpose sequences at the beginnings of R&RPs in *Macer* are an addition to the text of the actual R&RPs. It may be that the scribe chose to extract the purpose from the R&RPs and re-wrote it at the beginning. This assumption does not specify when in the history of *Macer* all this took place (it could be a development that had already taken place in the Latin prose *Macer*). In the analysis, I have treated the R&RP initial purpose sequences in *Macer* as elemental parts of the R&RP; I have analysed the order of elements as RP only when new information is given in the repeated purpose at the end of an R&RP.

Sethe wormode in oile grene as wermode growiþ and anoynte þerewith thi gryndes, and that shal doo mochel proffit to þi stomak.

*Macer*, p. 64; RP, RP ACHE

(104) The vertue of this herbe is to co~forte the stomacke & clense the herte.

*Macer Lynacro*, f. A iii; RP, RP ACHE

(105) [...] and comforteþ þe stomak, and exciteþ appetite

Trevisa, *De proprietatibus rerum*, p. 912; RP, RP ACHE

(106) These ben good for þe stomak.

Myntis dried, reed rosis dried, sugre roset, comyn, fenel seed, sauge, wormod.

*Queen Isabel's* dietary, p. 75; RP, R MEMT

(107) Thynges makynge the stomake stronge.

[...]

Olybanum,

Wormeworde,

Saffron,

[...]

Elyot, *The Castel of Helth*, p. 9; RP, R EMEMT

(108) When þou wilt make þis oile agayn3 þe vices of þe stomak, þan may þou make it with oile in which ar soþen som þings pertenyng to confortyng of þe stomak, as wormode, Mynt, Macis, galinga, & sich oþer, And so schal it better spede.

Arderne, *Clysters*, p. 95; RP, R MEMT

(109) And also take powdyr of wormwode, and þe jus of wormwode þat is grene, and tempre hem with þe wyn; þat is good for þe stomak.

*Stockholm prose recipes*, p. 42; R, RP *Add.*

The content states the beneficial effect of *Absinthium* on stomach (and also heart). The parallels are half from herbals, half from non-herbals. All but one of them are RPs, and of these, roughly half have the recipe order of elements. All the extracts from herbals ((100) through (105)) are RPs, even item (103) from *Macer*, as it lacks the formal *take* of a recipe. Examples (106) to (108) all list herbs that are good for the stomach. (106) and (107) are from a regimen of health and a dietary text, and lists of herbs are a device to paraphrase the contents of a recipe; this will be discussed in more depth in the following section, 9.3.5. Example (108) is from a surgical text, and the passage here is a typical recipe paraphrase, where the order of recipe elements is retained, and even the efficacy phrase is kept intact (*And so schal it better spede*), but the imperative mood has been removed by using *may* ... *make*, and the list of ingredients is turned into a list of possible or exemplary ingredients. The last, a non-herbal recipe, differs from the rest of the non-herbal material in that it is a simple recipe.

The differences in the choice of informational structure suggest independent traditions in herbals and non-herbals. The content is based on the same knowledge of *Absinthium's* properties, but the rendering of that knowledge is different. Recipe paraphrases are not a device restricted to herbals alone; conformity in element order indicates closer relations between the two parts of the medical tradition, but that is rare in this cluster.

### 9.3.5 Recipes and recipe paraphrases in *composita*

In the previous section, items (106) and (107) provided an example of how a recipe could be turned into a list of medicinal herbs that could be used to illustrate an argument, or to convey information without an explicit directive. The following examples, (110) through (113) illustrate the way in which passages of theoretical emphasis and lists of medical ingredients may be linked to *composita* recipes proper (emphases mine):

(110) **Thees purge coler**: **altea, i. malue, cestrene, mirobolane, citryne, warmoude, capillus veneris, i. mayden heerus, rubarbe, mercury, violet, damysons, wheye, cassia fistula, tamarindys.**

Rupescissa: *Quintessence*, p. 168; RP, RP MEMT

(111) The .xxv. Chapitre sheweth a dyete for Colorycke men.

COlor is hote and dry; wherfore Colorycke men muste abstayne from eatyng hote spyces, and to refrayne from drynkynge of wyne, and eatynge of Colorycke meate: howbeit, Colorycke men may eate groser meate than any other of complexions, except theyr educacion haue bell to the contrary. Colorycke men shulde not be longe fastynge. **These thynges folowyng do purge color: Fumytory, Centory, wormewod, wylde hoppes,** vyoletes, Mercury, Manna, Reuberbe, Eupatory, Tamarindes, & the whay of butter.

Andrew Boorde: *A Dyetary of Helth*, pp. 288-9; RP, RP MEMT

(112) If þe greuaunce comeþ of blode, leting of blode is profitable on þe heed veyne, and so it is in euery sikenes of þe hede þat comeþ of blood. If it is so þat he þat is sike be replet of blood or of ony oþer humour, let him dieten him as it seide of þe hede-ache. [\f. 54\] And let him vse þes pillules þat purgen þe heed of yuel humours, and also þei ben good for þe si3te and for þe hering. Thus þei ben made: **Take of alloes þat is wel wasshen, oz. ii; of mirabolani, ana kebulis, indorum; reubarbe, mastike, wormod, roses, violet, sene, agarike, cuscute, of eueriche ylyche moche, dr. i.** Tempere al þis with þe iuys of fenel. And if þou wilt make it sharpe, caste þerto dr. vi & 1/2 of scamonie y-poudrid. And make þerof gobettis of þe gretnesse of a fygge and 3yue of hem xi or xiii at oo tyme, for þei ben ful laxatif. **And if þou wilt purge him of coler, double or treble mirabolani.** And if it be for flevme, double kebulis and agarike. And if it be for malencoly, double ynde and sene. Þat þing þat purgeþ coler, purgeþ blode.

Gilbertus Anglicus, *Compendium*, pp. 8-9; R, R MEMT

(113) For a clistir laxatyf, whanne þe cawse his hoot and sekyr.

Take hokkys, and **violet**, and **wormwode**, and **mercury**, and branca-vrcina, and II ownce of oyle of violet, and a dragme of salgemme, and menge þere-to sugur, þat bee þe IIIIte parte, and

ordeyne þi clistir soo.
*Stockholm prose recipes*, p. 44; R, R *Add.*

Passages (110) and (111) are from sections of text that discuss the influence of diet and the effects of different herbs on the human system. (112) is an extract from the Gilbertus Anglicus' encyclopaedia, and it presents a recipe which has a lengthy passage on humours in place of the purpose, which is then followed by a recipe. (113) is from *Stockholm prose recipes*, making use of some of the ingredients mentioned in (110) through (112) (**in bold**), and the purpose suits this parallel cluster (choler is hot and dry, thus the excess of choler is caused by *hoot and sekyr*).

The ingredients in bold type are partially shared by the passages. A comparison of the ingredients reveals that this was shared information, or common knowledge, with a mutual source or sources so well known that the passages do not necessarily reproduce the text from each other, but rather state the known facts. Judging by the data here, the lists of herbs in (110) and (111) may have been sufficiently informative for a medical practitioner to prepare a medicine, as the procedure described in *Compendium* is far from extraordinary. These passages thus support the idea of recipe paraphrases, which leave the obvious parts of a recipe for the reader's competence to solve.

The example from *Compendium* also shows the transition from a list of known cures for certain conditions to a regular recipe. Similar lists of remedies or procedures for treatment are not usually followed by a recipe, and thus the recipe here is unexpected; rather, such a list would often be part of a discussion on the treatments of a disease or a condition on a more abstract level, which would not include the practical applications of theory, i.e. recipes. This is the case in (110) and (111).

A passage containing a list of "openers" can be perceived similarly in the eyes of a physician: knowledge of the properties of a plant may be sufficient for the preparation of a medicine based on a list of plants:

(114) And sum wyrchen inwarde as þay þat haue a maniere of drynesse and softenesse in þaymsilf, as warmoude.

> But sum þere been mighty openners the whiche auaillen mouche ayenst strong stopping, the whiche remedien and helpen easy stoppingz, as netle is seede.
>
> Thees been aperitiues, i. openners: cappary, affodille, coste, gencian, gyngeuer, cynamome, surelle, dauke, bayes, isope, camedreos, camepitheos, annyse, policaria, calamynte, herbe John, merche, treyfoyle, alexandre, lowaiche, celidoyne, sticados, **Recipe**, solatre, scariola, warmoude, cuscute, [...].
>
> Rupescissa: *Quintessence*, p. 175; RP, R MEMT

The list in (114) is not unlike the one given in (110) (also from Rupescissa's *Quintessence*), but this example confirms the relations between recipes proper and recipe paraphrases in the form of lists of ingredients. The word *Recipe* (**in bold**) in the middle of a list of herbs with certain common properties leads easily to an assumption concerning the origin of the list: this list could easily be from the beginning of an *antidotum* recipe, which are known to have several ingredients (e.g. in *Antidotarium Nicholai*). It is often the case in a recipe with multiple ingredients that the list of ingredients contains only items with identical properties, i.e. if a disease is caused by coldness and moisture, most of the herbs mentioned as ingredients are hot and dry. A recipe with only herbs with required qualities would thus be a potential source for the list of herbs in (114).

### 9.3.6 Non-herbal complex *composita*

Examples (115) and (116) provide us with a non-herbal parallel between *Antidotarium Nicholai* and Gilbertus' *Compendium*:

> (115) Also ache of þe y3en comeþ oþirwhiles from þe stomake. And þe ache is grettir aftir mete þen bifore. And if it comeþ of colde humours þat ben in þe stomake, let him caste and brake aftir mete. And vse purgacions þat serven to þe humour þat makiþ þe ache. And oþirwhiles þe greuaunce of þe i3en comeþ of rewme of þe hede. þan

hele þe hede of þat rewme and þe y3en shal be hool.

And forto auoide þis rewme, pillules of diacastor
ben good and ben þus y-made: Take of castor, of
mirabolani, of eche of hem, [\f. 76v\] dr. iii; of muske, a greyn
and an halfe; of alloes, dr. i; of ase, myrre, euforbe,
of eche, dr. i and xviii greynes; of folii, antimonie,
piretre, liquoris, dragagant, calamus aromaticus, nitrum,
galbanum, squinantum, spike, opopinac, reupont, serapionis,
storacis, galengal, ginger, canel, of eueriche, dr. i;
and of greynes, staphine, dauke, fenel, parseli, marche,
siler mounteyn, petrolei, sange-dragon, encense, cardamomi
boþe of þe more and of þe lasse, agarike, mastike, sal
armoniac, zedoare, anisi, of eche of þes, sc. i and ix
greynes; of saturey, ysop, camedreos, pileol mounteyn,
origanum, bawme, ozimi, beetis, ditteny, rewe, aristologia
boþe þe longe and þe rovnde, aaron, macematicon, asari,
bdellie, of eche, xviii greynes; epityme, polipodium,
[\f. 77\] opobalsamum, of eche, xviii greynes; of alipiados
caperis, of eche, xi greynes; of anacardi, sauyn, gencian,
of þe ryndes of mandrake, of eche, xi greynes; of
peusadanum, wormod, of eche, vii greynes; of yreos, xiii
greynes and þe þirde parte of halfe an handful. And
make herof pillulis of þe quantite of a notte. Þese
ben gode for þe greuaunce of þe hede, and for þe palesy,
and for þe lyuer, and þe splene, and þe reynes, and for
al colde sekenes. But for þe greuaunce of þe y3en þat
comeþ of rewme, þou shalt put of þes pillulis in wiyn
and put þat in þin noseþrillis.
Gilbertus Anglicus, *Compendium*, pp. 33-4; MEMT

(116) DIACASTOREUM. Yt ys seyd of castor the

wyche goþe þerinne. Yt ys goode
for þe faldynge yuel in þe swonynge,
and for þi mygryme; yt amendeþ the
palsey of al membris; yt dissolueþ þe
enpostum of þe splene and of þe lyuere and
al sekenes þat groweþ of coldnes.
Take castor, myrabolanis, of eche III
dragmes, a corne wyght and half lasse;
mirre, ewforbe, of eche a dragme and
XIIII corne wyght; aloes, a scripule and
half a corne wyght lasse; maces, antimonium,
peletre, lycores, dragant, calamus
aromaticus, salnitrum, galbanum, squinant,
opoponac, spykenarde, sarapinum, notemuges,
cassie lignea, longe peper, whyte
peper, and blak peper, sylobalsamy,
[\f. 14v\] corpobalsami, colloquintida, reupontici,
storax calamyte, ginger, canel, of eche a
dragme and II corne wyght; staffisagre,
dauc, fenel sede, persely sede, storax rubia,
sankdragoun, olibanum, cardamomum,
agaryk, mastik, sal, armonyak, sedewale,
anyse, of eche II dragmes and IX corne
wyght; sauarye, ysope, merche sede, surmonteyne,
bayes of lorel, cost, wylde
persely sede, camodreos, pulliol ryal,
origanum, balsamite, osmond sede, þe joys
of wylde coul ydryed, asary, sauge,
roses, bdellium, of eche XIII dragmes;
carparis, of eyþer XI corne wyght; peucedanium,
warmode, of eche VII corne wyght; anacardi,
saueyne, gencyane, þe rynde
of mandrake, of eche XI corne wyght;

yreos, III corne wyght; hony or sucre as
moche as suffy3eþ. Be yt 3ef on þe quantite
of an auellane for euelys of þe hed
wyþ þe seoþinge of hyndhale; to hym þat
beþ lyuer seke wyþ þe seþinge of warmode
or hertystonge; for hym þat beþ
splenetyke wyþ þe seþinge of caparis
or calamynte; to hym þat beþ nefrytike
or on þe ston wyþ þe seþinge of gromyl
[\f. 15r\] alysaundre or saxifrage. Be yt 3eue
erlyche and let þe pacient faste tille non.
*Antidotarium Nicholai*; MEMT

The recipe is the same (over 80 per cent of the ingredients match, and the order of shared ingredients is largely the same), but the purpose is introduced differently in the two recipes. In (116), the extract is an *antidotum*, the characteristics of which are a proper name for the recipe (*Diacastoreum*) and several ingredients (almost 70 in this recipe; the rule of thumb for *antidota* seems to have been the more complex, the more potent). The actual recipe is introduced by what has been written on *castor*, and that is obviously the main ingredient of the recipe, as is also indicated by the name. The introduction lists the virtues of *castor*, and only at the end of the recipe does one learn about the diseases and conditions against which *Diacastoreum* is effective.

In (115), the recipe is introduced as a preventive medicine against aching eyes, and the possible causes for this malady are the focus of the introduction. The actual recipe is followed by named diseases and conditions for which this medicine should be used, an ending which is similar to (116). The two passages are not so much *Absinthium*-related information (this herb is not the main ingredient of the recipe), but rather this is question of a *composita* recipe with which *Absinthium* is associated: as mentioned earlier, in my method, the co-occurrence of a keyword and a recipe name is often the closest you can come with *composita* parallels.[114]

114 Hunt's idea about complex *composita* being repositories of *materia medica* knowledge

*Antidotarium's* original text probably predates that of *Compendium*, and thus it is possible that *Antidotarium* was known to Gilbertus Anglicus; at any rate *Antidotarium* does occur in the university syllabus of Montpellier (Bullough 1956: 515-6), and Gilbertus was associated with scholars with university backgrounds (his own schooling has not been documented). However, Gilbertus was familiar with the Arabic sources as well (at least Averroes), thus it is not necessarily *Antidotarium* he copied, but rather the two works may have common sources (Taavitsainen, Pahta and Mäkinen 2005: 'Catalogue of MEMT texts').

### 9.3.7 Learned and practical

The following four passages exemplify the difference between learned herbals and more practically oriented herbal texts:

(117) þis herbe is good for drunknesse. for 3if a man be drunkyn late hym chowyn on þis herbe. and it schall putte awey alle his drunknesse.

*Agnus castus*, p. 123; RP, RP ACHE

(118) For dronkennesse. D

Agaynst dronkennesse / take þ~ same iuce with hony and warme water.

*Grete herball*; R, R ACHE

(119) ... and wiþstondeþ dronkenes, and ...

Trevisa, *De proprietatibus rerum,* p. 912 RP, RP ACHE

(120) For dronkenesse.

Drynke betayn and wormet tempered with water and lete hym ete pyony; probatum est.

John of Burgundy, *Practica phisicalia*, p. 200; RP, R MEMT

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rather than practical recipes seems relevant with respect to recipes in *Antidotarium Nicholai* (1990: 8, 15).

Examples (117) and (118) are both from herbals. *Agnus castus* uses default herbal strategies (RP form and order of elements), whereas the extract from *Grete Herball* is a default recipe (although a follow-up to a previous recipe, cf. *take p~ same iuce*). They are both more detailed than the passage from *De proprietatibus rerum* (119), which states only the core of the *Absinthium*-related information as part of a list. Trevisa's encyclopaedia represents the learned tradition of writing among the herbals in ACHE. Passages from *De proprietatibus rerum* appear to be more general in nature than passages from other, more practically-oriented herbals. This generalisation cannot be extended to non-herbals, as it is quite common for a passage of theory or discussion in the medical register to be illustrated by a very precise, practical recipe, as was seen in example (112) from Gilbertus Anglicus' *Compendium*. John of Burgundy's recipe in (120) adds ingredients to the recipe, combining two herbs known to be efficient against drunkenness, i.e. betony and *Absinthium* (cf. the analysis of *Betonica officinalis*). The prerequisites of a parallel are fulfilled by the co-occurrence of purpose and an ingredient, in this case *Absinthium*. A noteworthy detail in this parallel cluster is the recipe form used by one herbal passage (118), and the recipe paraphrase form used by a non-herbal passage: the example form *Practica phisicalia* only lacks the imperative *take*, for it to be classified as a recipe. *Grete Herball* makes constant use of recipe titles and the informational structure of recipes in its R&RPs, although the entries for plants are clearly modelled after the herbal conventions.

### 9.3.8 Herbal-specific parallels

There are also passages that appear in herbals only, such as those concerning temperature, plant description, and plant-names (*synonyma*). The following extracts ((121) through (129)) show the variation in *Absinthium synonyma*, lists of names for *Absinthium* in one or more languages.

(121) Absinthium. is an herbe men clepe. wyrmmod.
*Agnus castus*, p. 122; ACHE

(122) Absinthium.

Absinthium is called in greke, Apsinthion, in englishe wormwod, in Duche wermout, in french, Absince or Aluyne.
*Turner*, p. 7; ACHE

(123) De abscinthio. Capitulum xii$^{m}$.
Abscinthium 'warmood' is a ful scharp herbe, hoot and druye, [...]
Trevisa, *De proprietatibus rerum*, p. 912; ACHE

(124) Absinthium latine. Grece absinthion. Saxicon Arabice. Wormwood. Ca. xxii.
*Grete Herball*; ACHE

(125) Absintheum, i. wermode.
[...]
Aloen, i. wermode.
*Sinonoma Bartholomaei*, p. 9; ACHE

(126) Wormwode.
ABsynthium is an herbe, called wormwood, [...]
*Macer Lynacro*, f. A iii; ACHE

(127) Absinthium, herba fortis, gallice aloine, anglice uuermode.
[...]
Herba fortis, abscinthium idem. gallice aloyne, a$^{e}$. wermode.
*Alphita*, pp. 1, 79; ACHE

(128) Absinthium.
This herbe is called wormwood.
*Bancke's Herbal*, f A ii; ACHE

(129) Absinthium: gall. aloyne, angl. wermod
[...]
Absinthium: angl. weremod

*Trilingual herb glossary*, p 291; ACHE

The variants of the herb-name range from the Greek/Latin *Absinthium*, to the French *Aloyne* and English *Wormwood*. Examples (125), (127), and (129) are from *synonyma* texts which consist almost solely of names of herbs. These examples each have two entries in which *Absinthium* occurs; in (125) and (127) the reason for this is that a synonymous head word has been listed as an entry of its own; (129) has two entries for *Absinthium*, which may be due to the merging of two texts (cf. Hunt 1989b: 289-92).

*Synonyma* texts and synonym lists were an important aid in identifying a plant, as has already been noted, in chapter 6. The list of examples shows that almost none of the entries with a list of names for *Absinthium* starts with the vernacular name, w*ormwood* (*Macer Lynacro* makes an exception here). There are herbal entries for *Absinthium* that begin with the English name, but none of these entries include a list of synonyms. *Wormwood* was a fairly well known plant in the Middle Ages, at least judging by the number of herbal entries dedicated to it, and the fact that there is little variation in its names,[115] and thus an aid to identification may not have been necessary.

*Agnus castus* and *Macer Lynacro* are similar to each other, as are *Alphita* and *Trilingual herb glossary*. As already noted, *Agnus castus* was one of *Macer Lynacro*'s sources, despite the difference in the entry's head word. *Alphita's* passage is almost exactly identical to the *Trilingual* passage, especially if one disregards the emendation in the *Alphita* passage.

Another herbal-specific component is the temperature of herbs:

(130) Wermode ys hote and drye yn .ij. degrees.
*Vertues*, p. 79; ACHE

(131) Pontike wormwod, is hote in the fyrste degree and dry in the thirde. Sea wormwod is hote in the seconde degree and dry in the fyrste, frenche wormwod is weaker then Sea wormwod is.

115 Another argument for *Absinthium* being a well known herb is Hunt's entry for the herb in *Plant Names of Medieval England* (1989a: 2): in the sources he uses, no false identification of this plant has been recorded.

*Turner*, p. 7; ACHE

(132) Abscinthium 'warmood' is a ful scharp herbe, hoot and druye, ful sourissh and bitter, as Dias seiþ.
Trevisa, *De proprietatibus rerum*, p. 912; ACHE

(133) ABsinthiu~ / wormwood / is hote and drye in þ~ seco~de degre / some say that it is hote in the fyrste degre / and drye in the seconde
*Grete Herball*; ACHE

(134) Wermode ys hote in þe first degree and dreye in þe IIde.
*Macer*, p. 61; ACHE

(135) WOrmwood is hote and dry in y~ seco~de degre.
*Macer Lynacro*, f. U i; ACHE

(136) This is hote and dry in the seconde degre.
*Bancke's Herbal*, f. I iii; ACHE

(137) þis herbe is drye and hot
*Agnus castus*, p. 124; ACHE

Half of the passages given in (130) to (137) state that *Absinthium* is hot in the first or second and dry in the second degree; *Turner, De proprietatibus rerum*, and *Agnus castus* differ from these, the first giving separate degrees for different varieties of wormwood, and the second and third disregarding degrees. *Grete Herball*, *Macer Lynacro* and *Bancke's Herbal* seem to form one group and *Vertues* and *Macer* another. The common feature is the mention of both properties, hot and dry. As regards the non-herbal texts that discuss the temperature of *Absinthium*, these never mention the dryness of the herb, or it is mentioned separately, as in example (143) from Rupescissa's *Quintessence*:

(138) All redolent herbes that accordeth with the helthe of the body loke that they be in it, as, in the wynter, wermode that is of hote nature;
*Secrete of secretes*, p. 59; MEMT

(139) For þe paralisi.
Þis oynement is gud for paralisi & for all oþer calde passiouns. Begyn we firste at þe hate gummes and sythen at þe hate spyces and sythen at þe hate rotes and sythen at þe hate grisses.
[...]
Herbes þat are hate.
Centory, burnett, germandre, [...] wormot, gronswale, smalache, [...], of ilkan of thir herbis tak a handfull.
[...]
*Liber de diversis medicinis*, p. 66; MEMT

(140) The fyrst chapter treateth of repercussiue medicynes, as well symple as compounde, of hote Apostemes. [...] Symples repercussiue of colde matter, be these. Squinantu~, blacta, bisantia, wormwoode, [...] Seynge that we haue declared the symples repercussyue, aswell of hote as of colde mattier, we wyll declare the compoundes, whyche are to be vsed in Apostemes, woundes and vlceres.
*De Vigo 2*, p. 199; EMEMT

(141) An other flowyng cunnyng in knowelaiche of alle medycyneable thinges I shal openne here in þis place and oþer also. And whiche been hote in the furst degre aftre autours of medicyne & phisik, here ye shal see.

Of herbes: warmovde, borage, [...]
Rupescissa, *Quintessence*, p. 145; MEMT

(142) Here we shal seye whiche thingz been thoo that mollifie and maken membres neysshe. Thoo thingz propriely been temporate hote for they maken noo greete hete nether drouth, as camamille,

wermoude, eupatorium, [...] With thees þingz we shal make oure heuene mollificatife and neysshe.
Rupescissa, *Quintessence*, p. 173; MEMT

(143) Here is cunnyng to draue quynte essence of thyngz that been drie in the ij$^{de}$ degre and knowelaiche of þoo þingz that been drie in the ij$^{de}$ degre. Yn this maniere, whenne þou has need, þou shalt draue quynte essence of drie thingz in the ij$^{de}$ degre þat oure heuene may brynge dryenes in oure body in þe ij degre. And thees been þoo thingz þat been drie in þe ij$^{de}$ degre.

Of herbes: warmoude, fumyterre, [...]
Rupescissa: *Quintessence*, p. 156; MEMT

The common feature of these passages is the herb *Absinthium* and the discussion of hot herbs (or of dry herbs, as in (143). The type of passage varies considerably: the extracts from *Quintessence* ((141)-(143)) are parts of discussion and theory related to the preparation of quintessence, with lists of possible ingredients. The extract from De Vigo's text lists simples effective against *hote Apostemes*, and in this sense each plant-name with the title of the chapter is a recipe paraphrase. The extract from *Liber de diversis medicinis* (139) is an extraordinary recipe (a complex *compositum*), as it divides the ingredients into groups of four (*hate gummes*, *hate spyces, hate rotes,* and *hate grisses*) and treats them separately as the recipe progresses. The *Secrete* extract (138) is embedded in general instructions concerning health care during different seasons, and it can be classified as a recipe paraphrase.

Physical description is a rarer component of herbal entries for *Absinthium* than the component of plant-names. This indicates the importance of a list of known names for a herb in its identification. The descriptions of *Absinthium* mix elements from the actual physical properties to the medical properties, and also use comparison as a method of describing the herb:

(144) þerof is tweye maner of kynde: þat oon is green in colour and sour

and bitter in sauour, þat oþer is somdel horissh and lasse bitter and lasse vertuous.

Trevisa, *De proprietatibus rerum*, p. 912; ACHE

(145) [...] and is grene of colour / and bytter or sowre smel. The other maner of wormwood / is somwhat more whytysshe / and not so bytter /

*Grete Herball*; ACHE

(146) [...] and his leuys ben somdele whyte, and he hath a great moore & out of that moore cometh many braunches, & he flowreth as doth mugworte.

*Macer Lynacro*, f. A iii; ACHE

(147) þis herbe hath lewys lyke to mogwort. and þe lef is sumdel quyter vnder and it hath a gret rote. and of þe rote come manye braunches. and þis herbe brauncheth as mugwort.

*Agnus castus*, p. 122; ACHE

(148) [...] Mugworte, this herbe is lyke to þ~ leuys of wormwod, but they ben not all thyng so rounde, & this herbe hath a lo~ge stalke, and many stalkes co~men out of the roote, and flowreth, as doth wormwode.

*Macer Lynacro*, f. A iii; ACHE

(149) Arthemesia. is an herbe þat men clepe Mugwourth. it is lik wyrmwod in lewys.

*Agnus castus*, p. 124; ACHE

*Grete Herball* clearly uses material from *De proprietatibus rerum*, as it mentions the two variants of the herb and its smell (*sour and bitter in sauour* in *De proprietatibus rerum*; *bytter or sowre smel* in *Grete Herball*). *Macer Lynacro* and *Agnus castus* ((146) and (147)) are also connected with each other, as has been seen earlier. An interesting, and somewhat amusing, detail in *Agnus castus* and *Macer Lynacro* is the cross-reference to the entry on *mugwort*,

which cross-references back to *Absinthium*: if both are unfamiliar to the reader, neither entry is of much help.

### 9.3.9 Intertextuality in *Absinthium* related passages

The multitude of clusters with only non-herbal parallels and the differences in the choice of element order in clusters with herbal and non-herbal sources suggests a division of *Absinthium* related R&RP traditions: the underlying knowledge may be the same in part, but in the presentation of the knowledge in the two register parts prefer their own traditions. If intertextuality is attested, it is usually material. Structural intertextuality is attested by the herbal R&RPs resorting to the non-herbal element order.

As all the R&RPs are considered, the network of texts that is formed by interlinking passages indicates similar results as the preliminary keyword survey that was reported in section 5.4: as most of the hits are hosted by herbals, it is natural that the network should be densest among herbals. There are non-herbal texts that are tightly bound to herbals (recipe literature), but most of the non-herbal texts with *Absinthium* related information link either to each other, or to a text not in the corpora used. A characteristic of non-herbal texts seems to be that most of the texts host only one passage of *Absinthium*-related information, maybe two, and that they do not form links with other texts in the corpora. This has been observed already observed in section 9.3.3, where the clusters with single parallels were discussed. The texts that do interlink with others, both herbals and non-herbals alike, also contain material with no parallel available in the corpora; most notably, texts like *First Corpus compendium*, Macer Floridus' *De viribus herbarum* and Trevisa's *De proprietatibus rerum* have a strong vein of unparallelled material.

Non-herbal texts that link with herbals are mostly recipe collections or remedy-books, but surgical texts also seem to share information with herbals (e.g Arderne's *Clysters*). Remedies that seem to unite learned and practical alike are, for example, a medicine against skin blemishes (Trevisa, *De proprietatibus rerum;* Rupescissa, *Quintessence;* and *In hoote somere*), and a remedy for jaundice (Trevisa's *De proprietatibus rerum*; *Macer*; *Recipes 1*; Moulton's, *Myrour of helth*; John of Burgundy's *Practica phisicalia*; and *Naples*

*recipes*).

### 9.3.10 *Absinthium* - textual affinity within herbals

*Appendix III,* Table 2 presents the content of passages containing *Absinthium*-related information in herbals. The herbals that are most closely linked with each other are *Macer Lynacro* and *Bancke's Herbal*. Texts that are linked specifically to these two, and not so much to other herbals, are *Agnus castus* (one of *Banke's* and *Lynacro's* sources) and *Vertues. Turner* and the *synonyma* texts (*Alphita*, *Sinonoma Bartholomaei*, *Trilingual herb glossary*) only share the component of names with other herbals. *De proprietatibus rerum*, containing the largest number of passages on *Absinthium*, is not linked to any text specifically. It shares material almost equally with *Macer* and *Macer Lynacro.*

# 9.4 *Artemisia* – mugwort

## 9.4.1 Preliminary view of *Artemisia* related information in R&RPs

As in previous sections of this chapter, the data points in the plot depicted in Figure 8 are summarised in Table 8:

**Table 8: *Artemisia* R&RP parallels – a summary**

| | R order herbal | R order non-herbal | RP order herbal | RP order non-herbal | TOTAL |
|---|---|---|---|---|---|
| **RP** | 25 | 26 | 62 | 5 | *118* |
| **R** | 6 | 47 | 1 | 2 | *56* |
| **TOTAL** | *31* | *73* | *63* | *7* | **174** |

Legend: rows (RP/R) give the division of the material into recipes and recipe paraphrases; columns indicate the sources (herbals/non-herbals) and the order of recipe elements in the parallels (R order/RP order)

The observations based on Table 8 are that 1) there are more herbal than non-herbal parallels, 2) non-herbal parallels tend to keep to the recipe order of elements, whereas 3) herbal parallels tend to keep to the RP form, 4) accepting the recipe element order more often than non-herbal parallels accept the RP order of elements. The variation in presenting recipe-like information in non-herbal parallels is mostly between recipe and RP form, whereas the variation among herbal parallels is usually between R and RP element order.

Figure 7 presents the finds in *Artemisia* related data in percentages:

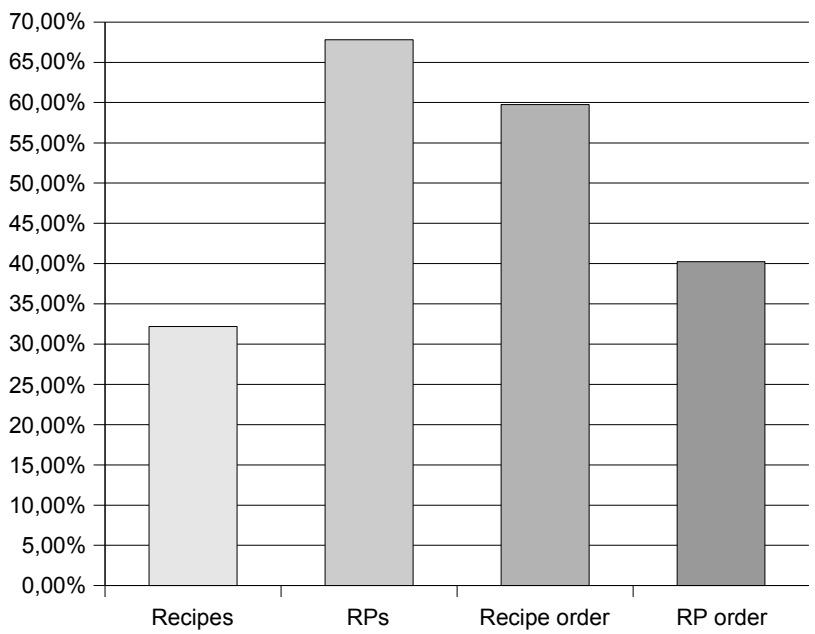


*Figure 7: Recipes and RPs; Recipe and RP order in* Artemisia *parallels*

The prevalence of herbal parallels over non-herbal parallels seen in Table 8 is also reflected by the percentage of RPs as compared to that of recipes (Figure 7). However, the recipe order of elements is preferred to the RP order of elements, thus the pattern familiar from previous sections is repeated: herbals seem draw on non-herbal genres as far as the element order of R&RPs is considered.

### 9.4.2 MDS presentation of *Artemisia* parallels

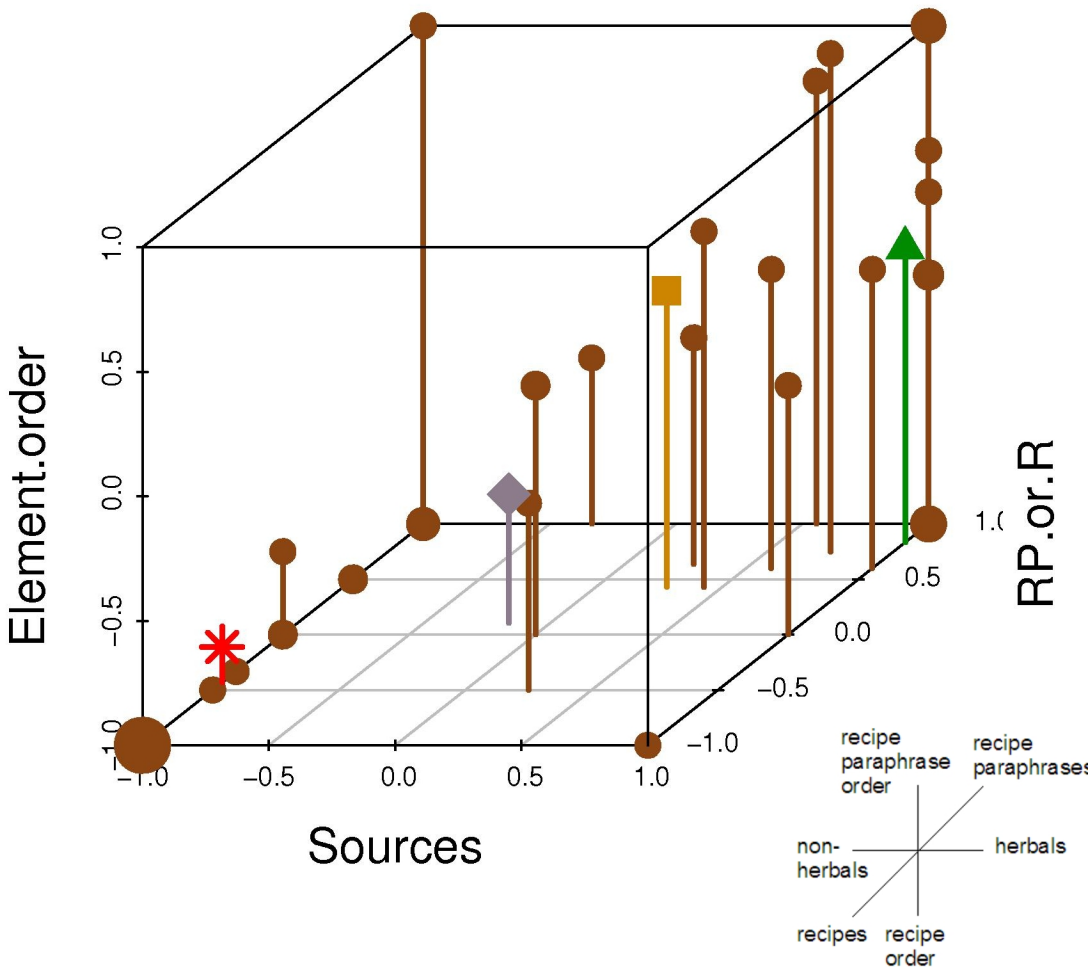


*Figure 8: Artemisia R&RP parallel clusters*

Legend: ◇ mean of all parallel clusters; □ mean of clusters with herbal and non-herbal parallels; Δ mean of herbals only; * mean of non-herbals only

Figure 8: *Artemisia-related R&RPs* shows the prototypicality of parallel clusters that contain *Artemisia* related information. The plot has 21 clusters with parallels from herbals only, and 34 clusters with parallels from non-herbals only, leaving only nine for information shared by herbals and non-herbals. As the number of parallels is 174, it means that there are approximately 2.7 parallels per cluster, thus overlap of data points is

therefore inevitable. This is especially true at the non-herbal end of the plot, when one considers the visible data points there.[116]

The number of data points, as compared to the number of clusters with parallels from non-herbals or herbals only, indicates higher degree of uniformity in the rendering of *Artemisia* related information in non-herbals than in herbals. In other words, the pattern formed by data points at the herbal end of the plot in Figure 8 is wider, therefore the variation is greater. The non-herbal end has more clusters and less variation in the presentation of the recipe-like information, therefore there is more overlap of data points there than at the herbal end of the plot.

The differences between herbals and non-herbals can also be studied through the respective mean values: the non-herbal mean[117] (marked by * in Figure 8) suggests that the recipe element order is the preferred form of conveying information in non-herbals. Herbals[118] seem to use both the recipe and the recipe paraphrase order of elements, with slight preference for the RP order. What sets the herbal parallels apart from the non-herbal ones is their preference for the RP form.

The herbal mean of *Element order* indicates that the recipe order of elements is used more in the herbal parallels than would be expected (the expected value would be closer to 1.0, as is suggested by the *R or RP* mean for herbals), and therefore it is possible that these parallels contain *Artemisia*-related information that originated with non-herbals. As earlier, the *Element order* value is more diagnostic of the origin of the information in parallels than the *R or RP* value, due to the practices employed in the analysis: the formal requirements for a passage to qualify as a recipe are strict, and often it is the case that an R&RP is not a recipe only because it lacks the imperative *take*.

The mean values for all clusters[119] (marked by ◇ in the plot) tell us

116 The co-ordinates for the overlapping data points are -1, -1, -1 (21 parallel clusters), 1, 1, 1 (six parallel clusters), -1, 0.5, -1 (two parallel clusters), and 0, 0, 0 (two parallel clusters). The overlap is shown by an increase in dot size.

117 *Sources* -1, *R or RP* -0.43, and *Element order* -0.86.

118 The herbal mean values are *Sources* 1, *R or RP* 0.83, and *Element order* 0.18.

119 The co-ordinates for the overall mean are *Sources* -0.16, *R or RP* 0.1, and *Element*

about the general tendencies in presenting *Artemisia*-related information: although the number of non-herbal parallels does not exceed the number of herbal parallels by more than 30 per cent, the initial observation is that non-herbal strategies are preferred to herbal strategies, and this may indicate that the information dispensed originated with non-herbals. However, the fact that the number of clusters containing information shared between herbals and non-herbals is only nine (out of 64); and that non-herbal R&RPs seem to keep fairly strictly to the non-herbal strategies[120] in conveying *Artemisia*-related information, seems to suggest two almost separate traditions of *Artemisia*-related information in R&RPs.

### 9.4.3 Quantitative analysis - information shared by herbals and non-herbals in *Artemisia* parallels

The most prevailing medical property of *Artemisia* is its effect against the gynaecological ailments: 19 out of 64 parallel clusters deal with a condition or maladies pertaining to women; this is also reflected in one of the Middle English synonyms for *Artemisia*, *moderwort*.[121] The parallels in the first *Artemisia* cluster considered are R&RPs for the delivery of a dead embryo:

(150) [...] and bryngeþ out a deed childe and þe bagge þat he is inne, [...]
Trevisa*, De proprietatibus rerum*, p. 915; RP, RP ACHE

(151) Also yff a chylde be dede yn hys modyr wombe take mugworte and stampe hyt well and ley hyt to her wombe colde and sche shall be delyveryd a-non with-ow3t perell
*Vertues*, p. 31; R, R ACHE

(152) Take þis herbe grene as she growiþ and stampe it and bynde here to þe wombe, and she shal delyuere out þe werpling þat is þer-in.

---

*order* -0.48.

120 The fact that the current cluster set has 26 non-herbal parallels with RP form may be, as already said, due to the strict definition of recipes.

121 This name may also be a reference to "the mother of herbs", in both senses, as is explained in the following passage from *Macer*: *moderwort is clepid arthemesia for þat she is modir of alle oþer herbes or for-þi þat þe modir of herbes hauyþ 3ouyn her name*.

*Macer*, p. 59; R, RP ACHE

(153) Also yf a chylde be deed in the mothers wombe / take Motherworte & stampe it small / and make a playster therof / and lay it to her wombe all colde / and with the grace of god she shall haue delyueraunce without peryll.

*Bancke's Herbal*, p. E iv; R, R ACHE

(154) Also yf a Chylde be deade in the Mothers wombe, take motherworte and sta~pe it small, and make a playster therof and laye it to her wo~be all colde, and with the grace of God she shall haue delyueraunce without perell,

*Macer Lynacro*, p. M i; R, R ACHE

(155) For to delyuer a woman of a dede childe.

[...]

An oþer.

Tak mugworte & rew & stamp þam & drynk þe jus or drynk þe jus of veruayn or þe jus of ysoppe with warme water or þe jus of rewe, wodrofe & mogwort tempered with warme water.

*Liber de diversis medicinis*, p. 57; R, R MEMT

(156) Also þe ius of rue and of mugworte makeþe þem sone to be delyuered of childe if it be ded borne in hir wombe.

*Sekenesse of wymmen 2*; RP, RP MEMT

(157) For to diliuerin a deed chyld from a woman.

[...]

Take mugwede aud ruwe, of eythir olyche myche, and stampe hem in a morter; and take þe jus, and 3if it hyre to drynken.

*Stockholm prose recipes*, p. 46; R, R MEMT

The R&RP for a dead embryo in the womb is the same in essence, but not in the details, when herbals and non-herbals are compared: all herbal R&RPs describe a plaster to be applied on the womb, whereas non-herbals

describe a potable medicine that will have the same effect. The common ingredient in all is *Artemisia*, and the non-herbal parallels add rue to the list. The shared knowledge between herbals and non-herbals is thus the effect of *Artemisia* on a dead embryo in the womb, but the differences (rue as ingredient; potion or plaster) may also suggest two separate traditions. I have chosen to analyse them as one, for the following reason: all but one of the herbal parallels have the recipe structure and more than half of them the recipe order of elements, and this points to non-herbal genres as the origin of the passage, even if the parallel is not found as such in any of the non-herbal texts used in the study.

The non-herbal parallels do present an unexpected RP/RP order passage in *Sekenesse of wymmen 2* (example (156)): this is a follow-up to a discussion of *Tokens when a woman schal be sone delyuered been pese*, and it is given as an item in a list of examples of how to ease the mother's condition or speed up the process of the delivery of the child. The general topic is thus known, and the purpose that is given at the end of example (156) is new information that narrows down the general topic for this particular R&RP. The two remaining passages are recipes proper with the recipe order of elements.

Herbals are not all alike, either: close affinity is shown between *Vertues*, *Macer*, *Bancke's Herbal*, and *Macer Lynacro*, but *De proprietatibus rerum* is the odd one out. The difference may be in the learnedness of the herbal in *De proprietatibus rerum*, but the reason may also lie in the intended use of the other herbals: the other herbals sharing this parallel all contain recipes proper, whereas the herbals in which this parallel is not attested (e.g. *Agnus castus*, or *Braunschweig*) are more likely to use the recipe paraphrase form.

The parallel cluster discussed above supports the idea implied in Figure 8 that, despite the shared knowledge, the traditions of presenting knowledge in herbals and non-herbal genres seem to be separate. This weak connection is also visible in the following cluster which shows parallels with content that probably first arose with herbals:

(158) [...] and dryueþ awey feendes, as Plinus seiþ, [...]
Trevisa*, De proprietatibus rerum*, p. 915; RP, RP ACHE

(159) Also where this herbe is in any house, there shall no wycked spyrite abyde.
*Macer Lynacro*, p. A iii; RP, RP ACHE

(160) Also 3if þis herbe be in a mannys hous. þer schal dwelle non wycked gost ne non wycked spiritus.
*Agnus castus*, p. 124; RP, RP ACHE

(161) And yf it be within a howse / there shall no wycked spyryte abyde
*Bancke's* Herbal, f. A ii; RP, RP ACHE

(162) Lat it be layde in a hous
Als sais maister Betanicus.
It schal out cast þe fendes myght.
And turne wykede mannys syght
*Medical treatise*, p. 170; RP, RP ACHE

(163) þu schalt moderwort gader wyde.
And reed fenkill in someres tyde.
In hous to hange at ilke entre.
Þ$^{t}$ þe fende schal haue no poste.
þem nor þeire childre for to dere.
And fro alle periles þem to were.
*Medical treatise*, p. 171; RP, RP ACHE

(164) Also yf it be layde vnder the dore of a hous / man nor womann can not anoy in that hous.
*Grete Herball*; RP, RP ACHE

(165) [...] and all deuyllysshnesse fleeth fro the place where it is.
*Grete Herball*; RP, RP ACHE

(166) [...] and whare thu dos it in houses na elves na na evyll thynges may com therin, na qware herbe Jon comes noyther.
*Recipes* 1, p. 53; RP, RP MEMT

All the parallels in this cluster are recipe paraphrases, and all but one (*Grete Herball* in (165)), including the non-herbal R&RP from *Recipes 1*, use the RP element order: a possible indication that herbals are the origin of this passage. *Macer Lynacro*, *Agnus castus* and *Bancke's Herbal* show greatest similarity, but passages from both *Medical treatise* and *Grete Herball* along with Trevisa's passage all repeat the idea holding this parallel cluster together.

Another cluster with a weak connection between herbals and non-herbals is the following, on *Artemisia's* effect on weariness:

(167) Macer sayth he that bereth it on hym in walkynge weryeth not.
*Grete herball*; RP, RP ACHE

(168) The vertue of this herbe is yf a man trauaylynge bere this herbe about hy~, he shuld not be wery for his trauayle nor in his way.
*Macer Lynacro*, f. A iii; RP, RP ACHE

(169) also yff a man bere hyt a-pon hym he shall not be werye yn jornye
*Vertues*, p. 31; RP, RP ACHE

(170) Qwo so in his hande may it bere. Trauaile of way schal hym non dere.
*Medical treatise*, p. 170; RP, RP ACHE

(171) The vertue of this herbe is thus. If a man bere this herbe aboute hym / he shall not be wery of traueylynge in his waye.
*Bancke's Herbal*, f. A ii; RP, RP ACHE

(172) þe vertu of þis herbe is. þat quo-so go ony weye and he bere þis herbe on hym he schall no3t ben wery in hys gate.

*Agnus castus*, p. 1124; RP, RP ACHE

(173) For a man that sal begyn to travayle: tak mugworte, and cary hit with the, and thu sal noght fele na werynesse [...]
*Recipes 1*, p. 53; R, RP MEMT

The herbal characteristics are clear in these parallels: all the herbal entries containing this parallel have the RP structure and RP order. The only non-herbal parallel from *Recipes 1* (example (173)) has the recipe form, but the RP element order; as noted earlier, the value of *Element order* seems to be more diagnostic as regards the origin of the information, and therefore the parallel attested in *Recipes 1* seems also to support the origin indicated by the herbal parallels in this cluster.[122]

Examples (174) through (184) continue the gynaecological theme, as all R&RPs related to menstruation:

(174) It exciteþ menstrual blood,
Trevisa*, De proprietatibus rerum*, p. 915; ACHE

(175) Agaynst the floutes. A
Agaynst the floures w~holden in wome~ Make a pessarye of iuce of mugwort / or water þ~ it is soden in and layde to it.
*Grete Herball*; ACHE

(176) For water of her decoccon, þat is to say water þat she is soden in, drunkyn, purgiþ women of her floures and bringeþ hem forþ fro hem. With þe same watir þat þis mogwort is soden in wassh and bath þe matrice, and so shal þou clense women or her floures. Take þe same herbe rawe, stampe it and drinke yt with wyn, and so 3he wole do þe same.

122 The parallel in (173) is classified as a recipe; however, the first part (*For a man that sal begyn to travayle*) does not describe the purpose of the R&RP exhaustively, but it is given in *and thu sal noght fele na werynesse*, i.e. after the ingredients and procedure. The R&RP is in fact the beginning of a passage the end of which is given in example (166) (*and whare thu dos it in houses na elves na na evyll thynges may com therin, na qware herbe Jon comes noyther*).

*Macer*, pp. 57-8; ACHE

(177) and cawsyth a woman to have her flowrys.
*Vertues*, p. 31; ACHE

(178) and Eaketh a woman to haue her flowres[123]
*Bancke's Herbal*, p. E iv; ACHE

(179) and maketh a woman to haue her flowers,
*Macer Lynacro*, f. M i; ACHE

(180) To ope~ the floures in an woman / gyue her to drynke mugwort sode~ in water. Also þ~ smoke of mugworte prouoketh the floures yf it be taken benethe.
*Grete herball*; ACHE

(181) A plastir to clause the flowris
Take myntis vervayne modirworte polypody unset leke malwis drigann whet bran and sethe ham with white wyne and make a plastir and ley it undir the navil
*Naples recipes*, p. 37; *Add.*

(182) ANTITODUM EMAGOGUM. þat ys to sey, boote or remedye a3eyne euel, þat ys to sey, ledyng awey menstruel blode. [...] Take asary, amomy, acory, þe sed of arache, fenel sed, of eche a scripul and VI corne wyght; anyse II scripules; aristologia longa, mogwort, cassia fustula, of eche II scripules; dauk, [...]
*Antidotarium Nicholai*; MEMT

(183) NEFROCATARRUM. þat ys to sey, purgacion of þe reynes. Yt ys goode to hym þat haueþ difficulte of makynge of vryne, 3ef yt be 3eue on þe quantite of an auellane wyþ þe decoctioun of gromyle. Þe stone of þe reynes and of þe bledder stronglyche yt puttyþ ou3t

123 The typographical error *Eaketh* is in the 1525 edition, and it should most likely have been printed as *Maketh*.

wyþ þe decoctoun of saxifrage ytake. Also, yt ys goode for þe menstrues wyþ þe decoctioun of mogworte. [...]
*Antidotarium Nicholai;* MEMT

(184) TRIFERA MAGNA. Yt ys ycleped for yt 3efeþ a grete frute to wommen. [...] yt prouokeþ also menstrues 3ef yt be wyþ mogworte wel ygrounde, and wyþ oleum muscelium ymedeled; [...]
*Antidotarium Nicholai;* MEMT

The herbal parallels are all simples, i.e. based on *Artemisia* alone; the non-herbal passages present or touch upon recipes with several ingredients, and there the association of *Artemisia* with the purpose of an R&RP is the diagnostic feature. The purpose is either to cause menstruation or to purge the patient ?of menstrual blood.[124] Extracts (183) and (184) exemplify the use of a recipe with *Artemisia*, and thus are closer to the herbal passages than (181) or (182), in which *Artemisia* is one ingredient among many.

As a summary of the ways of sharing information between herbals and non-herbals, I note that RP is the preferred form of information, but the recipe order of elements is slightly more popular than the RP element order (the default informational structure of herbals). Therefore, it is either the case that the direction of information flow is from non-herbals to herbals, or that the traditions are truly separate, and the recipe order is adopted in the herbal passages for other reasons. The intertextual links between herbals and non-herbals are few as regards the data yield of *Artemisia*. The well known medical properties are acknowledged on both sides of the genre transition zone, but the realisations of the content in the texts are different.

### 9.4.4 *Artemisia* in herbals

The herbals that contain *Artemisia*-related information seem to be very uniform, both in content and in their presentation of the information. A good example is the following, an R&RP that treats haemorrhoids:

124 [...] *cawsyth a woman to have her flowrys* (in 177) seems to mean the same as *purgiþ women of her floures* (in 176).

(185) and it destroyeth mmerawdes on this maner. Fyrst they must be / gadered tha~ take powder of Motherworte & of Horehounde togyder / & strawe it on the pappes.

*Bancke's Herbal*, f. E iv; RP, R ACHE

(186) For pylles. C Agaynst pyles that growe nygh þ~ fou~dement called glandes or atryces let them be opened / and powdre of mugwort / and horehounde lay on them.

*Grete Herball*; RP, R ACHE

(187) And hyt dystreyth þe emoroydes that growyn yn þe fundemente on thys maner. Fyrst they shall be garsyd and after take powder off mugeworte and off horehownde togedyr and strew a-pon þe emoroydes.

*Vertues*, p. 31; RP, R ACHE

(188) and it dystroyeth the Emerawdes on this maner. Fyrste it muste be gathered, than take the Powder of motherworte, and of horehounde togyther, and strawe it on the pappes.

*Macer Lynacro*, f. M i; RP, R ACHE

All the parallels for haemorrhoids have the same combination of ingredients, and have similar procedure and application. *Vertues* is probably the oldest of these parallels, and thus a possible source for the sixteenth-century herbals, but *Grete Herball* must also be considered as a possible source, as it is a translation from French, published in 1526.[125] *Macer Lynacro* probably reproduces the text of *Agnus castus*, which is also one of the sources of *Bancke's Herbal*, and therefore the transmission routes for this R&RP may be multiple (Keiser 1998: 3642). Be that as it may, the

125 Keiser 1998 points out that parts of *Circa instans* were translated into English already in the fifteenth century, thus *The Grete Herball* is not be the first instance of *Circa* in English (*TGH* is a translation of *Le Grant Herbier*, which is a translation of *Circa* (Keiser 1998: 3641) mentions *Circa instans*, but does not index it). Garrido Anes has identified 26 Middle English MSS with the text (or parts of it) of *Circa instans* (2004: 8-14; 2005: 144-6); the text is also identified in eVK.

uniformity of the herbal entries for *Artemisia* in ACHE is striking, as will be seen in Table 3 in *Appendix III*.

One of the characteristics of plant-related information in herbals is that pieces of information pertaining to one herb usually form one continuous entry in any given herbal. Therefore Table 3 in *Appedix III* describes the content of an entry for *Artemisia* in the herbal given in the column header,[126] and combinations of content are comparable between herbals. The medical properties and herbal-specific text components listed in the table are shared by *Agnus castus*, *Vertues*, *De proprietatibus rerum*, *Grete Herball*, *Medical Treatise*, *Macer*, *Macer Lynacro*, *Bancke's Herbal*, and *Seven herbs, seven planets*.[127]

*Vertues, Bancke's Herbal* and *Macer Lynacro* share the largest number of items, followed by *Macer* and *De proprietatibus rerum*. *Grete Herball* has a repertoire of parallels linking to all the texts, but not to any text specifically, i.e. the combination of contents does not correspond to that of any other text directly. *Agnus castus* and *Seven herbs, seven planets* are the odd texts out with respect to R&RPs with *Artemisia* as the keyword.

126 There are exceptions to this as well: both *Bancke's Herbal* and *Macer Lynacro* have two entries for *Artemisia*, the former with one for *Artamasia* and one for *Motherworte* or *Mugworte*, the latter with one for *Mugworte* and one for *Motherworte*.

127 The herbals *Turner* and *Loscombe* have been excluded from Table 3, along with all the *synonyma* texts, as they did not include any R&RPs and were linked to other herbals only by the names component.

# 9.5 *Ruta graveolens* – Rue

## 9.5.1 Preliminary view of *Ruta-related* R&RPs

Table 9 provides an overview of the R&RP data with *Ruta graveolens* related information:

**Table 9: *Ruta* R&RP parallels – summary**

| | R order herbal | R order non-herbal | RP order herbal | RP order non-herbal | TOTAL |
|---|---|---|---|---|---|
| **RP** | 58 | 57 | 69 | 7 | *191* |
| **R** | 20 | 142 | 8 | 5 | *175* |
| **TOTAL** | *78* | *199* | *77* | *12* | **366** |

Legend: rows (RP/R) give the division of the material into recipes and recipe paraphrases; columns indicate the sources (herbals/non-herbals) and the order of recipe elements in the parallels (R order/RP order)

The table continues in line with the previous overview tables: 1) non-herbal parallels prefer the R/R pattern, 2) herbals keep to the default RP/RP pattern, 3) most variation in non-herbal parallels can be seen between recipe and RP forms, whereas 4) herbal parallels attest to variation on the continuum from RP order to recipe order of elements. It must be noted that 5) with *Ruta*-related information, herbal parallels use slightly more the pattern R/R than the previous parallel sets analysed.

Figure 9 presents the information of Table 9 in percentages:

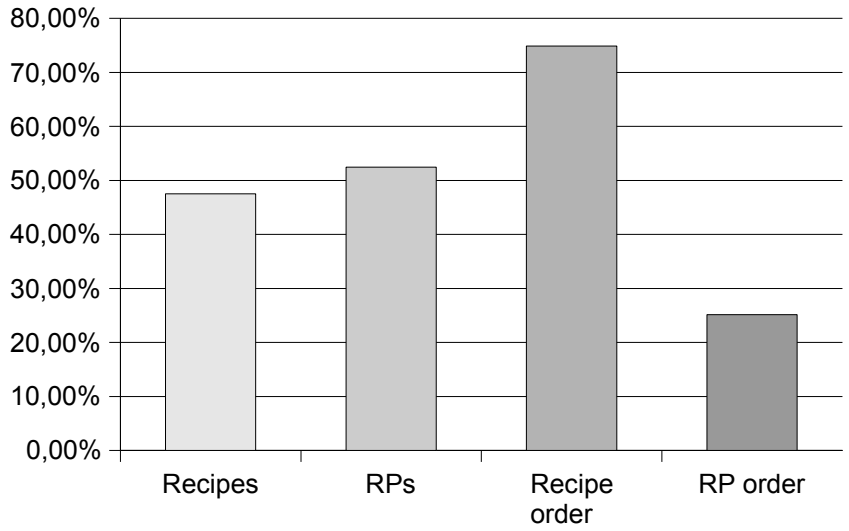


*Figure 9:* Ruta*: Recipes or RPs, Recipe or RP order*

This time, non-herbals seem to be the major source of parallels. That disagrees with the prevalence of the recipe paraphrase form, but that may be due to reasons already discussed. The difference between recipe order and RP order of elements is very much in favour of the former, even more than the sources ratio would let us assume. The inference is that also herbal parallels use the recipe order of elements.

### 9.5.2 MDS presentation of *Ruta graveolens* parallels

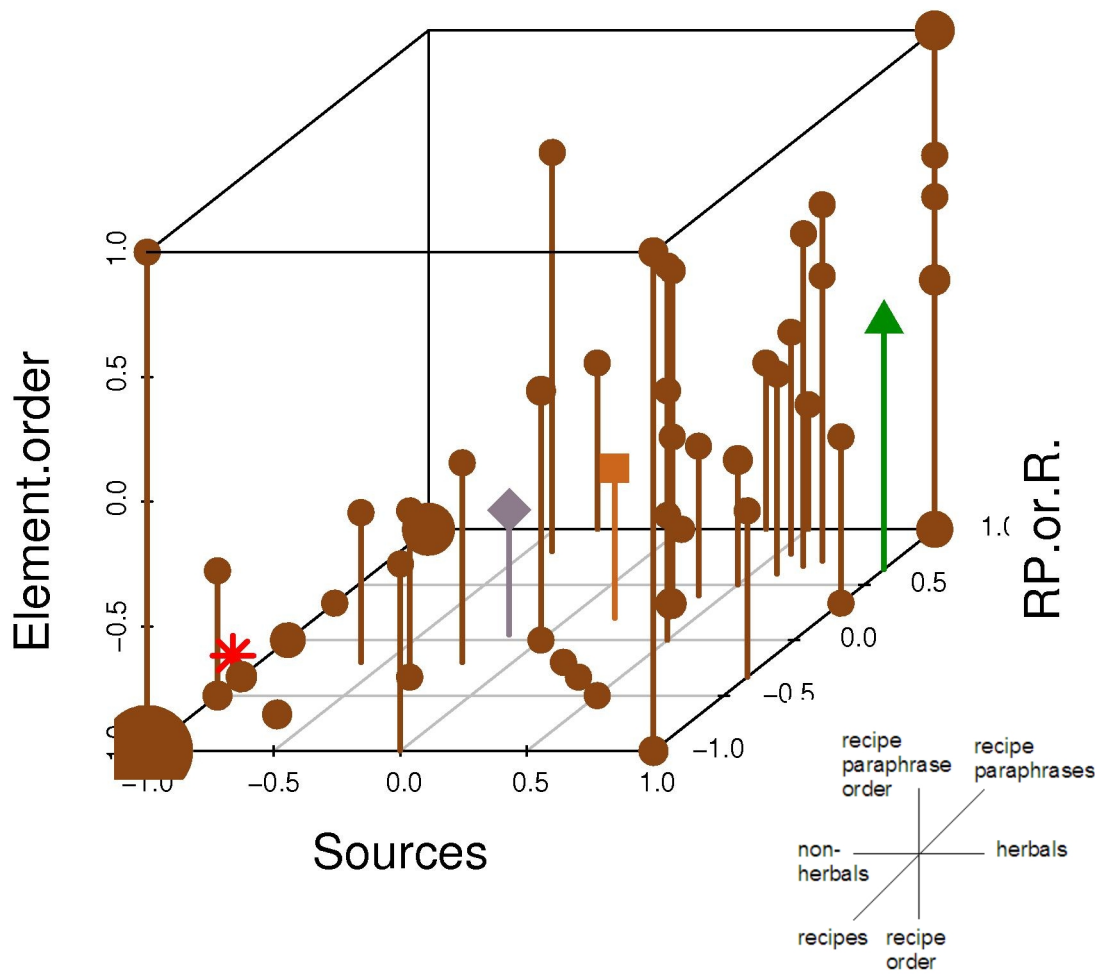


*Figure 10: Ruta graveolens R&RP parallel clusters*

Legend: ◇ mean of all parallel clusters; □ mean of clusters with herbal and non-herbal parallels; Δ mean of herbals only; * mean of non-herbals only

Figure 10 shows the prototypicality of the parallel clusters that contain *Ruta*-related information. The 366 R&RPs with *Ruta*-related information are shown in the plot as 140 data points, which means an average of 2.6 R&RPs per cluster (this is in line with previous sets, save *Betonica*). 27 of the 140 clusters contain parallels from herbals only, and 78 clusters contain

parallels from non-herbals only. The rest of the clusters, 35, contain information shared by both herbals and non-herbals. This is the first set of parallels where the number of shared information clusters exceeds that of herbals only clusters. It may indicate that the majority of *Ruta-related* information originated wtih non-herbal genres.

There is overlap of data points, especially at the non-herbal end of the plot; for example, at the point where the features of clusters are most non-herbal, all in all 45 clusters overlap (at co-ordinates -1, -1 ,-1).[128] The number of visible data points at the two extremes of the plot is the same: there are ten data points at each of the *Sources* values -1 and 1. However, the number of clusters is almost three times higher at the non-herbal end than it is at the herbal end. A natural deduction is that there is far less variation in the presentation of *Ruta*-related information among non-herbals than there is among herbals: non-herbals keep to the default recipe strategies. Another implication is that the presentation of R&RPs in herbals adopts textual strategies from non-herbals. This is also illustrated by the herbal mean,[129] marked by Δ in the plot: RP is the preferred form, but the order of elements is as likely to be recipe order as recipe paraphrase order. Herbals seem to draw a lot of material from non-herbals, especially when *Ruta-related* information is in question.

The overall mean,[130] marked by ◇ in the plot, also reflects the emphasis on the recipe order: it is apparent that although roughly half of the R&RPs are not formally recipes, the recipe order of elements is used in over 75 per cent of them (*Element order* value -0.51 corresponds to roughly 75 per cent parallels having the recipe order of elements).

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128 The co-ordinates for the other overlapping data points are 1, 1, 1 (eight parallel clusters), 1, 1, -1 (seven parallel clusters), 0.33, 0.33, -1 and 1, 1, 0 (three parallel clusters in each), and two parallel clusters in all of the following points: 1, -1, 1; 1, -1 -1; 0.5, 0.5, -0.5; 0, 0, 0; -0.67, -0.67, -1. The overlap is shown by an increase in dot size.

129 The co-ordinates for the herbals only mean are *Sources* 1, *R or RP* 0.64, and *Element order* -0.01.

130 The co-ordinates for the overall mean are *Sources* -0.15, *R or RP* 0.04, and *Element order* -0.51.

The non-herbal mean,[131] marked by *, gives the impression that the recipe form is not as popular as it would be expected to be in non-herbals (the value -0.39 means that only 70 per cent of the R&RPs in non-herbals are formally recipes), but that, as has already been noted, is most likely due to the strict definition of a formal recipe. The value for the *Element order* mean (-0.89) indicates that almost 95 per cent of the R&RPs in non-herbals employ the recipe order of elements, and thus it seems plausible that most of the material in non-herbal texts originates with recipe collections and other closely related non-herbal genres.

The most interesting value of all, the shared information mean,[132] tells a story similar to that of the overall mean: among the parallels that share information between herbals and non-herbals, there is not much difference between the number of non-herbal and herbal parallels (herbal parallels are slightly more numerous). The preference for the RP form is in proportion to the herbals' lead in the number of parallels. Nevertheless, the recipe order is the preferred order of recipe elements, and this confirms the tendency implied by the overall mean: herbals tend to draw on non-herbals for *Ruta*-related information.

### 9.5.3 Qualitative analysis - information shared by herbals and non-herbals in *Ruta* parallels

According to the R&RP purposes, *Ruta* seems to be most potent against all kinds of eye maladies. After that come antidotes to poisons, venomous bites by various animals, and different kinds of aches. Extracts (189) through (198) exemplify an R&RP parallel cluster concerning a cure for eyes:

(189) Also for feble eye syght styll water of rewe & roses togyder & putte therof in youre eyes
*Bancke's Herbal*, f. H ii; RP, R ACHE

(190) For feble iye syght, styll water of rewe and roses togyther, and put

131 *Sources* -1, *R or RP* -0.39, and *Element order* -0.89;

132 *Sources* 0.18, *R or RP* 0.2, and *Element order* -0.4.

therof in your iyes.

*Macer Lynacro*, f. R iii; RP, R ACHE

(191) And hyt ys gode for dymnes of yes. Make water off roses and off rewe and do ther-off yn thyne yes.

*Vertues*, p. 71; RP, R ACHE

(192) Water of fenel to a plyth Is wo~nder holsu~ for ye syth;

Medeled w$^{t}$ water of roset

Half in aporciu~ nothyng bet;

W$^{t}$ oyer watris yer to leyd

As in rwe be foru is seyd,

Wha~ne yei ben alle to geder don

Ye syth of man yei helpyn son.

*A Tretys of diverse herbis*, p. 391; RP, RP ACHE

(193) Or wete a lynen clooþ in þe iuse of rwe and of fenel and ley on his y3en.

Gilbertus, *Compendium*, p. 43; R, R ACHE

(194) For þe eyen.

Ete rawe rue, and it wole clarifie þe si3t. But better helpiþ hit if þou make an oynement of þe iuus of rue and of þe iuus of fenel; with þe galle of a cok and with hony also mochel as is of rue and with þis þou anoynte þin eyen ofte.

*Macer*, p. 74; RP, R order ACHE

(195) And for the same þ~ iuce therof medled with iuce of fenell and whyte hony / & a colery made therof.

*Grete Herball*; RP, R ACHE

(196) And rue ymedled wiþ water of rose with comyn clenseth wonderliche and helip blerednesse and reednesse of yen.

Trevisa*, De proprietatibus rerum*, p. 1039; RP, RP ACHE

(197) [\106\] Tack a goid partie of þe rose-floure and of fenkele, a litel rue and litul cumyn and seith hem alle togedere in clene water and wyng hem þorw a clene cloyth and do it in a lome of led or of glas and do þeroffe in þe heye quan ye gost to bedde. And wasse þin eye at monven wyt eyerose quan þou rist.
*First Corpus compendium*, p. 101; R, R MEMT

(198) Take rose & rwe & fenkele
And selydonye to gedyr wele
In somyr quan alle y$^{e}$se gresys be~ I take
Stillid water yer of lat make.
Y$^{is}$ is prowyd thy~ge for y$^{e}$ syth,
To densyn y$^{e}$ eyne & make he~ bryth
*Stockholm verse recipes*, p. 350; R, RP MEMT.

The parallels in this cluster are all for eyes (bleary eyes, red eyes, feeble eye sight etc.). There is little variation in the ingredients: rose and rue are the only ingredients mentioned by (188), (190) and (191) (all herbals); rue and fennel are the only ingredients in (193), (194) and (195) (a non-herbal and two herbals respectively); example (192) combines all the ingredients so far mentioned, and (196), (197) and (198) add either cumin[133] or celandine to the recipe. Despite the differences in the composition of the medicine, all R&RPs descripe an ointment or collyrium for eyes.

This parallel cluster is somewhat unique, in that the seven herbal extracts all have the RP order of elements, and the three non-herbal extracts are all accordant with the recipe order of elements. This suggests the information in each genre is independent of the other, and that here, at least, the traditions of writing recipe-like passages (related to *Ruta*) are separate. There is evidence of the opposite as well, but this piece of information seems original in both traditions, or at least has been

133 Cumin resembles fennel in habit, and in this cluster, the substitution of cumin may be due to the similarity in their general external appearance (cf. the theory of signatures). Celandine is a common herb for eye maladies, and therefore also a justified ingredient in recipes for eyes.

accommodated. There are degrees to the process of the information look as though it originated in a herbal; this will be exemplified later.

The cluster with the parallels (189) to (198) supports the idea presented earlier: despite the shared knowledge, the traditions of presenting the knowledge in herbals and non-herbal genres seem to be separate. The following cluster is an example of a connection between the herbal and non-herbal traditions of R&RPs:

(199) The Romayns in olde tyme dede rue in here wyne þat they dronke a3eins venyme and oþere iuelis. [...] And frenschipeþ with þe figge tree in so mochil þat rue is neuere in more likyng nouþer þryueþ bettre þan vnder þe figge tree oþer nyh þerto.

Trevisa, *De proprietatibus rerum*, p. 1039; RP, RP ACHE

(200) For venym.

Metridates prouyþ ofte þat rue etyn or dronkyn rawe wole destroye venym. For he þat etiþ fasting rue and mynte leves with a litel salt and II figes and II akcornes and II notes, þat day ne drede he no bestis venym. This also techiþ þe wesel, for whan she shal fy3te with þe eddre, she wole ete first rue.

*Macer*, p. 75; RP, R ACHE

(201) Also what man ete every day .xx. leves off rewe and .iij. fygges fyrste he shall not that day be poysenyd thawe hyt were geve hym for |P_73 þe nonys.

*Vertues*, p. 71; RP, RP ACHE

(202) And who vseth to ete nvttes with fyges and with a fewe braunches of rewe, venyme that day shall not anoye hym, [...]

*Secrete of secretes*, p. 62; RP, RP MEMT

(203) And that eiteth nuttes and figges, with a fewe leuys of rue, he is that day sauf from all venyme.

*Secreet of secreetes*, p. 356; RP, RP MEMT

(204) And he þat etyth be þe morow notys and fyggys with a few leuys of rwe, þer is no poysun þat þat day may noy hym, nowdyr in drynke ner mete nor ony odyr wyse. Qwer-for be no3t with-owte reysyngis nor þise odyr necessary. [\f. 59\]

De Caritate, *Þe priuyte of priuyteis*, p. 160; RP, RP EMEMT

(205) And who so eateth in the mornynge a fygge with nuttes and a quantyte of leues of rue, þat day shall not nede to feare venym.

Copland: *The Secrete of Secretes of Arystotle*, p. 357; RP, RP EMEMT

(206) Also who that eteth nottes and fygges with a fewe leues of Rewe, that daye shall no venym hym noye.

Caxton, *Governayle of Helthe*; RP, RP MEMT

(207) Yf a man wolle be sauede fro poyson: Take iiii or fyfe fykes of malike, and cleue him in two, and doo in euery fyge þre lefes of rewe. And ete þat fastynge. And þat day þere schall no poyson noys [\ (?) \] þi.

*In Hoote Somere*, p. 32; R, R *Add.*

(208) Of two drye nuttes, as many fygges, and .xx. leaues of Rewe, with a grayn of salt, is made a medicine, wherof if one doo eate fastyng, nothinge which is venomous, may that day hurte hym, and it also preserueth agaynst the pestilence, and this is the very ryght Mithridate.

Elyot, *Castel of helthe*, f. 26; RP, RP EMEMT

The special relation between *Ruta* and figs is established in extract (199) from Trevisa's text, although it is not an R&RP, and this is the core of all the following R&RPs. There are modifications with added ingredients, but *Ruta* and figs remain a constant. Close affinity is shown between the extract from *Vertues* (201), the *Secretum secretorum* variants ((202) through (205)), and Caxton's *Governayle* (206). Elyot's *Castel of Helthe* (208), another self-management of health text, is linked to *Macer* (200) by the amounts of the various ingredients specified.

As noted, the extracts from non-herbal texts concerning an antidote to poisons made from rue and figs are mostly from different versions of *Secretum Secretorum*. The passage in question deals with the *Oppynyons of philosophers* (*Secrete of secretes*), which relates an old story of a king who asked physicians from different nations to present him with a panacea.[134] This story is also repeated in Caxton's *Governayle of helthe*. The R&RPs in the passages are thus reported speech of the physicians, and therefore the recipe paraphrase form and order are used.

RP order is something of a rarity in non-herbal parallels, as regards *Ruta*-related information.Aside from the six cases in the parallel cluster in question, there are only six more in all the non-herbal texts under study. Two of them can be found in *Alchemical waters*:

(209) Ye water of phelysophres shall be made in thise wyse.

> Take isope and pullegyns, gariofilata i. Monteyne [...] Than take pypernell, rewe, petrosin de Alexandrya, [...] and after ward gyff hit hym to dryngke yat hath ye fallyng evyll, euery moron fastyng enduryng .xl. dayis, and lete hym faste euery daye after warde whan he hath dronken hit .vj. owrys, for this ys, after the discrescion of phisophees, the best medecyne in þe worlde for this evell. [...]
>
> *Alchemical waters*, p. 26; R, RP MEMT

(210) The secunde water of Seynte Gyle ys yis.

> Take rew, egrymoyne, saturyon with all the stonys, [...] For ther ys no sore yen in ye worlde, and þey be curabylle be ony medcyne, [...]
>
> *Alchemical waters*, pp. 27-8; R, RP MEMT

The first case, (209), is the first R&RP in the text. It is an *antidotum*, and a complex *compositum*. It is introduced by *Ye water of phelysophres shall be made in thise wyse*, which includes the name of the medicine (fitting the scheme of

134 The reference to King Mithridates IV Eupator in extract (198) and to mithridate in (206) may also indicate a direct relationship between the texts: King Mithridates was one of the first persons in history to commission his doctors (probably also Krateuas, his body physician) to prepare a panacea, thence the synonymy between the king's name and the universal antidote/panacea (cf. Singer 1927: 5, 18).

an *antidotum*). The name may be associated with the uses of the medicine, which are listed only at the end of the recipe, but as this is not certain, I have analysed it as having the RP order of elements.

*The secunde water of Seynte Gyle ys yis* introduces the other RP-order recipe from *Alchemical waters* (210), and this time the medicine is intended for the eyes. The pattern is similar to the previous case from the same text, although "the second water" may not be as strong an association with any malady as *water of phelysophres* may have been.

The third RP-order recipe is from *Stockholm verse recipes* (already seen in (199)):

(211) Take rose & rwe & fenkele
And selydonye to gedyr wele
In somyr quan alle y$^{e}$se gresys be~ I take
Stillid water yer of lat make.
Y$^{is}$ is prowyd thy~ge for y$^{e}$ syth,
To densyn[135] y$^{e}$ eyne & make he~ bryth
*Stockholm verse recipes*, p. 350; R, RP MEMT

This R&RP is from a verse recipe collection in rhyming couplets that follows the head-to-foot order of organising its recipes. The reason for the RP order of elements may here be that the general part of body, the head, is given information, and therefore the purpose of the recipe at the end actually only specifies the area of effect of the information given in the recipe.

The fourth case is an R&RP from Canutus' *Plague treatise*:

(212) And of spyces communly ys gynger, cinamoum, comin, masses, sapharon, and thys ys good for riche people. **And for power peple, take rew, sauge, wallenuttes, persely, & mengeld with vinegre togiders, and thys ys a goude sawse.** And yf they be bethwyxt bothe, nother poer nor riche, take comin & sapharon & mengel

135 The edition of *Stockholm verse recipes* spells this word *densyn*; the intended form may be *clensyn*.

togiders with vinegre, & this sawse ys good, **& destrue halle maner of putreffacyons**.

Canutus: *Plague treatise*, p. 277; R, RP MEMT

The text is dedicated to one disease, the plague, and as that is the topic throughout the text, there is no need to repeat the purpose at the beginning of each and every R&RP. The recipe in question is embedded in a continuum that discusses ingredients with respect to the prosperity of the clients. The specified area of effect is given first at the end of the last recipe, i.e. with the phrase *& destrue halle maner of putreffacyons*. This purpose has to serve all the recipes in (212), as they are all paratactic clauses/sentences.[136]

The fifth case is titled *Greuaunce of þe moder*, the sickness of the womb in *Sekenesse of wymmen 2*:

(213) Also þe ius of rue and of mugworte makeþe þem sone to be delyuered of childe if it be ded borne in hir wombe.

*Sekenesse of wymmen 2*; RP, RP MEMT

This RP with RP order is quite far removed from the general purpose given in the title, i.e. the RP comes at the end of the chapter dealing with sicknesses of the womb. The case is similar to *Alchemical waters*, cited earlier: the umbrella topic/area of effect has been given earlier, followed by a passage on the theory of the sickness(es), and after that comes a list of R&RPs, all of which end with a purpose that specifies the ailment and the area of effect of the medicine.

The last case is in *Stockholm prose recipes*:

(214) And also of herbys þow mayste makyn oyle in þis maner. Take þe leuys of ruwe, and breke hem small, and late hem rotyn VII dayis or VIII, and make þat oyle in þe maner of oþer oylys aforn. Forsothe þat oyle is good for þe fallynge ewyll, and for maladiis in þe flanke, and for hem þat may no3t goon to sege, and 3if he

136 The punctuation was added by the editor, therefore the recipes may be clauses or sentences.

owght diliuere, it farith as þowgh it were tirdillis clongyn wyth-inne þe guttys; anoynte where þat it is sor, with þat oyle, and it helyth; oþer werk yn with a clystir.

*Stockholm prose recipes*, p. 38; R, RP *Add.*

This passage first gives a recipe proper for the preparation of a herbal oil, and only after that are its uses given. The extract is a follow-up to another recipe (with R order), in which another oil is prepared. It may be the case that "making of oil" has been taken as the topic of the next R&RP, and thus the purpose comes as the last item, the new information. To conclude this digression on the non-herbal parallels with RP order, the general rule of thumb seems to be that the reasons for applying the RP order of elements are most often found in the (immediate) context of the R&RP.

Back to the parallel cluster of rue and figs: the extract from *In Hoote Somere* (220) is the only true recipe with recipe order of elements, all the rest bearing the signs of being derived from herbals. This is, of course, rare in respect to the parallel clusters at hand, as was seen in the quantitative part of the analysis, but this is a good example of how the herbal default order of elements can be adopted in non-herbal texts. It is also notable that all the texts that have adopted the herbal strategy of presenting the information are regimens of health, and that the only text with a recipe proper is a recipe collection.

The following example is more typical of *Ruta* clusters that contain both herbal and non-herbal parallels:

(215) For bytynge of a venymous beest or worme / playster rewe to the bytyng.

*Bancke's Herbal*, p. H ii; RP, R ACHE

(216) For bytynge of a venymous best or worme, playster rewe to the bytynge.

*Macer Lynacro*, f. R iii; RP, R ACHE

(217) And agaynst bytynge of venymous beestes lay rue to þ~ sores.

*Grete Herball*; RP, R ACHE

(218) [\111\] Item tack rue and stamp it and do oyle þerto and bynd it to þe wounde.
*Second Corpus compendium*, p. 174; R, R MEMT

(219) [\132\] An oþ~ pound grene ruw and fenell and seth togedir w$^{t}$ botre & gif hym to drynk
*Leechbook 1*, p. 56; RP, R MEMT

(220) ffor bytynge of a tode.
Take rewe lefes grete and smale. Stampe hem and drynke it with olde ale.
*In Hoote Somere*, p. 9; R, R Add.

There are as many parallels from herbals as there are from non-herbals among the examples (215) through (220), the preferred form of R&RPs is recipe paraphrase, but the most common order of element is the recipe order. This resembles the mean values for clusters with information shared between herbals and non-herbals. The common feature is the association of the healing power of *Ruta* with a bite by a venomous animal; the information has been rendered somewhat differently in the two traditions, however. Herbals have simples only, whereas all three non-herbal parallels present *composita*.

### 9.5.4 *Ruta* in herbals

The above cluster already displays great affinity between certain herbals, i.e. *Bancke's Herbal*, *Macer Lynacro* and *Grete Herball*. The following cluster adds *Macer* and *Vertues* to that list:

(221) Also take rewe / comyn / and Peper / of yche lyke moche by weyght / & grynde them small togyder and medle them with hony and vyneger. And it it is good for the ache in the brest and in the reynes.

*Bancke's Herbal*, f. H ii; R, RP ACHE

(222) Take Rewe, Co~myn, and Peper, of eche a lyke moche by weyght, and grynde them small togyther, and medle them with hony and vynegre and it is good for the Ache in the brest, and in the raynes.

*Macer Lynacro*, f. R iii; R, RP ACHE

(223) For alle þe parties in þe body.

Tak peper, comyn, and nitrum in even wei3te and of rue as mokyl as of al þise III, but loke wel þat þe comyn be wel soked in sharp | P_76 vynegre and eft dried vp-on an hote plate of iren. þan shul al þise be stamped to-gidre smalle and made vp with hony. þis wole hele þe ache of þe brest, of þe sides, of þe mawe, of þe reynes if it be ofte ete.

*Macer*, p. 75; R, RP ACHE

(224) Also take rewe comyn and peper off eyþer y-lyche moche and grynde them well to-gedyr. And medell with hony and vynegar and thys ys a presyous oyntment for ache yn þe breste and yn þe bowell and off þe raynes.

*Vertues*, p. 73; R, RP ACHE

(225) [\44\] ffor the kynge off the brest [...]

[\46\] an oþ~ Take comyn and pep~ & nitru~ in even weght and as moch of ruw as of all all [\sic\] thies iij wele sokyd in sharp vynegre and oft dryed vppon an hote plate of yrene and all thies stamped toged~ & made vp w$^{t}$ hony thys will hele þ$^{e}$ ach of the brest of the sides and of the mawe and of the reynes iff it be oft etyne. And iff be etyn oft it auentisith colora and makyth neshe wombe and confortith þ$^{e}$ stomake and makyth digestion

*Leechbook 1*, p. 30; R, R MEMT

This cluster exemplifies the extent of interrelatedness in the field of herbals. It also serves as an example of how information shared by herbals and non-herbals can be accommodated to make it look like original

composition, as was briefly exemplified earlier: all the herbal extracts in this cluster are recipes, but they have adopted the herbal order of elements. The reason for this is probably the structure of a herbal entry: as has been previously stated, most herbal entries begin with the name of the plant. An R&RP would then follow the ordering of information old – new, that is, the ingredients come first and the purpose last in an R&RP. The example from *Macer* (223) seems to be an exception, but it may be the case that the header, which really is just an umbrella term for all the maladies listed, was extracted from the text of the R&RP, and used as an introduction to the recipe. There is a clear parallel in *Leechbook 1* (225), which cannot be analysed as anything else but a recipe with the recipe order of elements. As the composition of the R&RPs in this cluster is nearly identical from parallel to parallel, the only difference between the herbal and non-herbal parallels is the order of the elements, it is reasonable to assume that this parallel is a case in which the information originated with non-herbal recipe collections.[137]

The cluster containing the parallels (226) to (228) gives an example of content that is not found in non-herbal genres in the corpora used, but originates, judging by the analysis criteria, with non-herbals:

(226) It helpeþ best a3ens þe bytyng and venym of a wood hound if it is y-ete wiþ salt and notis and wiþ rewe: poune þese foure togidres and 3iue ofte þerof to þe pacient in þe quantite of a greet note, and þat wiþ wyn.
Trevisa, *De proprietatibus rerum*, p. 910; RP, RP ACHE

(227) Also hyt ys gode for bytyng off a hownde that ys [\f. 63r\] wode. Thake wermode, rewe and hony and salte stampyd all to-geder and ley hyt on þe sore and hyt shall drawe ow3t þe venym and sese the ache and do a-wey ranclyng
*Vertues*, p. 79; R, R ACHE

137 The number of parallels from either genre/genre cluster seems to be irrelevant as regards the origin of the information: greater number of parallels from one genre does not necessarily mark that genre as the originator of information, if other observations speak against it.

(228) Also if a man be byte with wood hounde tak .v. peny-wi3ht of þis herbe and poune hit and medle hit with wyne and 3if hym to drynk and he schal be hol.

*Agnus castus*, p. 200; R, R ACHE

Examples (226) (*De proprietatibus rerum*) and (227) (*Vertues*) are extracts from herbal entries for wormwood (*Absinthium*), and (228) (*Agnus castus*) is from an entry for *Ruta*. The content can be reduced to '*Ruta* is good against a bite by a mad dog'. In *De proprietatibus rerum,* the default herbal strategy is used in conveying the information, and the text has also been noted to prefer RPs and RP order over other strategies earlier in this study. The *Vertues* extract begins as an RP, and the first sentence is a pure RP with RP order. However, after relating the virtue of the herb, the text resorts to recipe practices, and what follows is a recipe proper.[138] *Agnus castus* presents a recipe with the recipe order of information, and the three form a scalar continuum of the ways this piece of information has been conveyed in herbals. The reason for the assumption that it was first formulated in non-herbals, and was then re-used in herbals, is the use of the recipe form and order where a default herbal solution could be applied, as in Trevisa's *De proprietatibus rerum* extract.

Parallels that do not occur in non-herbals are in the textual components of names, description, habitat, and temperature. In addition to this, herbals contain passages on planting, parts of the plant to be used, storage of the harvested plant, and general virtues of the plant:

(229) the leues and the sedes be vsed in medycynes.

*Bancke's Herbal*, f. H ii; ACHE

(230) Item ruta cuius triplex est materies, s. domestica et siluestris, cuius

138 It is debatable whether the effects specified at the end of the recipe (*...hyt shall drawe ow3t þe venym and sese the ache and do a-wey ranclyng*) should be analysed as the purpose of the recipe, in which case the order of elements would be RP order, or whether the actual cause of the "venom" and "festering of the wound" is already stated in the first sentence.

semen piganum dicitur; foliis et semine utimur.
*Alphita*, p. 158; ACHE

(231) the leues and the sedes be vsed in medecynes,
*Macer Lynacro*, f. R iii; ACHE

(232) The leues and sedes of rue is good in medycyns / but yf þe fynde rue in receptes it is vnderstande þ~ leues and not the sedes / but yf they be expressed / and lyke wyse of piganiu~ wylde rue.
*Grete Herball*; ACHE

(233) And vertue seminatyf of rue is in þe seed, in the stalk, in spray, and in roote, for sprayes þerof ybent dounward in toward þe grounde taketh roote anon and nought druyeþ soone.
Trevisa, *De proprietatibus rerum*, p. 1039; ACHE

(234) The sedes may be kepte .x. yere and the leues a yere.
*Bancke's Herbal*, f. H ii; ACHE

(235) the sedes may be kept .x. yeare, and the leues a yeare.
*Macer Lynacro*, f. R iii; ACHE

(236) The sede of rue may be kept .v. yeres / and the leues one yere.
*Grete Herball*; ACHE

Items (229) through (233) describe the parts of the plant that can or should be used in medicines. The passages follow either the component of temperature (which classifies the herb as hot or cold and dry or moist), or the component of description. The description of the potent parts of the plant is a natural follow-up to both of these components: coming after the temperature in a herbal entry it emphasises the potency of the named parts, and following the description of the plant it sorts the parts into usable and unusable parts. Items (234) through (236) state the amount of time the potent plant parts can be stored for. This comes after the

description and/or parts used.

In general, *Ruta*-related information in herbals is situated in entries *s.v. Ruta*. The passages containing the pieces of information form continua, and, among herbals, these are more or less related to each other. Table 4 in *Appendix III* shows the rhemes covered in the entries for *Ruta* in herbals included in this study. The table may not be explicit as such, but when filtered, the following pattern emerges: Trevisa's text, which is perhaps the most general in its presentation of the virtues of *Ruta,* is the text to which most of the other texts are linked. In the entries for *Ruta*, Trevisa's text is particularly close to *Vertues* and *Macer*, and also to *Agnus castus*, although to a lesser extent. Another textual cluster is formed by *Bancke's Herbal*, *Grete Herball* and *Macer Lynacro*, and a third is the self-evident cluster of *Medical treatise* and *A tretys for diverse herbis* (these two are different versions of the same text). *Macer* boasts the most rhemes in its entry, and many of those are not linked to any other text in the corpora. One notable feature is that *Macer* is clearly less linked to the cluster of *Bancke's Herbal*, *Grete Herball* and *Macer Lynacro* than *De proprietatibus rerum* and *Vertues* are.

## 9.6 *Verbena officinalis* – vervain

### 9.6.1 Preliminary view of R&RPs with *Verbena officinalis* related information

The quantitative information of R&RP data points is summarised in Table 10 below:

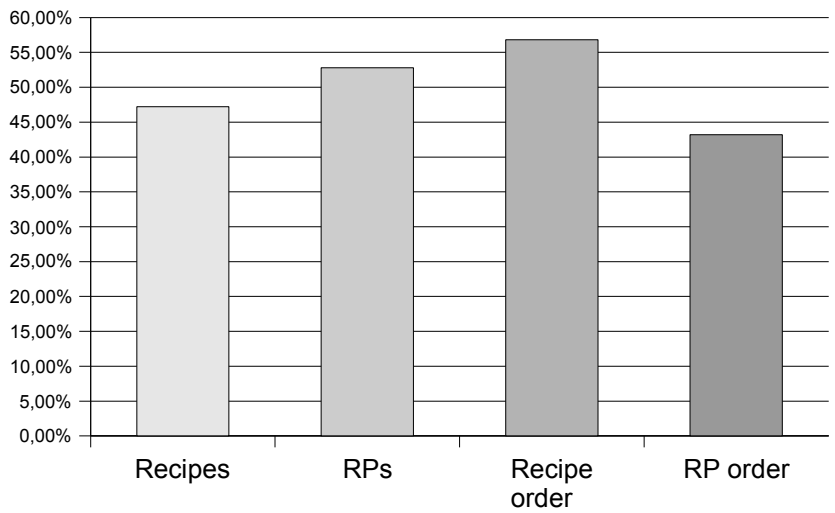
**Table 10: *Verbena* in R&RP parallels – summary**

| | R order herbal | R order non-herbal | RP order herbal | RP order non-herbal | TOTAL |
|---|---|---|---|---|---|
| **RP** | 5 | 14 | 44 | 3 | *66* |
| **R** | 4 | 48 | 6 | 1 | *59* |
| **TOTAL** | *9* | *62* | *50* | *4* | **125** |

Legend: rows (RP/R) give the division of the material into recipes and recipe paraphrases; columns indicate the sources (herbals/non-herbals) and the order of recipe elements in the parallels (R order/RP order)

The initial observation is that the absolute number of passages with *Verbena* related information in the corpora is smaller than with the number of passages with other herbs studies so far. Other observations are: 1) there are almost as many parallels form herbals as from non-herbals; 2) the preference for the native genre conventions is clear: herbals prefer the RP/RP pattern, and non-herbals R/R pattern; 3) non-herbals draw more on herbal conventions (RP form) than herbals draw on herbal conventions. In the light of this table, one may carefully conclude that 4) the traditions of writing recipe-like passages with *Verbena* related information in herbals and non-herbals seem to be somewhat detached.

The following figure (Figure 11) shows the percentages of the textual strategies used in the *Verbena* related R&RPs:




*Kuva 11: Verbena R&RPs: R or RP; Recipe or RP order*

As was noted with the summarising Table 10, herbals and non-herbals hold almost equal amounts of *Verbena* parallels, non-herbals being in the majority by seven parallels. Despite the fact that non-herbals are more abundant, the preferred R&RP form is RP. This may be due to recipes that lack the imperative *take*. The first choice for the element order is recipe order, and this fits the pattern of sources.

### 9.6.2 MDS presentation of *Verbena officinalis* parallels

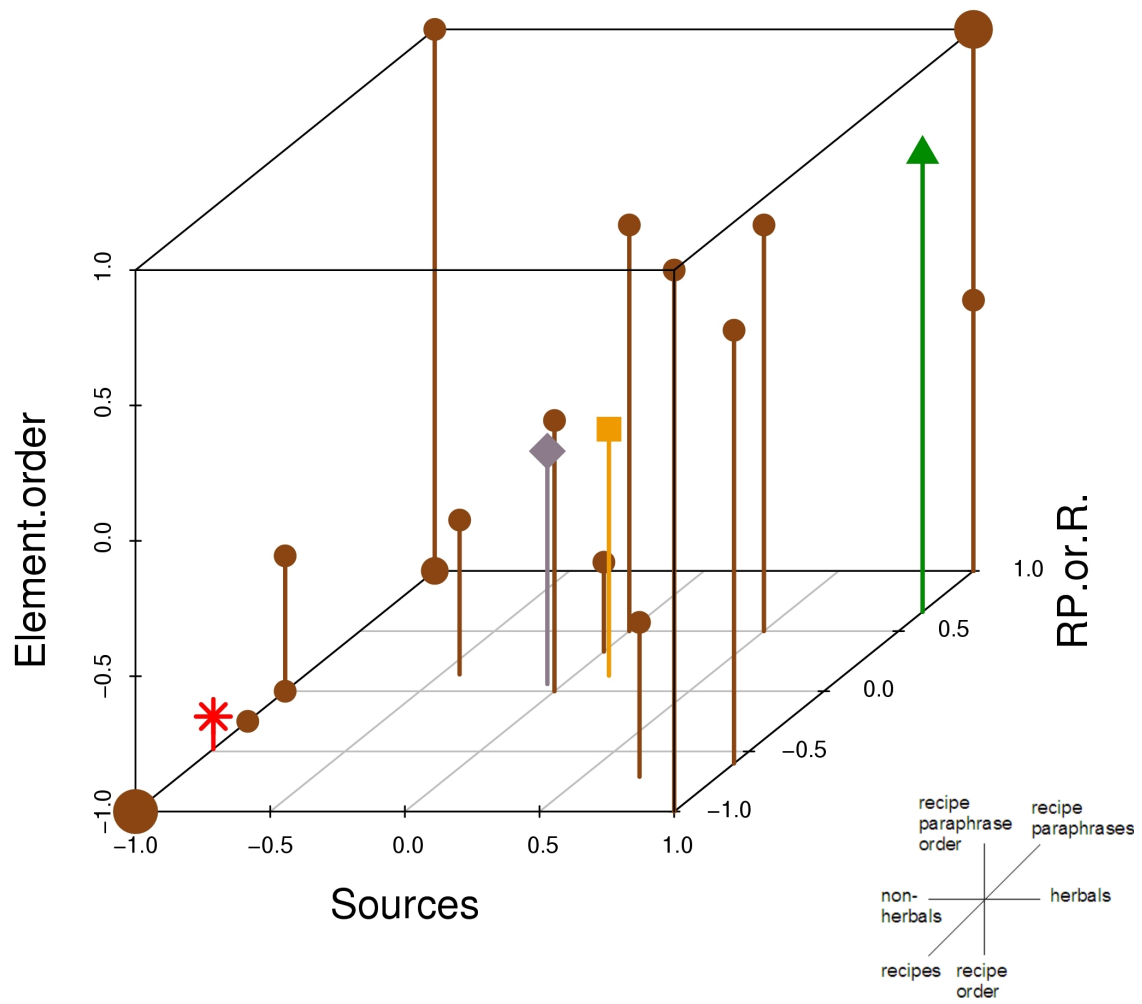



Figure 12: *Verbena officinalis R&RP parallel clusters*

Legend: ◇ mean of all parallel clusters; □ mean of clusters with herbal and non-herbal parallels; Δ mean of herbals only; * mean of non-herbals only

*Verbena* related information in the "herbalness" continuum is presented in Figure 12, according to the conventions set earlier in the analysis. The plot contains 125 parallels in 48 clusters, averaging 2.6 parallels per cluster, i.e. the average is in line with other herbs studied, save *Betonica*. 16 clusters

contain parallels from herbals only, and 26 parallels from non-herbals only; in only six clusters is content attested in parallels from herbals and non-herbals alike. This already indicates separate traditions of writing in herbals and non-herbals.

The overlap of certain plot points has been indicated by an increase in dot size.[139] *Verbena*-related information seems to have the same characteristics as *Ruta*-related information: the number of clusters with parallels exclusively from non-herbals exceeds the number of clusters with parallels from herbals only by roughly 60 per cent, but the number of visible data points is the same on the herbal and non-herbal sides of the plot. The implication is that the variation in the presentation of the information is greater in the herbal genre than in non-herbal genres. This is apparent in the plot pattern as well: the data points at the herbal end are scattered over a wider area, indicating greater variation.

Considering the herbals only mean[140] (marked with a triangle Δ in the plot), the situation is slightly different from that of *Ruta*: the traditions of writing in herbals and non-herbals seem to be separated to such an extent that the herbal parallels keep to the herbal strategies, especially when choosing the element order of R&RPs. This is a phenomenon that has not been observed in other herbal parallel sets so far studied.

The mean of all parallels[141] also supports this observation: the mean value describes a near equilibrium in the power relations between herbals and non-herbals, i.e. there are almost as many parallels from herbals as there are from non-herbals,[142] but the RP order of elements is clearly more popular than it was with *Ruta*-related information. These mean values support the observations on the separated traditions of presenting *Verbena*-related information.

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139 The co-ordinates for the overlapping data points are -1, -1, -1 (18 clusters); 1, 1, 1 (13 clusters); and -1, 1, -1 (four clusters).

140 The co-ordinates for herbals only are *Sources* 1, *RP or R* 0.66, and *Element order* 0.69.

141 *Sources* -0.06, *R or RP* 0.06 and *Element order* -0.14.

142 Despite the fact that exclusively non-herbal clusters outnumber exclusively herbal clusters, the overall parallel distribution is almost even: herbals 47 per cent, non-herbals 53 per cent.

The non-herbal mean[143] (an asterisk * in the plot) is in line with the plants analysed earlier: over 74 per cent of the non-herbal R&RPs are recipes, and almost 94 per cent have the recipe order of elements. There is a strong indication that informational strategies native to non-herbals were used to present information in these genres.

The values for the shared information mean[144] (marked by ◇ in the plot), which is applicable to only six clusters, indicate that the influence of non-herbal genre strategies is surprisingly low: only 55 per cent of all the parallels use the recipe order of elements, whereas that number has been considerably higher in earlier parts of the analysis. All in all, it seems that, as far as *Verbena*-related information is concerned, herbals and non-herbals seem to keep to the strategies of their own genres in presenting similar information.

### 9.6.3 Qualitative analysis – information shared by herbals and non-herbals in *Verbena* parallels

The R&RP purposes that state the most popular uses for *Verbena* are against eye maladies, poison, headaches, morbid swellings and gall stones. The following examples are for stinking breath, and the information is shared between herbals and non-herbals:

(237) Also hyt wyll make gode brethe and do a-wey þe stynkynnes off þe mowthe.
*Vertues*, p. 91; RP, RP ACHE

(238) who that vseth it, it wyll make good breth, and do awaye the stynke of the mouth.
*Macer Lynacro*, f. U i; RP, RP ACHE

(239) Also who that vseth it / it wyll make a good brethe and dothe awaye stynke of the mouthe.

143 The non-herbal mean for *Verbena* parallels is *Sources* -1, *R or RP* -0.48, and *Element order* -0.88.

144 The overall mean for *Verbena* parallels is *Sources* 0.13, *R or RP* 0.13, and *Element order* -0.09.

*Bancke's Herbal*, f. I ii; RP, RP ACHE

(240) For the stenche in the mouth. Cap. xvi.

Take the Iuse of Veruayne, and brose it & put it in thy mouth & holde it a good whyle close in the mouthe, and it wyll take away the stenche.

Moulton, *Myrour of helth*, f. E iii; R, R EMEMT

The three herbal parallels (237) through (239) are from the same source, or they copy each other, as they seem very close in their presentation of the effect/purpose ("it will make good breath"). *Bancke's Herbal* (example (239), published in 1525) is a text that drew on almost any available herbal in its time. The relations between *Vertues* and *Macer Lynacro* are more obscure, but *Vertues* is the earlier of the two.

The fourth item on the list is a non-herbal parallel, and contemporary with the youngest herbal parallel. In the corpora used there is no evidence of an earlier non-herbal rendering of the information, so it is possible that this parallel has been brought in from herbals, although if that is the case, it has been rewritten to meet the conventions of presenting R&RPs in non-herbal genres (imperative *Take*, purpose precedes ingredients). Another possible explanation is that herbal and non-herbal traditions of writing are separate as regards this piece of information, and that if there is no earlier attestation of this instance in the corpora, it may be due to the samples included in them.

The following 14 examples ((241) through (254)) form a parallel cluster which is bound together by the purpose (an eye malady) and one ingredient (*Verbena*). This cluster has the most parallels of the *Verbena* clusters, and the content is shared by herbals (four parallels) and non-herbals (ten parallels). The overall preferences are recipe paraphrase form, and recipe order of elements.

(241) For the eyes. D

The iuce of it medled with iuce of fenel and put in the eyen / clenseth them and causeth a clere syghte.

*Grete Herball*; RP, RP ACHE

(242) Rewe is gode to done in ale.
To make it both clere & stale.
The water ot rewe is gode for syght.
This water schal be mayde in a vrinalle.
And take water or rose w$^{t}$ alle.
And other wateres many þer to.
Of seladyne & veruayne al so.
[...]
The water of þ$^{e}$ fenkell is ful gode.
For to clarefye mannys syght.
If it be stilled and made oryght
And do þer to water of roset.
For mannys syght þe water is bote.
Shire water is gode al so
Off rewe & of veruayne to take þer to.
Whan þei ere al to geder done.
þai helpe mannys sight redy & sone.
*Medical* treatise, p. 181; RP, RP ACHE

(243) Oyer erbys, yat is to seyne
Celidonye, reed, fenel, rewe, & verueyne;
Su~me don to ye same cas
Filago & egremonye & ewfras;
To stille yese erbis be hem selwe
And ewene porcyo~n w$^{t}$ waterys melle,
Yis water is good for eyne smertyng
[\p. 63\] And for y$^{e}$ syth claryfying;
[...]
[\ p. 75\]
[...]

Ye water yer of is ful of myth
To clarifyin & strenthyn ma~nys syth;
W$^{t}$ ye water of egrimonye.
And red fenel & celydonye
Verueyn & rosa & philalgo
Eufras & golde & pympernel also,
Off eueryche of yese alyk meche,
Amythi water sekyrlyche;
*Tretys of diverse herbis*, pp. 63, 75; RP, RP ACHE

(244) The water of Cuffrurie montayne.
This water is meruaylouse good, to comforte the syght and to recouer
it yf it be possyble and in especiall vnto people flumatyques, & vnto aged people, the which it shall compose togither with Veruene, Rewe, Roses, and Celydoyne. This shal be a ryght merueilouse good water, to conserue to comfort, and to repaire the syght.
Becon, *Waters Artyfycialles*, p. B iv; RP, R ACHE

The herbal parallels in this cluster ((241) through (244)) use mostly RP form and RP order, save Becon's *Waters Artyfycialles*, which gives the purpose before the ingredients, and therefore has the recipe order of elements.[145] Herbal parallels all share *Verbena* and either fennel or rue as ingredients. Two other ingredients partially shared by the parallels are rose and celandine. The combination of *Verbena* and fennel for eye maladies is attested elsewhere in this cluster as well.

The ingredients that join the parallels in this cluster are, in addition to *Verbena* which is shared by all 14 parallels, fennel (12 parallels), and rose,

145 The introduction, (*This water is meruaylouse good*) can be seen to be similar to herbal conventions, where the plant covered by an entry is only referred to after the beginning of the entry. Another herbal feature is the redundant *This shal be a ryght merueilouse good water, to conserue to comfort, and to repaire the syght* at the end of the passage; however, the end of the R&RP does not bring in any further information on the purpose/effect, hence the R order of elements. Similar passages can often be seen in *Macer*.

rue and celandine (eight parallels each). *Verbena*, fennel, rose, and rue can be found together in six parallels, *Verbena*, fennel, and celandine together in six parallels, and *Verbena*, celandine, and rose or rue together in four parallels.

(245) A precyows watir to cleryn mannys syth and to distroyn þe pyn in a mannys eye.

Take þe reed rose, and capillus veneris, fenell, ruwe, verweyne, ewfrasie, endiue, betayne, surmounteyne, of yche olyche myche, soo þat þou hawe vndir all VI handfull; and late hem restyn in watyr or ellys in wyn al a day and a nyght. In þe secunde day distylle it in a styllotorye; þee furst watir þat distillith, þe schall thenkyn þat it hath the colowr of gold, þe secunde, þe colour of syluer, þe thrydde, of bawme. Þis watir is preciows for gentyl ladiis in þe stede of bawme, and it will distroyin þe pyn in a mannys eye.

*Stockholm prose recipes*, p. 29; R, R *Add.*

(246) A good watir for mannys syght.

Take sawge, fenell, verwoyne, betayne, egremoyne, canemunde, camadros, ewfrasie, pympernoll, ceruoyle, ruwe, of alle þese olyche myche, and grynde hem well in a morter; and afterward take powdir of aloen and a lytyll caunfere, and menge hem too-geedyr with ewrose, and distille it, and þat is profytabyll for alle maner euyll of eyne, and restoryth þe syght þat is lorn.

*Stockholm prose recipes*, p. 33; R, R Add.

(247) Anoþir watir for eyne.

Take egremoyne-leuys, and þe lewys of vervoyne and of fenell, and of ruwe, and of rosys; and doo hem in a stillotorie, and sprynge abowyn vppe-on hem good whyt wyn, and distille it; and þat watir is good for swellynge of a mannys eyne, þat comyth of colde, and also for bleryd eyne, and for eyne þat ben wosynge, and for þe pyn in a mannys eye, and it cleryth mychill a mannys syght.

*Stockholm prose recipes*, p. 36; R, R Add.

Examples (245), (246) and (247) are an example of intratextuality, which in

this case means R&RPs from one text (*Stockholm prose recipes*) that are linked by the same purpose and some of their ingredients. They all share *Verbena*, fennel, rose, and rue. Example (246) acts as a mediator between (245) and (247), as it contains ingredients shared with each of them, but that are not shared by (245) and (247). All three examples are recipes proper, and they have the recipe order of elements.

The next part of the cluster contains examples from regimens of health, dietaries and encyclopaedias:

(248) And þo thyngis þat confort þe syght and þe eyn be kendis goode confortatif, and þe watyr or þe juse of fynkel, of verueyn, of rosis, of celydony, of rwe, and oftyn, þe eyn opyn, to dyppe hem oftyn in cold watyr and to loke on þe watyr.

De Caritate, *Priuyte of priuyteis*, p. 158; RP, R MEMT

(249) Other sikenessis þer ben of þe y3en. Oon is a web or a wem þat coueriþ þe myddis of þe y3e.

[...]

And put in þe i3e, for it fretiþ awei þe web. And so doiþ þe iuse of celidon and of verueyn, if þe sore be newe.

Gilbertus, *Compendium*, p. 52; RP, R MEMT

(250) A good poudir to freten [\f. 94v\] awei eueriche kynde of web in a mannes i3e, and þoughe it be olde so þat mollificatiues goon before: Take of amyde, of sarcacolle, dr. ii; of

roses, dr. 1/2; of tucie, dr. 1/2. Tempere hem with þe iuse of eufrace or fenel. And aftir, drie þat in þe sonne. And þan do þerof in þe i3e. And if he may not suffre it, medle it with þe blode of an henne, or with þe iuse of eufrace, or plantein, or egrimoyne, or verueyn, or endyue, or filago, or celidon: Þer is no better medicyn for þis greuaunce.

Gilbertus, *Compendium*, pp. 52-3; R, R MEMT

(251) 3. This is good for þe y3en.

Reed rosis, rue, verueyne, fenel, celydoyne, eufras, pyonye, merche,

pinpernel, whi3t coperose, oile of notis.
*Queen Isabel's dietary*, p. 69; RP, R MEMT

Of the four examples above, (248) through (251) are the most alike; in fact, they are the parallels that share the most ingredients of all the R&RPs in this parallel cluster. Both of them are non-herbals, but also non-*receptarias*: De Caritate's text is a copy of *Secretum secretorum*, and the text attributed to Queen Isabel is a dietary, i.e. both texts concern healthy habits in life. The example from De Caritate's text is closer to a prototypical recipe (it is an RP with recipe order of elements) whereas the ingredients in the dietary are presented as a list of *materia medica* that are beneficial for the eyes.

The two examples from Gilbertus Anglicus' *Compendium* ((249) and (250)) are specifically for "a web in the eye". The former is a RP with the recipe order of elements; the latter is a recipe proper with recipe order. It is notable that example (250) has very precise measures for each ingredient, which suggests the text was used professionally and practically rules out texts for lay audiences as the source of this passage.[146]

The elements shared are the general purpose (for the eyes), *Verbena*, and the blood of a bird (as neither fennel nor celandine are present in this recipe, it has not been included in the current cluster).

(252) Thynges good for the eyes.
Eyebryght.
Fenell.
Ueruyn.
Roses.
Celandyne.
Agrymonye.
Cloues.
Colde water.

146 Another curiosity in the recipe is the ingredient *þe blode of an henne*, to which a near parallel can be found in *First Corpus compendium*:

*Item a sanck ouster de oys: Pernez le jous de verveyne e sang de columbe e mettez deins lez oys e donez a beyre puliole.*

Elyot, *Castel of Helthe*, f. 11; RP, R EMEMT

(253) A precyous water for y$^{e}$ sight of y$^{e}$ eyen cap. xxiii.

Take Smalage, read fenell, iue, veruayn, betayne, egrymony, pympernell, enfrage, sauge salendine, of eueryche alyke muche of quantytie, and washe them well and clene and stampe them & put them into a fayre brasen pan, and take the pouder of fyftene peper cornes fayre sareid in to a pinte of good whyte wyne and put it vnto y$^{e}$ herbes, with .iii. sponefull of lyuely hony, and fyue sponefull of the water of a ma~chylde that is an Innocent and medle them all together and boyle them ouer the fyer, and whan it is soden strayne it through a clene lynnen cloth, & put it in a glasse and stoppe it well and close, tyll you wyll occupye it & whan nede is do therof into the sore eyen with a fether, and if it be waxen drye te~per it with good whyte wyne, for it is very good for the syght of eyen.

Moulton, *Myrour of helth*, f. E iv-v; R, R EMEMT

(254) Contra telam et masculam in oculo. Capitulo .li.

Take Fenell, vnset goldes, Veruaine, and betaine, Aum, and stampe them and temper them with ale or whyte wyne, and strayne it, and then stampe nyne lowpes, other wyse called Cheflockes, and put them in the sayde lycoure, and geue it to the pacient to drinke nine dayes folowing and ge [^ sic ^] shalbe hole.

Moulton, *Myrour of helth*, f. F iii; R, R EMEMT

The last three examples ((252) through (254)) are from regimens of health, and the last two from the same text, Moulton's *Myrour of Helth*. Extract (252), from Elyot's *Castel of Helthe*, is another example of a special case of an RP: a list of herbs given under the caption "things good for the eyes". The last two examples are both recipes proper, and quite elaborate *composita*. They are linked to the cluster through their purposes, and through the association of *Verbena* and fennel with the purpose.

The separateness of traditions can also be seen in this latter cluster: herbals prefer the RP/RP formula for the form and order of elements,

whereas the non-herbal extracts prefer the default strategies in their genres. The non-herbal examples that keep to the herbal strategies in presenting recipe-like information do so because they are not recipe collections, but (usually) governals or regimens of health. In such texts, the RP is not primarily therapy, but more an example of beneficial things to do, and therefore the instructive aspect has been diluted by the choice of the herbal default form for the information.

### 9.6.4 *Verbena* in herbals

The parallels in clusters containing examples from herbals only seem to be very uniform. The following cluster, with seven parallels ((255) through (261)) suggests *Verbena* in a potable form as an antidote to poisons:

(255) Hyt ys gode a-yenste all maner evell off venym. Let the syke drynke hyt with wyne.
*Vertues*, p. 91; RP, RP ACHE

(256) The iuce dronken with wyne dryueth away all the imposenynge of the body.
*Grete Herball*; RP, RP ACHE

(257) This gres veruayne sodynn in wynn.
When yt is dronken distroith venymm.
*Medical treatise*, p. 172; RP, RP ACHE

(258) Yis gres verueyne sothy~ in wyn
3if it be dronkyn distroyith wenym,
*A tretys of diverse herbis*, p. 374; RP, RP ACHE

(259) VII. For venyme.
Verveyn dronken with white wyn wole destroye alle venemes.
*Macer*, p. 170; RP, RP ACHE

(260) It is good agaynst all maner of euylles of venyme / yf the pacyent

drynke it tempered with wyne
*Bancke's Herbal*, f. I ii; RP, RP ACHE

(261) The vertue is good for all maner of euylles of venym, yf the pacyent drynke it tempred with wyne,
*Macer Lynacro*, f. T iii; RP, RP ACHE

As regards the form of the parallels and the order of elements, all parallels in the present cluster are RPs with RP order. Every parallel has wine as the liquid component in the potion (*Macer* is the only one that specifies the kind of wine: it should be white). Four parallels give boiling (or refer to it in the past participles used) as the procedure to prepare the potion; the rest leave that to the imagination of the physician or apothecary.

The parallels that are most alike are examples (257) and (258), and (260) and (261); the two former are from separate copies of the same text, and *Macer Lynacro* and *Bancke's Herbal* clearly have the same source, probably *Agnus castus*.[147] The content is not attested in the non-herbals in the corpora used, and it is obvious in the light of the examples that if it did not originate with herbals, it has been fully accommodated. The popularity of this theme in the R&RPs collected here makes it probable that there are non-herbal *Verbena* simples against poison in Middle English recipe literature, but they have eluded the tools used in this study.

The following cluster with only herbal parallels contains a charm that makes people amicable towards the user of *Verbena*:

(262) XVI.
Plinius affermeþ þat wychches comaunden and preysen þis herbe hugely, for þei seyn þat þis herbe is goode a3ens alle sikenesses, and þey seyn also þat he þat were oynted abowte with þe iuus of vervein shulde haue graunted hem alle-þing þat þey wolde asken and þat he shulde mowe have alle grete mennes loue þat he wolde
*Macer*, p. 171-2; RP, RP ACHE

147 *Verbena officinalis* is not included in Stockholm Royal Library X.90, the source for *Agnus castus* in ACHE.

(263) Also who beryth verveyne a-pon hym he shall have love and grace.
*Vertues*, p. 91; RP, RP ACHE

(264) Also they that bere Ueruayne vpon them, they shall haue loue and grace of great maysters, and they shal also graunte hym his askynge yf that his askyng be good & ryght full,
*Macer Lynacro*, f. U i; RP, RP ACHE

(265) Also they that bere Ueruayne vpon the~ / they shall haue loue and grace of great maysters / & they shall graunte hym his askynge / yf his askynge be good and ryghtfull.
*Bancke's Herbal*, f. I ii; RP, RP ACHE

(266) And qwo so will maistries make.
Pouder of veruayne he schal take
þis veruayne in þe mounthe of may.
he schal be gadered in þ$^{e}$ spryng of day.
And sithen brent in pouder clene.
And cast a man or womman betwene.
3if ayther of þem lofe oþer wele.
They schal bothe stryfe & flyte ilke dele.
*Medical treatise*, p. 172; RP, RP ACHE

(267) Who so wyl maystres make
Powdir of verueyne hy~ most take,
But it most in ye monyth of may
Be gadderid in spryng of day,
And sythen mad to powdir clene
And cast on man & wo~man betwene
Alle men sen schwuln mown
Be twen hem fallen discension~,
Yow yei lowy~ hem neuer so well
Yei schul flytyn & strywyn y$^{t}$ sell.

*A tretys of diverse herbis*, p. 374; RP, RP ACHE

The examples from *Macer Lynacro* (264) and *Bancke's Herbal* (265) are the most similar, along with the extracts from *Medical treatise* (266) and *Tretys of diverse herbis* (267), for the afore-mentioned reasons. *Vertues* has a passage (263) which resembles (264) and (265) in a shortened form. The *Macer* extract is unique in this cluster, and it is also there that one can find the desired effect, "love of great men (masters)".

This charm consistently has the RP form and RP order of elements. This content is also unattested elsewhere in the corpora. One reason for this may be the virtual exclusion of charm literature from MEMT and ACHE; charms are only coincidentally represented, when embedded in e.g. recipe collections.

The *Verbena* clusters that consist of non-R&RPs contain passages from herbal entry components: these passages can be found in the components of names, plant description, time of blooming (and/or gathering), habitat, temperature, and parts used (usually embedded in the time of blooming).

Table 5 in *Appendix III: Affinity of herbals, passages shared* summarises the passages found in herbals with *Verbena*-related information. As the table is filtered, a pattern that became apparent in the quantitative analysis of the data emerges: *Vertues*, *Macer Lynacro* and *Bancke's Herbal* are most closely related to each other as regards shared information. *Macer* has the largest number of individual passages, but these are often left without a parallel in other herbals; however, *Macer* is also closer to the three texts mentioned above than any of the remaining herbals.

*Grete Herball* shares material equally with each of the four densely interlinked herbals, and also with the two sister texts, *A Tretys of divers herbis* and *Medical treatise*.

# 9.7 *Rosmarinus officinalis* – rosemary

## 9.7.1 Preliminary view of *Rosmarinus-related* R&RPs

The following table (Table 11) summarises the R&RPs that include *Rosmarinus officinalis* -related information:

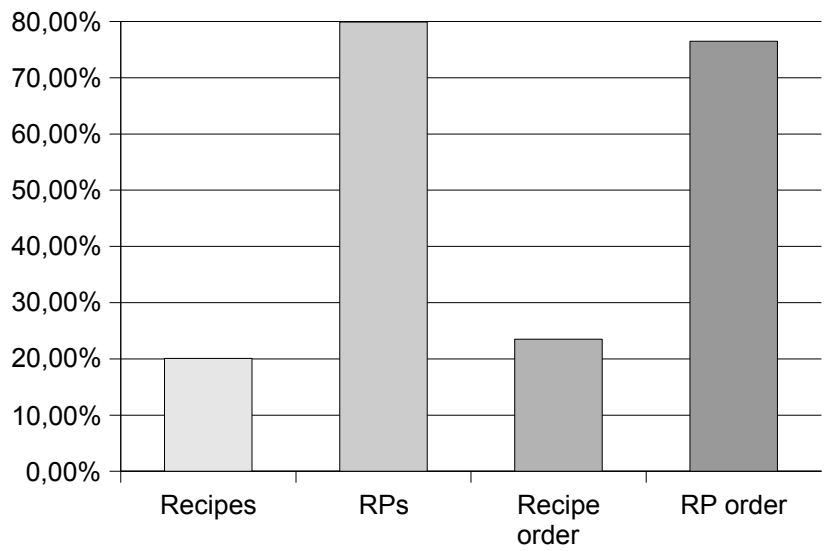
**Table 11: *Rosmarinus* R&RP parallels – summary**

| | R order herbal | R order non-herbal | RP order herbal | RP order non-herbal | TOTAL |
|---|---|---|---|---|---|
| **RP** | 22 | 8 | 157 | 0 | *187* |
| **R** | 12 | 13 | 22 | 0 | *47* |
| **TOTAL** | *34* | *21* | *179* | *0* | **234** |

Legend: rows (RP/R) give the division of the material into recipes and recipe paraphrases; columns indicate the sources (herbals/non-herbals) and the order of recipe elements in the parallels (R order/RP order)

The very first observation is, that this table is unlike any other seen in the course of this study: 1) herbal parallels dominate the table, 2) as do the RP forms. 3) Non-herbal parallels are in the minority, and 4) among non-herbal parallels, there are no cases which would use the RP order of elements. 5) Herbals do use the recipe order of elements, and RP/R pattern is their second choice after the default RP/RP pattern.

Figure 13 shows the percentages of the distribution between recipe and RP form, and between the orders of recipe elements in *Rosmarinus* R&RPs:




*Kuva 13: Rosmarinus R&RPs: R or RP; Element order*

The columns in Figure 13 shows that RPs and RP order are the preferred means of conveying *Rosmarinus* related information. However, one must note that herbals do resort to non-herbal strategies, even if that happens rarely: as herbals account for over 90 per cent of all the parallels (see Table 11), then some of them must be recipes proper, as the percentage for recipes is over 20. The same is true for the recipe order of elements, only that it is even more popular among the herbal parallels.

A probable reason for the preliminary results on *Rosmarinus* R&RPs to stand out to such an extent is the history of rosemary texts in England: Henry Daniel's authoritative translation of a treatise that was dedicated to rosemary alone seems to be reflected in quite a few texts in ACHE. This is an example of one influential text largely dictating the development of a genre, or in this case, a subgenre.

### 9.7.2 MDS presentation of *Rosmarinus officinalis* parallels

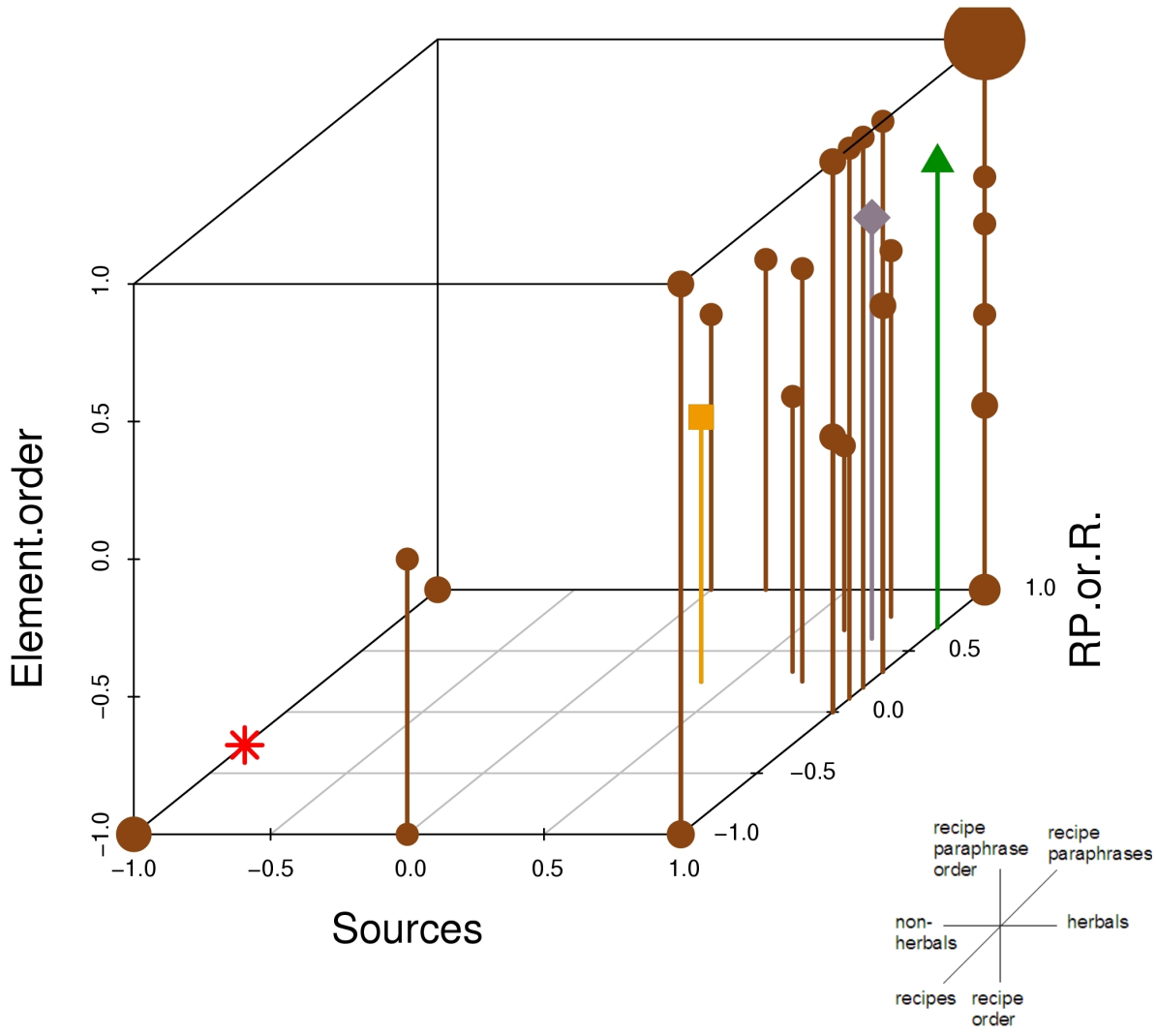



*Figure 14: Rosemarinus officinalis R&RP parallel clusters*

Legend: ◇ mean of all parallel clusters; □ mean of clusters with herbal and non-herbal parallels; Δ mean of herbals only; * mean of non-herbals only

Rosemary and the texts related to the plant have a remarkable history on English soil, and something of that uniqueness is reflected in the outcome of this analysis. Figure 14 presents the prototypicality of clusters with *Rosmarinus*-related information. The clusters have been plotted in the

"herbalness" continuum as in the previous parts of the analysis. The Figure itself hints at a different distribution from those seen before. There are 234 parallels in 96 clusters, which gives an average of 2.4 parallels per cluster. As many as 75 clusters contain parallels from herbals only, and only 13 contain parallels from non-herbals only. Information shared by parallels from herbals and non-herbals alike can be found in only eight clusters. An easy generalisation of this information is that *Rosmarinus* related parallels are mostly derived from herbals.

The increase in dot size indicates overlap of clusters at certain plot points.[148] The overlap is heavily concentrated at the herbal end of the plot, therefore it seems clear that the majority of passages are from herbals, and use the herbal default strategies, for example the RP form and order of elements.

The differences from the rest of the data sets analysed is clear: the overall mean[149] (marked by ◇ in the plot) is clearly on the herbal side of the "herbalness" continuum. In addition to herbals as sources (over 90 per cent), recipe paraphrase is the preferred form of conveying information (80 per cent of the R&RPs use the RP form); and the RP order of elements is also prevalent. In other words, the mean in the plot is far from the accustomed place (which has so far been close to the co-ordinates 0, 0, 0). Nevertheless, it is interesting to note that the means[150]for exclusively herbals or non-herbals, or shared information clusters have not migrated far from the positions they have usually occupied in the earlier scatterplots in this analysis. The implication is, on the one hand, that R&RPs in herbals tend to use some of the textual strategies original to non-herbals, irrespective of the extent to which the plant-specific information has found its way into non-herbals, and on the other hand, that non-herbals

148 The co-ordinates for the overlapping data points are 1, 1, 1 (47 clusters), -1, -1, -1 (10 clusters), 1, 1, -1 (seven clusters), 1, -1, -1 (four clusters), -1, 1, -1; 1, 0, 1 (three clusters each), and 1, -1, 1; 1, 0, 0; 1, 0.33, 0.33; 1, 1, -0.33 (two clusters each).

149 *Sources* 0.81, *RP or* R 0.6, *Element order* 0.53.

150 The mean for herbals only is located at *Sources* 1, *R or RP* 0.69, and *Element order* 0.69); The mean for non-herbals only is at *Sources* -1, *R or RP* -0.27, and and *Element order* -1; the mean for shared information is at *Sources* 0.38, *R or RP* 0.25, *Element order* -0.04.

use the RP form occasionally, and thus even that mean stays relatively immobile. As regards the shared information mean, given its stable appearance, the indication is that the information is usually presented as is conventional for each genre, no matter what its representation rate is in each genre.

### 9.7.3 Qualitative analysis - information shared by herbals and non-herbals in *Rosmarinus* parallels

The most common *Rosmarinus* related R&RPs are mainly cosmetological in character: the greatest number of parallels (13 in all) can be found in a cluster I have come to call rejuvenation. The first runner-up is a parallel cluster on how to get a fair face (11 parallels). Both these clusters have parallels from herbals only; the most common purpose with both herbal and non-herbal parallels is for heart condition (nine parallels), and the second and third most common are for lost appetite (eight parallels) and toothache (six parallels). The following cluster has parallels to cure a lost appetite; it has seven herbal parallels and one non-herbal parallel:

(268) Also watir þat his lewys arn sothyn in to þe myddys or to þe thredde del and þanne clense it & medele it wyth wyn & dronkyn: first mad soppys þer inne and it astoryth apetyt lost

Daniel, *Rosemary*, p. 318; RP, RP ACHE

(269) Yf thou be feble with vnkyndely swete, take and boyle the Leues in clene water, and wha~ the water is colde, do therto as moche of whyte wyne, and then make therin soppes, and eate well therof, and thou shalte recouer appetyte.

*Macer Lynacro*, f. R ii; R, RP ACHE

(270) Also yf thou be feble with vnkydly swette / take and boyle the leues in clene water / & whan þ~ water is colde do therto as moche of whyte wyne / & than make therin soppes & ete thou well therof / & thou shal recouer appetyte.

*Bancke's Herbal*, f. H ii; R, RP ACHE

(271) E He the whiche hathe lost his appetyte / and hath no lust nor desyrynge for to eate meate / he shall drynke in the mornynge fastynge / and at nyght goynge to bedde / at eche tyme an ou~ce / or an ounce and a halfe of the same water / and wasshe his mouthe therwith / than he shall gette agayne his appetyte / but he must vse it .viii. or .x. dayes contynuynge

*Braunschweig*, f. P iii; RP, R ACHE

(272) It rectyfyeth also and sharpeth the appetyte.

*Braunschweig*, f. P iii; RP, RP ACHE

(273) Also yf ye vse to eate tosted brede wet in the same water / it iustyfyeth the appetyte / it conforteth the weyke membres / and setteth them in vygoure.

*Braunschweig*, f. P iii; RP, RP ACHE

(274) it ratifieth the appetite

*Becon, Waters artyfycialles*, f. A ii; RP, RP ACHE

(275) Sometyme to styrre vp appetite, ye maye eate a lytle of thys sallet folowynge. +R. of the leaues of tender lettuse, of endyue, of pympernelle, of baume, of prymrose, of hareworte, of tender cicorie, of euery one an handeful & an halfe, of the **floures** of borage yf they maye be gotten, **of rosemarye**, or of the croppes therof, of cynkfoyle, of Romayne myntes, of percelye, of rue. ana a lytle, washe them all togyther, and make a sallet with vynegre, swete oyle, and a lytle salte.

*De Vigo 2*, f. 221; R, R EMEMT

Despite the fact that the majority of parallels in this cluster are from herbals (seven), the recipe form is not so uncommon: three out of eight parallels ((269), (270), and (275)) present the information as a recipe. The recipe order of elements is also found in one of the herbal parallels (271), in addition to the only non-herbal parallel (275). The average herbal parallel does stick to the herbal default strategies, but finding the non-herbal recipe

order of elements in a herbal passage indicates some influence directed from non-herbals to herbals.

The text clusters formed in this cluster show that the most similar passages are in *Macer Lynacro* (269), *Bancke's Herbal* (270), and Daniel's *Rosemary* (268); of these the two first mentioned are the closest to each other. *Waters Artyfycialles* (274) and *Braunschweig* (272) form another closely related cluster. *Grete Herball* and De Vigo's texts seem to stand alone; the *Grete Herball* passage is a simple, despite all the elaborateness, and De Vigo's example is a complex *compositum*, which may also have served as an educational recipe. The uniting force is the association of *Rosmarinus* with the malady, lost appetite, and in complex *composita* that is often the closest one can get, but also the soundest way to identify parallels (Hunt 1990: 8).[151] As the non-herbal passage is not a verbatim copy of any of the herbal entries, it emphasises the fact that the herbal and non-herbal traditions are separate as regards information related to *Rosmarinus*.

Another parallel cluster in which herbals and non-herbals meet is

151 The lists of multiple ingredients in e.g. *antidota* may have also functioned as lists of possible simples for the malady mentioned in the rubric. Thus their function, in addition to being a recipe, would be similar to the lists of medical ingredients in regimens of health, such as this:

> Hote thinges conseruynge a colde Harte.
> Cynamome.
> Saffron.
> Coralle.
> Cloues,
> Lygnum aloes.
> Perles,
> Macis,
> Baulme myntes.
> Myrabolanes,
> Muske.
> Nutmigges,
> [...]
> Elyot, *Castel of Helthe,* p. 11; EMEMT

The identification of parallels requires thus not the identical match of each ingredient in certain order, but, as stated, the association of the malady and the keyword herb.

the following, on toothache:

(276) þe vertu of þis herbe is þat if a man haue þe toþ-ache tak þe rote of þis herbe and let hym ete or ellis take þe juys þer-of and let hym hold hit in his mouþ a-mong his teþ and he schal be hol a-non
*Agnus castus*, p. 201; R, R ACHE

(277) Also chow his rote & it lessyth peyne in þe teth Also doth hys jows 3if þou helde yt well in þi mowth
Daniel, *Rosemary*, p. 318; RP, RP ACHE

(278) U With the same often wasshed / rectyfyeth the tethe and gommes / & heleth the fystule and gomme there on
*Braunschweig*, f. P iii; RP, RP ACHE

(279) And yf the tethe and go~mes be rubbed therwith it taketh awaye the ache
*Braunschweig*, f. P iii; RP, R ACHE

(280) and to wasshe his mouth ofte~ with water ratifyeth the teth and the gu~mes;
Becon, *Waters Artyfycialles*, f. A iii; RP, RP ACHE

(281) For tothe ache.
[...]
Item take sawge, **rosemary** and salt gemme and powder off peper and boyle alle these in wygth wyne and do yt hole in thyn mowþe and wenne yt ys cold, take more in þe same wyse.
Burgundy, *Practica phisicalia*, p. 201; R, R MEMT

All the passages in this cluster are from herbals, save the last. A recipe paraphrase with RP order is the preferred combination in this cluster, but one herbal passage (276) presents a recipe proper with recipe order, and another (279) a recipe paraphrase with the recipe order of elements; the

only non-herbal passage (280) is a recipe with recipe order.

In this cluster, Daniel's *Rosemary* and *Agnus castus* form one textual cluster, the specified ingredient, *rote*, being the clearest indicator of parallelism. Another cluster is *Braunschweig* and *Waters Artyfycialles* (examples (278) and (280)). The example from Burgundy's *Practica phisicalia* (281) is a *compositum*, and therefore the odd one out, but is linked to this cluster through the association of the purpose and the key ingredient. As before, despite the presence of both herbals and non-herbals in the cluster, the traditions seem to be separate.

### 9.7.4 *Rosmarinus* in herbals

As has already become apparent, herbal parallels prevail in the set of *Rosmarinus* clusters. For some reason, recipe paraphrases with a cosmetic or rejuvenating effect are the most popular rhemes in these. The following cluster (abridged, as there are 13 parallels in all; seven are presented here) concerns *Rosmarinus'* ability to restore a person to youth, and this content has been conveyed in various forms:

(282) a bath of rosemary ore ellys a stew it makyt a man 3ong & hys flesche new.
Crophill, *Rosemary*, p. 267; RP, RP ACHE

(283) Also stuwys of hym makyth man longge 3ong and fortyfien alle þe membris of body
Daniel, *Rosemary*, p. 317; RP, RP ACHE

(284) Of þys herbe telles Galiene,
þat in hys contree was a quene,
Gowtus and croket as he haþ tolde,
And eke sexty gere olde.
Sor and febyl, where men her sey,
Scho semyth wel for to dey.
Of rosmaryn scho toke sex powde,
And grownde hyt wel in a stounde,

And baþed hyr þreyes eueri day,
Nyne mowthes, as I herde say,
And afterwarde anoyntte wel hyr hede,
wyþ gode bame, as I rede.
Away fel alle þat olde flesshe,
And gowge isprong tender and nesshe.
So fresshe to be scho þen bigan,
Scho coueytede couplede be to man.
*Loscombe*, p. 22; RP, RP ACHE

(285) Also make the a Boxe of the Woode and smell to it, and it shall preserue thy youth.
*Macer Lynacro*, f. R iii; RP, RP ACHE

(286) Also make the a box of the wood and smell to it and it shall preserue thy youthe.
*Bancke's Herbal*, f. H ii; RP, RP ACHE

(287) T The same water cawseth a bodye to appere longe tyme fayre and yonge / wha~ it is dayly vsed myxced with his drynke a lytell / and outwarde therwith rubbed
*Braunschweig*, f. P iii; RP, RP ACHE

(288) and who so baineth him ryght often in the decocktion of this floure, he reneweth his youth
Becon, *Waters Artyfycialles*, f. A iii; RP, RP ACHE

All thirteen parallels have the combination RP form + RP order. Crophill, *Rosemary* (282) is in the same cluster as Daniel's *Rosemary* (283), both mentioning stews as a possible procedure to obtain the desired effect; the latter text is also linked to the *Loscombe* extract (284), as they both mention baths, which are mentioned in *Waters Artyfycialles* (288) as well. Examples (285) (*Macer Lynacro*) and (286) (*Bancke's Herbal*) form a cluster of their own, as there the remedy is based on smelling the wood of the herb. The

passage in (287) (*Braunschweig*) is linked to the others through the purpose, and through both the internal (potions etc.) and external uses (e.g. baths, application on skin) of the herb.

Example (284) is an interesting case, as in it the remedy is given in the narrative. It is not uncommon for *Rosmarinus* clusters to contain another narrative as well, on *Rosmarinus* against thunder and lightning.[152] Although the story itself might pass as an entertaining digression (with an interesting main character, a (?Greek) queen, who is so old that she looks as if she was dying, and is miraculously rejuvenated by *Rosmarinus* baths, so that she regains her appetite for men), the name of Galen gives the passage the required *gravitas*, and it may be read as a medical case that illustrates the potency of *Rosemarinus*.

### 9.7.5 *Rosmarinus* and non-R&RPs

The non-R&RP passages with *Rosmarinus*-related information are without exception herbal passages: the passages include names, description, habitat, history of the plant (in England), temperature, parts used, and gardening advice. The following cluster presents the information included in gardening advice:

(289) Bot slywynge and þe rote of rosmaryne
Man may set welle and fyne
Betwene Aprile and þe May,
In neetis fen and of þe way,
And also befor þe Mychaelmasse
þe same to set leue þou hasse,
Wyþ horse fenne þou hellyt welle,
þat colde grewe hyt neuer a delle.
Alle so in Aprile do þe seede,
þer blake erþe may hyt fede.
þe blake forst, þe norþeren wynde,

152 The story in Henry Daniel's *Rosemary* (in Stockholm Royal Library X.90 p. 85), the main antagonist of which is Emperor Tiberius, is probably an adaptation from Pliny the Elder's *Historia Naturalis* ii.lv.147 and xv.xl.135 (Mäkinen 2002a: 321).

To þys herbe beþ vnkynde.
Helle hyt wel wyþ alle þy mayn,
And kep fro colde þat hyt be nogt sleyn.
Hyt wylle þe help when hyt spronge,
þerfor þi trawalle þeynk nogt longe.
*Loscombe*, p. 20; ACHE

(290) Þis tre may wyth alle tymes and wederes sawe þise foure & Northwynd & þe priuale wynd & þe est wynd in wynter tyme & blak frost snow & whyt frost norschyn hym & tempren hym
Daniel, *Rosemary*, p. 320; ACHE

The *Loscombe* extract (289) draws on Daniel's *Rosemary* as well, although the information in this *Rosmarinus* extract is scarcer than that given in (290), since the manuscript used for *Rosemary* in MEMT (MS Stockholm Royal X.90) contains a version of Daniel's translation which is slightly abridged in the section where gardening advice is given. The parallelism is nevertheless unquestionable, as the weather conditions harmful for *Rosmarinus* match (***þe blake forst, þe norþeren wynde****; To þys herbe beþ vnkynde* and ***Northwynd*** *& þe priuale wynd & þe est wynd in wynter tyme &* ***blak frost snow*** *& whyt frost*).

### 9.7.6 *Rosmarinus* information and textual affinity between herbals

The clusters discussed here have shown that within the genre of herbals there are several ways to convey the same piece of information: some of the passages quoted form clear clusters, where the passages have common antecedents.

A fuller picture of the relations between herbals can be received from a table of rhemes, which shows the presence or absence of a topic in each text (see Table 6 in Appendix III). The text that contains the most rhemes is Henry Daniel's *Rosemary*. Texts that probably rely on it directly are Crophill's *Rosemary*, *Bancke's Herbal*, *Macer Lynacro* and Braunschweig's *Distillations*. *Loscombe* links to Daniel's text as well, but not so much to other texts. *Agnus castus* makes an exception in sharing material with Daniel's

*Rosemary*; despite this show of intertextuality, it is virtually the only text *Agnus castus* is linked to through *Rosmarinus*-related information.

The data set with *Rosmarinus*-related information is dominated by Daniel's text, and for good reason. The text Henry Daniel translated from Latin into English in the 1360s (allegedly under the auspices of the Court) became the most influential source of information of *Rosmarinus in* England, and seems to have remained an authority well into the sixteenth century (Keiser 1998: 3643). *Bancke's Herbal* drew on almost any available herbal at the time, and Daniel's text was the source for the entry on *Rosmarinus*. *Macer Lynacro*, despite the name, is much closer to *Bancke's Herbal* (or its source *Agnus castus*) than to *Macer*, which does not even have an entry for *Rosmarinus*.

## 9.8 Summary of the analysis

This section will summarise the analysis of the six herbs addressed in this study. The following table, Table 12, gives the raw values related to the R&RPs studied:

**Table 12: *Verbena* R&RP parallels – summary**

| | R order herbal | R order non-herbal | RP order herbal | RP order non-herbal | TOTAL |
|---|---|---|---|---|---|
| **RP** | 208 | 169 | 572 | 40 | *989* |
| **R** | 85 | 461 | 51 | 11 | *608* |
| **TOTAL** | **293** | **630** | **623** | **51** | **1597** |

Legend: rows (RP/R) give the division of the material into recipes and recipe paraphrases; columns indicate the sources (herbals/non-herbals) and the order of recipe elements in the parallels (R order/RP order)

The table summarises the observations of previous sections. Throughout the plants studied, herbal passages have preferred the RP/RP pattern, and non-herbal passages have attested mostly to the R/R pattern. The tendency to use the default conventions of each genre is strong both in herbals and in non-herbals. As regards lesser trends, RPs in herbals tend to employ the recipe order of elements, and the passages in non-herbals tend to use the RP form. The rarest phenomena are passages in herbals with recipe form and RP informational order, and passages in non-herbals with recipe form and RP order of elements.

Herbals have been the major source of parallels in this study, hosting 916 passages against 681 from non-herbals, thus over 55 per cent of the passages are from herbals. Figure 15 below shows the percentages for each form and informational order used in R&RPs:

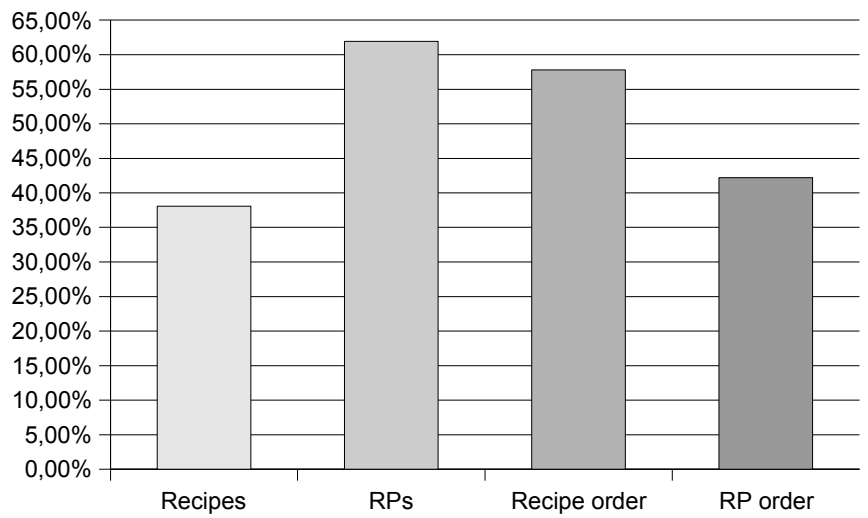



*Figure 15: Summary of analysis: R or RP; R or RP order*

As the columns in Figure 15 show, recipe paraphrases prevail over recipes, but the recipe order of elements is more popular than the recipe paraphrase order. The difference between the percentages of RPs and RP order may be explained in two ways: The first explanation is that herbals draw extensively on recipe collections. If this is the case, then the information borrowed is not fully accommodated to the herbal genre and its conventions. The second explanation is based on the definition of recipes given in chapter 2: should the R&RPs with imperatives that are not cases of *take* be accepted as recipes, the figure might look slightly different, i.e. The number of recipes would rise and the number of RPs would be reduced.

The same result can be studied in the following, summarising scatterplot:

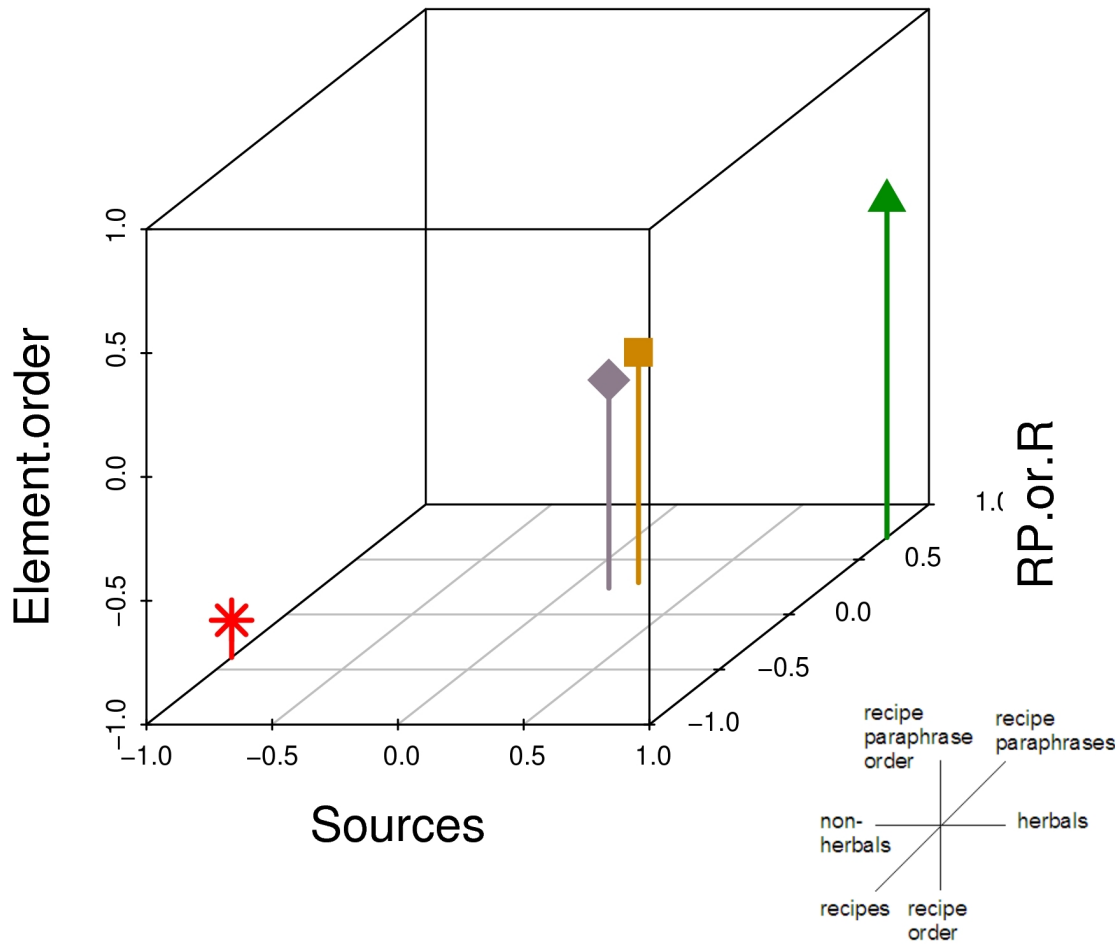



*Figure 16: All herbs studied: mean values for parallel clusters*

Legend: ◇ mean of all parallel clusters; □ mean of clusters with herbal and non-herbal parallels; Δ mean of herbals only; ✱ mean of non-herbals only

Figure 16 presents the means for all R&RP parallels considered in this study. In the mean value for shared information clusters[153] the preference for recipe or RP form corresponds to the value for *Sources*. However, the value for *Element order* shows the influence of non-herbals, and this is a clear deviation from the expected norm. As far as element order is concerned, herbals draw on non-herbals.

153 *Sources* 0.24, *R or RP* 0.29 and *Element order* -0.07.

The overall mean[154] signals a familiar pattern: the value for *R or RP* is higher than expected, and this is mostly due to the formal definition of recipes in the analysis. *Element order* is the most diagnostic value in determining the probable origin of R&RP passages: as the value is -0.16, it is likely that herbals borrowed material, i.e. recipes, from non-herbals.

The same is confirmed by the mean value for herbals (*R or RP* value 0.7 and *Element order* value 0.36): only 15 per cent of the R&RPs in herbals are recipes, but the percentage of R&RPs with the recipe order of elements is 32. This may be an indication of passages borrowed from non-herbals that have been accommodated to the RP form, but that still have the informational structure of a recipe.

The non-herbal mean (*R or RP* -0.39 and *Element order* -0.85) confirms what has already been observed in the course of the analysis: the non-herbal genres keep strictly to the recipe strategies, as over 90 per cent of the R&RPs use the recipe order of elements. The fact that non-herbals seem to use the RP form has already been discussed many times: the restriction on the VP in recipes set in the definition of recipes may be the cause for such a high value.

R&RP passages that form intertextual links between herbals and non-herbals are 621 (see Table 13 below). The 1,597 R&RPs from herbals and non-herbals studied for the quantitative analysis include 396 herbal passages that form a link with non-herbal texts, and 225 non-herbal passages that form a link with herbal texts.[155] There are 105 parallel clusters with information shared between herbals and non-herbals, i.e. an average parallel cluster that presents information shared between herbals and non-herbals comprises c. 5.9 parallels.

154 *Sources* 0.15, *R or RP* 0.24 and *Element order* -0.16.

155 Obviously, the parallels in clusters form links within the genres as well.

**Table 13: Parallel clusters with herbal and non-herbal parallels**

| **Clusters with herbal and non-herbal parallels** | | | | | | |
|---|---|---|---|---|---|---|
| | total | herbal | non-herbal | herbal % | non-herbal % | # of clusters |
| **Absinthium** | 102 | 65 | 37 | 63,7 % | 36,3 % | 19 |
| **Artemisia** | 57 | 38 | 19 | 66,7 % | 33,3 % | 9 |
| **Betonica** | 219 | 146 | 73 | 66,7 % | 33,3 % | 31 |
| **Rosmarinus** | 38 | 30 | 8 | 78,9 % | 21,1 % | 6 |
| **Ruta** | 168 | 98 | 70 | 58,3 % | 41,7 % | 34 |
| **Verbena** | 37 | 19 | 18 | 51,4 % | 48,6 % | 6 |
| **total** | **621** | **396** | **225** | **63,8 %** | **36,2 %** | **105** |

In the table above, the rows, identified by the plant-names used in the analysis, give the raw counts of parallels/herb. The columns give the raw counts and the percentages of parallels/genre.

There are more parallels form herbals than there are from non-herbals, roughly one non-herbal passage per two herbal passages. This rule of thumb is not true for parallel clusters with *Rosmarinus* related information (one parallel in five is from a non-herbal text); that may be due to the history of rosemary texts (see chapter 5). Also parallel clusters for *Verbena* and *Ruta* deviate slightly from the average ratio between herbal and non-herbal parallels. *Verbena* parallels may be deviant solely for the fact that the sample is so small; *Ruta* seems a case of a herb so well known that it has permeated all the layers of pharmacological therapy in the Middle English period, at least in the scope of the corpora used.

Table 14 below presents the percentages of passages in ACHE interlinking with non-herbal texts:

**Table 14: Interlinking passages in ACHE: percentage per text**

| | |
|---|---|
| ***Alphita*** | 0,3 % |
| ***Vertues*** | 9,2 % |
| ***Trevisa*** | 7,9 % |
| ***Macer*** | 17,2 % |
| ***Agnus*** | 5,4 % |
| ***Tretys of diverse herbis*** | 5,9 % |
| ***Medical treatise*** | 7,7 % |
| **Daniel, *Rosemary*** | 1,3 % |
| ***Bancke's Herbal*** | 10,3 % |
| **Crophill, *Rosemary*** | 0,5 % |
| ***Loscombe*** | 0,3 % |
| ***Braunschweig*** | 7,2 % |
| ***Macer Lynacro*** | 9,5 % |
| ***Grete Herball*** | 12,6 % |
| **Becon, *Waters Artyfycialles*** | 4,9 % |
| **Total** | **100,0 %** |

The table presents the percentage of parallels in the texts of ACHE that form links to non-herbal genres. *Macer*, *Bancke's Herbal* and *Grete Herball* are the three most link-productive texts in ACHE. *Macer* is known to have been a source for many texts; both *Bancke's Herbal* and *Grete Herball* are later herbals that drew on many sources, and apparently also on non-herbals. As mentioned, the parallel clusters attesting to the affinity between herbals and non-herbals also present intertextual evidence within genres. Therefore the links from *Bancke's Herbal* apparently to non-herbals may just as well be links to *Macer*.

The next set consists of *De proprietatibus rerum*, *Vertues*, *Braunschweig* and *Macer Lynacro*. The herbals *Medical treatise* and *Tretys of diverse herbis* are also sources of link-producing parallels. These affinity patterns have been observed also in the course of the analysis.

The last table of the analysis (Table 15) presents the percentages of parallels for non-herbal texts that form links with herbals:

## Table 15: Interlinking passages in non-herbals

| | | | |
|---|---|---|---|
| **surgeries** | Arderne, Fistula | 0.5 % | |
| | Arderne, Clysters | 0.9 % | |
| | De Vigo 2 | 1.4 % | |
| | Lanfranc, Chirurgia parva | 0.5 % | 3.3% |
| **specialised** | Roeslin, The Byrth of Mankynde | 0.9 % | |
| | Sekenesse of wymmen 2 | 0.5 % | 1.4% |
| **remedies** | First Corpus compendium | 10.6 % | |
| | Second Corpus compendium | 4.6 % | |
| | Killeen Medical Texts | 1.4 % | |
| | Liber de diversis medicinis | 4.1 % | |
| | In Hoote Somere | 5.5 % | |
| | Stockholm verse recipes | 3.2 % | |
| | Stockholm prose recipes | 7.8 % | |
| | Leechbook 1 | 4.1 % | |
| | Leechbook 2 | 11.1 % | |
| | Medical works | 1.8 % | |
| | Medical charms | 2.3 % | |
| | Rupescissa, Remedies | 0.5 % | |
| | Rupescissa, Quintessence | 0.9 % | |
| | Burgundy: Practica Phisicalia | 6.5 % | |
| | Naples recipes | 5.1 % | |
| | Daniel, Liber uricrisiarum (recipes). | 1.4 % | |
| | Antidotarium Nicholai | 1.8 % | |
| | Recipes 1 | 1.4 % | |
| | Recipes 2 | 1.8 % | |
| | Queen Isabel's dietary | 0.9 % | |
| | Moulton: Myrour | 6.9 % | |
| | Phayer, Boke of Chyldren | 0.9 % | |
| | Elyot, Castel of Helthe | 3.7 % | |
| | Secrete of secretes | 0.5 % | |
| | Secreet of secreetes | 1.4 % | |
| | De Caritate, þe priuyte of priuyteis | 0.9 % | |
| | Copland, Secrete | 1.4 % | |
| | Alchemical waters of St. Giles | 0.5 % | |
| | Gilbertus, Compendium | 1.8 % | |
| | Caxton, Governayle of Helthe | 0.5 % | 95.3% |
| **Total** | | 100.0 % | |

Table 15 provides a picture of affinities between herbals and other medical genres. The table surprises one by the clear trends it presents: over 95 per cent of the non-herbals that link textually to herbals belong to remedy-

books, and of those the majority are recipe collections. Regimens of health and dietaries are responsible for roughly one sixth of the links (c. 17 per cent). Surgical and specialised texts cover 3.3 and 1.4 per cents of the parallels respectively. The texts linking to herbals are surprisingly uniform, and relatively few: the study of manuscript contexts of herbals (see chapter 5) was quite revealing about the textual affinity in the medieval medical register, but it did not predict such clear exclusion of everything else save the remedy-books. The survey of incipits (chapter 5) was even more favourable towards the specialised texts and surgeries. Herbals seem to be an integral part of the remedy-book and *materia medica* tradition, and as such closest to recipe collections.

There are 36 texts in the medieval medical traditions that contain the passages linking to herbals. As the corpora used are considered, it means that roughly one third of the texts in the medical register between 1330 and 1550 shared material with herbals. Some interesting observations considering the individual texts can be made: two the most link-productive texts are *First Corpus compendium* (FCC in the table) and *Leechbook 2* (10.6 and 11.1 per cent of passages in non-herbal respectively). They are both recipe collections. FCC is an early (dates back to c. 1330), tri-lingual collection of recipes, and it seems to have a wealth of R&RPs that were paraphrased and reproduced in herbals. *Leechbook 2* is the recipe collection that has part of the vernacular *De herba vettonica* embedded in the middle of the *receptaria* text, and that may account for some of the interlinking passages in the text.

As regards the temporal aspect of the corpora, the Early Modern period presents no changes in the intertextual patterns. In the sixteenth century, recipe collections and regimens of health form the group of texts that comprises the most links with herbals. The reason for this phenomenon is clear: as noted earlier, medieval medical traditions continued strong until the mid-sixteenth century, and thus a change in the pattern would have been a surprise.

# 10. Discussion

## 10.1 Abstract

In this study I have set out to describe an abstract phenomenon, textual affinity, as witnessed by the intertextual knowledge obtainable from herbals and other texts in the register of medieval medical writing. The formulation of research questions was based on a knowledge of the history of herbals and the underlying principles in medieval text production, as reflected in the surviving manuscript reality. In addition to this knowledge, initial first-hand observations on the recipe information dispensed in herbals gave an impetus to this study. In this chapter, I will bring the results of the analysis and further discussion on the theory and method together in order to describe the intertextuality observed in herbals. I will address each research question presented in the introduction, and will conclude by pointing out starting points for further studies.

## 10.2 On the theory and method

I have aimed at combining intertextuality and genre studies with quantitative analysis in this study. The apparatus for the study was based on easy access to texts in the form of historical medical corpora, and on a model of genres, textual space, that was used to visualise the phenomena of intertextuality and text clustering in genres and registers. Knowledge of medieval medical texts facilitated the formulation of research questions, design of textual searches, and the interpretation of the results.

### 10.2.1 Theoretical framework

The theoretical framework for this study was based on the following facts, observations and assumptions: the history of Western medicine suggests common ancestors for all texts, especially those related to pharmacological therapy. In the Middle Ages, the principles that governed text production prioritised copying and preserving old texts over original composition. There are passages in medieval English herbals that share the same content

as recipes in contemporary remedy-books, although they do not share the same syntax. Texts may share material and/or structure, and for this reason they can be thought of in terms of genres. Genres are abstract systems that may reflect the subjective perception of texts. Subjective perception is apt to change when new evidence or material is presented. Intertextuality is the binding force that makes genre systems dynamic and keeps them in motion. Material and structural intertextuality can be measured. I will address these points in this section.

The process of textual transmission of medicine in the early Middle Ages (described in chapter 4) led to a narrowed repertoire of original sources for medical texts. My assumption of a densely linked system in the medical register was based on the fact that new translations, copies and compilations were produced throughout the Middle Ages, and that text production usually served furthering existing knowledge, not producing new knowledge. As text production in the late Middle English medical register, as well as in Early Modern English, was largely governed by reverence for the Classical authorities and respect for their texts, the texts in circulation were almost never original compositions.

It has been noted, however, that a vernacular translation that combined sources at will and did not acknowledge any of them was in practice close to an original composition (Pahta 1998: 62, 89; for details, see Copeland 1991). In this study, the question of the originality of texts was never included in the criteria that e.g. were applied in the definition of parallels. The theoretical background used the fact that in the Middle Ages, sources of texts were usually not acknowledged. On the one hand, the lack of a convention for acknowledging sources possibly facilitated the free borrowing of text and the seamless appending of passages to one's own text (i.e. there were no in-text citations to mark the boundary between a borrowed passage and original text). On the other hand, one could acknowledge all the authorities, including false ones, that were beneficial for the reception of the text. The point that the method in this study draws on is that unrestricted copying of material led to a field of densely interlinked texts, and this was one of the prerequisites for observing the field and the links through text corpora.

In my earlier study on recipes in herbals (Mäkinen 2004), I had noticed that the same content were rendered differently in herbals and in remedy-books. A similar phenomenon had also been documented earlier, with medieval surgical texts and remedy-books (Taavitsainen 2001a: 106-7). Similarities between items in herbals and non-herbals were so striking that the connection between the two was evident. When formulating the research question and building the apparatus, I did not know whether R&RPs would be the only passages linked to other texts, and therefore I decided to use the plant-names as search criteria, as they are the key component in herbal entries and maybe a group of words least susceptible to genre variation.

The definition of textual genres, irrespective of the originating school of thought, plays with the idea of textual affinity. Genres are abstract, and therefore one cannot empirically verify their existence, or provide a list of required features that a member of a genre must contain. Nevertheless, affinity between texts can be perceived, and some, though not all, features that effect the affinity can be pointed out and named. I chose to look for material similarity (mainly on the level of lexis) and structural similarity (informational structure, not entirely excluding syntax) in the texts of this study. The aim was not to verify the existence of genres in the medical register, but to point out features that could be used to track and measure textual affinity, and to apply them. Genres were taken as a given; the apparatus was devised to elicit such information from the texts that might affect their perception and grouping into systems of genres.

Intertextuality was defined as a phenomenon that could be studied through the material and structural similarities observed in this study. This was perhaps the decision that most effectively set the boundaries of this study, considering the variety of meanings in which intertextuality is used in modern scholarship. This definition enabled the use of corpora in the study of intertextuality.

Intertextuality is the force that keeps genre systems in motion. If genres are not rigid, set categories of texts, but dynamic systems that arise through evidence in texts and are constantly redefined by exposure to new texts, it is apparent that the perception of a genre is very subjective and

varies from person to person. Intertextuality is an umbrella term for every feature in the textual space that contributes to textual affinity. Intertextuality is the combined pull of the features that affect our perception of the relations between texts.

The definition of intertextuality in terms of shared material and structure (based on Plett 1991) gave me access to features that could be used in measuring intertextuality with quantitative methods. Shared lexis and syntax or informational structure are phenomena that one can count, and thus employ for further analysis. This is not to say that the features attesting to intertextuality in herbals were exhaustively covered; rather, my point is that I was able to point out some features that were undeniably shared by herbals and non-herbals. Furthermore, these features were such that they arose from the texts themselves.[156] The reason why I emphasise this is that, as there is very little background information available on the users of medieval texts (e.g. who wrote them and for what purpose, who owned them and who used them), it is most often the case that the only informants we have are the texts themselves. Therefore, it is of utter importance that the information that is used to analyse the texts is available in the texts themselves.

### 10.2.2 Comments on the method

In this study, none of the three corpora used (MEMT, EMEMT and ACHE) contain grammatical annotation, which means that all studies conducted on them must commence with lexico-grammatical searches. The fact that I was able to filter a sub-corpus of relevant text passages from hundreds of thousands of words in a short time was the main factor that made the chosen approach at all feasible. Of course, the data retrieved required a lot of human interaction before the results of the analysis could be reached; however, in corpus linguistics it is quite rare that one can rely

156 As was pointed out in chapter 2, the topic of a text may be interpreted both as a text-external and a text-internal feature. Obviously, in this study the content and the topics of texts have influenced the allocation of texts into genres, as e.g. no herbal text was given the title "herbal" before 1525. In this sense, genre, which is used as one variable in the quantitative analysis of R&RPs, is also considered to be determined more text-internally than text-externally for the purposes of this research question.

on quantitative, automatically produced results without qualitatively assessing the data retrieved. The close-reading of the passages retrieved was necessary, because, although false hits were rare, sometimes the passages retrieved overlapped, several of the individual keywords used in the searches coinciding in the same passage. Furthermore, as it was explained in chapter 3, I had to separate recipe-like passages from those passages that only contained information on herbs, but were not recipes or recipe paraphrases. Despite the labour-intensive method, the access to the relevant passages was relatively easy. The method also allowed me to determine the intertexts not just on a text level, but also on a sentence level.

As regards corpus compilation, there were factors that regulated the text choices, for example the fact that the scope of a PhD project only allowed for the inclusion of previously edited manuscript texts. In addition to the question of the representativeness of the corpus, the use of editions poses other problems: the study of language through editions always requires background knowledge on the editorial principles and other choices and decisions made by the editors. These facts acknowledged, historical corpora based on editions can be used as witnesses to actual language use.

Textual parallels are a fact in the medieval manuscript reality, as texts sometimes survive in several copies, or parts of a text may be extracted and used elsewhere as material for another text. Studies on parallels that are not conducted using digitised text collections nevertheless have other means to elicit information on textual affinity. Close-reading of the text material is one of these methods. As was seen in this study, the use of reliable secondary sources, such as eVK and Keiser 1998, may also yield results pointing in the same direction as the kind of corpus-based study that is reported in this dissertation. Thus, a corpus-based study is not the only possible way to approach the research questions, but it is the method that can cover vast amounts of text reliably in short time, assuming that the search criteria are valid for the task.

As noted earlier, with unannotated corpora one must start with lexico-grammatical search criteria. In this study, the purpose was to retrieve

data relevant to the charting of intertextuality among herbals, and between herbals and other medical writing. The search criteria had to be delimited to something that would be characteristic of herbals, but not single them out as the only genre with these characteristics. Plant-names were the most obvious choice for search criteria, as they represent a part of the medieval medical ingredient nomenclature, which is an area least prone to vary from genre to genre in the medical register. Using lemmas as search criteria also provided the research apparatus with the best resolution attainable: alignment of corpora texts line by line or sentence by sentence was not an option, as sentence boundaries are often unmarked in medieval manuscript texts. Using lexical clustering as an approach would not have been helpful, since the spelling system was not yet standardised in the Middle English period. For the same reason, other modern techniques for detecting text re-use or plagiarism would not have worked, at least not without extensive synonym maps, which are comparable to the lemmas I collected to be used as search criteria.

The parallels established by close-reading the text retrieved were of two types. Herbal-specific passages conveyed information on the synonyms of plant-names, the habitat and the description of plants, advice on the collection and storage of plants, and information on which parts should be used in medicines. These kinds of parallel occurred in herbals alone, and were therefore used in determining the affinity patterns between herbal texts, but were not included in the quantitative analysis to measure intertextuality between herbals and other types of medical writing. The other parallel type consisted of recipes and recipe paraphrases. These were used both in the quantitative analysis and for describing the affinity between herbal texts.

The features analysed in the quantitative analysis were three. They were actually pairs of complementary features that were mutually exclusive, and could therefore be used as the opposite poles of continua. The continua thus defined were *Sources* (a passage is from a herbal or a non-herbal), *R or RP* (a passage is a recipe or a recipe paraphrase), and *Element order* (a passage has the informational structure of a recipe or the informational structure of a recipe paraphrase). Each parallel cluster was

entered into a table that stated the total for each of the features used in the continua. The tables were used to calculate the position of each cluster in the textual space that was depicted by 3D scatterplots.

The continuum of *Sources* was used as a kind of control continuum, which set the expectations for the values of the other continua: the default strategies used in herbals and non-herbals to present recipe-like information functioned as the "horizon of expectations", and therefore the initial assumption was that, as a rule, herbal passages would keep to herbal conventions, and non-herbals would attest to the use of non-herbal textual strategies. Thus, the value for *Sources* stated the relative frequency of occurrence of a particular piece of information in each genre or genre cluster. Deviation from this in the values for the continua of *R or RP* and *Element order* marked intertextuality across genre boundaries.

There were some issues concerning the definition of terms that affected the outcome of the analysis; in particular, the strict formal definition of recipes is visible in the pattern observed in the quantitative analysis. Furthermore, there were some passages in herbals that caused problems in the analysis, as some of the information that would have been needed for an exhaustive classification of passages was not available. I will return to these problems in the later sections of the discussion.

Multi-dimensional scaling (MDS), used in this study as the quantitative method, is an alternative to factor analysis. As I noted in the description of the method (chapter 3), the features that I had chosen to use to measure intertextuality were not, perhaps, the most suitable for factor analysis: firstly, they were not all entirely text-internal, and therefore I could not derive them automatically from the corpus material. Secondly, they were features that I wanted to study, so I did not need to elicit the variables from the data. In effect, MDS was chosen because it offered a means to arrange the data so that the differences between data points, i.e. the distances between them, were instantly and simultaneously perceptible. In this respect MDS resembles qualitative methods: as the continua or axes chosen are arbitrary, it is actually up to the researcher to choose the best possible combination of axes for presenting the data. The distance between the data points is always the same irrespective of the continua; the

apparent distance, i.e. what can be seen in the plots, can be adjusted through the choice of the continua. Therefore, the number of continua is also really a matter of choice. MDS aims at the best possible presentation of data.

As I mentioned, MDS is an alternative to factor analysis. The reasons I did not choose the latter for my approach are mostly those of economy: elicitation of factors from the corpus material would have required a lot of qualitative-quantitative analysis of the corpus texts, as they are collections of grammatically unannotated texts. The fact that orthography in Middle English varies regionally and temporally would have made the task even more labour-intensive.

## 10.3 Types of intertextuality attested

In this and the following sections, I will address the research questions I set for this study in chapter 1. The first question to be considered is: are the intertextual links material, structural, or both?

The use of textual searches in this study assumes material intertextuality to some extent. As the sub-corpus of herb-related passages was collected by using plant-name lemmas as keywords, it is evident that the parallels share material, or content. The definition of parallels given in chapter 2 also assumes that the texts share at least material. This choice basically rules out cases where the passages share structure, but not material.[157] Furthermore, the examples of recipe paraphrases in chapter 8 show that RPs may share structure with recipes, but this is not required for analysing passages as parallels. Thus, the type of intertextuality that was searched for was primarily material, and secondarily structural.

The intertextuality attested in R&RPs is also more material than structural: in the parallel clusters that contain passages from both herbals and non-herbals, the genres seem to keep their default strategies of presenting recipe information. Only herbals show a tendency towards using the informational structure that is the default in non-herbals. This

157 An example of a passage that shares structure (in this case informational structure) with a herbal passage would be an encyclopaedia entry: it begins with a headword, and may also employ the structure old information - new information.

may be an indication of two things: firstly, if material is shared between herbals and non-herbals, then the two have strong traditions of presenting recipe information so that it is accommodated to their own genre conventions. Secondly, as herbals seem to occasionally employ the non-herbal default for informational structure, it may be that the herbal genre is more tolerant of variation in the presentation of recipe information.

## 10.4 Textual affinity between herbals

One of my research questions was to look for patterns formed by interlinking texts within the genre of herbals. This question was answered by considering all the data retrieved, including the herbal-specific passages. The pattern that could be seen in the analysis of almost all the plants considered was that there were roughly four or five clusters of herbal texts that shared rhemes among themselves. Two texts seem to share rhemes with any other text and the links they form do not seem prefer any text in the herbal genre in particular. The texts are Trevisa's *De proprietatibus rerum* and *Grete Herball*. Trevisa's text is an extract from an encyclopaedia, and, as was noted in the analysis, the passages that linked Trevisa to other texts were often quite general in nature, only delivering the gist of an R&RP that was found fully developed in other herbals. *Grete Herball* is an example of a late herbal in ACHE, and it seems to have drawn on many sources. The original source is, of course, the French *Le Grant Herbier* which is based on *Circa instans*, but how many of the shared rhemes can be attributed to the interconnectedness of *Circa* cannot be estimated before studying the source texts.

A more specific distribution of rhemes can be seen in a group of texts formed by *Bancke's Herbal*, *Macer Lynacro*, *The vertues off herbes*, Macer Floridus' *De viribus herbarum*, and *Agnus castus*. Of these texts *Macer Lynacro*, *Bancke's Herbal* and *Vertues* seem to form the core group; *Macer* contains a lot of material that is not attested elsewhere in ACHE, and *Agnus castus* is also occasionally excluded from the core of this group. *Bancke's Herbal* is also a herbal that made good use of the herbals available in the late fifteenth and early sixteenth centuries. The printed *Macer Lynacro* is said to have been a copy of *Banke's Herbal* and there is no reason to doubt this, but

even so it occasionally contains a rheme not attested in *Banke's Herbal*.

Braunschweig's herbal, and Becon's *Waters Artyfycialles* seem to form a cluster of their own, as do *Medical treatise* and *Tretys of diverse herbis*, but they are manuscript texts that both present an individual copy of a herbal. A cluster that is connected to the rest of the texts in ACHE only through the component of names is formed by Turner's *Names of herbes* and all the *synonyma* texts. The latter are texts that only list the known variants for the plant-names in several languages, but Turner's herbal may be an instance of the newly revived botanical genre. *Seven herbs, seven planets* seems to be unattached to the rest of ACHE, and its association with alchemical texts explains the lack of shared passages.

## 10.5 Textual affinity between herbals and other medical writing

Which other texts and genres within the field of medieval medical writing form intertextual links with herbals? What were the actual affinities of the herbal genre in relation to other medical writing? These two questions were exhaustively answered in the conclusion of the analysis in chapter 9: over 95 per cent of passages that share material with herbals are from the remedy-book tradition. The most prominent genres are recipe collections, and after that come the regimens of health. Interestingly, surgical texts are more often linked to herbals than are specialised texts, but they are both marginal in comparison with remedy-books. The results of the two surveys reported in chapter 5 seem to have pointed in the same direction as the results of the analysis: the co-occurrence of texts in medical miscellanies is fairly indicative of the relations between genres, at least between herbals and other medical genres.

The analysis showed that the trend observed in the history of herbals (chapter 5) seems to continue in England in vernacular texts as well: throughout the history of medicine, herbals have been secondary in importance, and they have served the more primary genres of the medical register. Therefore, as recipes in the remedy-book tradition are older than herbals, it is to be assumed that the flow of textual material must have originally been from remedy-books to herbals. This tendency must have

continued through centuries. Herbal-specific information, such as descriptions of plants, etymologies of names and advice on the storage was produced by rhizotomists, herbalists, and botanists; however, the medicinal properties were often exemplified by recipes copied from sources that had them in abundance, i.e. from recipe collections.

Ideally, this study would attest to the transmission of recipes through the ages. However, the evidence on transmission lines cannot be wholly trusted, due to the fact that recipe collections, which seem to be the main sources that herbals used, are discourse colonies and as such susceptible to certain kind of changes and variation (Hoey 2001: 87-90; Carroll 2003, forthcoming).[158] The discourse colonies of recipe collections provided easy sources of material: recipes were ideal for extracting in short passages that could be used to illustrate the medicinal properties of a plant. This partly explains the fact that not all herbal entries that are known to be derivations of each other are alike: some of the recipes included in an entry may not have been in the original text of the herbal. A recipe may have been added in order to illustrate a property that is not in the original text. When this happened, the scribe had two alternatives: one was to copy the recipe as he found it in the source text, the other to paraphrase it, and accommodate it to the herbal convention of using recipe paraphrases.

## 10.6 Presentation of information in shared parallels

How is the shared material presented in each genre or medical tradition? The answer for this was already partly discussed in section 10.3: although information is shared between herbal and non-herbal passages, the genres seem to keep to their default strategies, i.e. recipe information was often accommodated to the conventions of the host genres, irrespective of its origin. This may also be an indication of two separate traditions of presenting the information conveyed through R&RPs. An exception is the manner in which herbal R&RPs could use the informational structure of recipes proper.

The indirect study of the origin of passages, by considering the informational structure yielded some information as was intended: the

158 For a brief description of discourse colonies, see section 2.5.4, fn. 18.

recipe material presented in herbals may have originated with recipe collections, judging by the use of informational structures and the history of medical texts. In herbals, the material that is assumed to have originated in non-herbals was easier to detect, and there both the recipe form and recipe informational structure seemed to be indicative of the direction of borrowing.

Non-herbal passages attesting the informational structure of herbal R&RPs were very rare. The effect of the context of the non-herbal passages seems to have been the major explaining factor for the use of herbal strategies in them: judging by the evidence, the use of the default herbal informational structure in non-herbals is seldom caused by material borrowed from herbals to non-herbals. (The only exception to this was a case where a recipe collection had a herbal extract embedded in the middle of recipes.) There may be genuine cases of non-herbal R&RPs with the default herbal informational structure, but they have escaped the apparatus of this study.

The strict definition of a recipe (the insistence on the imperative VP *take*) for the purposes of the analysis caused some anomalies in the characteristics of non-herbal R&RPs: the mean values for the parallel clusters with only non-herbal R&RPs seem to drift slightly towards the recipe paraphrase end of the continuum, and this was mostly caused by the fact that recipes with imperatives other than *take* were analysed as recipe paraphrases. It would be interesting to see whether fine-tuning the apparatus for the definition of recipes would yield different results.

Another problem that could not be tackled with the information available was the case of *Macer*, and the purpose-like sequences that were given at the beginning of R&RPs in this text. The problem was that the purpose was often also given at the end of the recipe, and in a more precise form. Therefore, my assumption was that the purpose at the beginning was a summary of the contents of the R&RPs, and that the usual informational structure for the R&RPs in *Macer* is ingredients - purpose. Unfortunately, the edition could not confirm this assumption.

## 10.7 Concluding remarks

This study has addressed the question of intertextuality in medieval and early modern English herbals. The study is most relevant to historical linguistics and the history of medicine, to studies on recipe literature, and to genre studies.

The results of this study confirm the affinity between herbals and other remedy literature. The intertextual links established attested mostly to material intertextuality, i.e. the herbal and non-herbal genres seem to keep to their own strategies of presenting recipe-like information. Passages sharing structure were not that many: when text borrowing was detected, the direction was usually from non-herbals to herbals.

The ultimate purpose for writing in the medical register is to promote health and well-being. The ways in which this function is realised in texts may be indirect, as has been seen in the course of this study. For the purposes of this study, I have attempted to broaden the concept of instruction in medieval medical writing: it is difficult to draw the line between functionally instructional and functionally non-instructional texts in the medical traditions of writing, if they both share similar information contents. Awareness of the extent of the field of instruction and instructive texts may be helpful in designing further studies involving the medieval medical register. The findings of this study, hitherto undetected parallels and links established between herbal and non-herbal texts, will also be of interest to the research community, both methodologically and textually.

There is still a need for further study to establish the time when any given passage was copied to another text, and the languages of texts in question: the tri-lingual reality of the medical register in late medieval England is a fact. The possible permutations in the textual transmission of R&RPs are multiple.[159] All in all, the linguistic situation of the medical

159 A passage may have been copied from a Latin text into a Latin herbal in the pre-vernacularisation era; from a Latin text into a Latin herbal after vernacularisation; from an English text into an English herbal after vernacularisation, or from a Latin text to fill a gap in an English compilation after vernacularisation. A Latin target text indicates that the resultin Latin herbal was later translated into English. I am not considering the possiblity of copying from a Latin text into an English text; these

register was complex, and the question of whether a given recipe was copied from an English text to another, or from a Latin text to another before translation into the vernacular, remains unanswered. A study of the Latin medical traditions is therefore also needed.

The method was based on a model of the reception and perception of texts and the formation of genre systems. The model has potential for further development, e.g. it could be extended to include temporal variation as well. As the model is based on prototype theory, each text can be studied as a representative sample of the genre. Some texts are more prototypical than others, but the distance of a text from the genre core is not the focus of interest in this model; the focus is on the relations between texts themselves. Each text which is added to an analysis of a genre re-defines the genre core and shifts its position in the textual space slightly.[160] This is what happens during the reception of texts: each text we read shapes our knowledge and perception of genres, and the resolution of our personal genre system becomes finer.

cases are covered by translation. These permutations do not account for borrowings that took place in the Greek nor the Arabic lines of textual transmission.

160 A genre defined by one text alone is fully represented by the features of the only text, and it is, by definition, the most prototypical text of the genre.

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# Appendices

## Appendix I: ACHE bibliography

### Prose

**Trevisa, *De proprietatibus rerum***
MS: BL Additional 27944, ff. 28va-29vb.
Seymour, M.C. et al.: *On the Properties of Things: John* Trevisa*'s Translation of Bartholomaeus Anglicus,* De Proprietatibus Rerum. Vol. 1: *A Critical Text.*
Oxford: Oxford University Press, 1975.
pp. 129-133.
19,320 words.

**Daniel, *Rosemary***
MS: Stockholm Royal Library X.90, pp. 80-86.
Mäkinen, M.: 'Henry Daniel's Rosemary in MS X.90 of the Royal Library, Stockholm'.
In: *Neuphilologische Mitteilungen* 103/3, 2002.
pp. 316-320.
1,813 words.

**Macer, *De viribus herbarum.***
MS: Stockholm Royal Library X.91, ff. 1r-45r.
Frisk, G.: *A Middle English Translation of* '*Macer* Floridus de Viribus Herbarum'.
(Essays and Studies on English Language and Literature 3.)
Uppsala: Uppsala University, 1949.
pp. 57-202.
33,455 words.

***Seven herbs, seven planets.***
MS: Glasgow University Library Ferguson 205, ff. 49v-54v.
Halversen, M.A.: The Consideration of Quintessence: An Edition of a Middle English Translation of John of Rupescissa's *Liber de consideratione de quintae essentiae omnium rerum* with Introduction, Notes and Commentary.
Unpublished Doctoral Thesis.
Michigan State University, 1998.
pp. 255-270.
3,566 words.

***Agnus castus*.**
MSS: Stockholm Royal Library X.90, pp. 156-216; BL Harley 3840, ff. 169v-170r, 177v-178r; Laud Misc. 553, ff. 16r-18v; Balliol College 329 ff. 32v-34v.
Brodin, G.: Agnus Castus*, A Middle English Herbal*.
(Essays and Studies of English Language and Literature 6.)
Uppsala: Uppsala University, 1950.
pp. 119-204.
11,301 words.

***The vertues off herbes.***
MS Bodl. Bodley 483, ff. 57r-67v.
Grymonprez, P. (ed.): *"Here men may se the vertues off herbes". A Middle English Herbal, c. 1450.*
(Scripta, 3.)
Brussels: Omirel, 1981.
pp. 27-133.

***Alphita*.**
MS: Bodl. Bodley 3349, ff. 53v-84v.
Mowat J.L.G. (ed.): *Alphita: A Medico-Botanical Glossaryfrom the Bodleian MS Selden B.35*.
(Anecdota Oxoniensia, Medieval and Moder Series 1:2.)
Oxford, 1887.
pp. 27-133.

***Sinonoma Bartholomaei*.**
MS: Oxford Pembroke 2, ff 343r-348v.
Mowat, J.L.G. (ed.): *Sinonoma Bartholomaei*.
(Anecdota Oxoniensia, Medieval and Moder Series 1:1.)
Oxford, 1882.
pp. 1-123.

***Trilingual herb glossary*.**
MS: BL Sloane 146, ff. 69v-72r.
Hunt, T.: 'The trilingual glossary in MS London, BL Sloane 146 ff. 69v-72r'.
In: *English Studies* 70/4, 1989.
pp. 291-297.
993 words.

***Bancke's Herbal*.**
*An Herbal.*
London: Richard Banckes, 1525.
STC 4720.
Larkey, S.V. and Pyles, T. (eds).
New York: Scholars' Facsimiles & Reprints, 1941.
ff. A.i.-I.iii.

***Grete Herball*.**
*The Grete Herball.*
Imprentyd at London in Southwarke By me Peter Treueris, dwellynge in the sygne of the wodows, In the yere of our lorde god. M.D.xxvi. the xxvii. day of Iuly.
Peter Treveris, London, 1526.
STC 13176.
15,968 words.

**Braunschweig, *The vertuouse boke of distyllacyon*.**
Braunschweig, Hieronymus: The vertuouse boke of dityllacyon.
L. Andrewe: London, 1527.
STC 13435.
(The English Experience 532.)
Facsimile.
Amsterdam and New York: Theatrum Orbis Terrarum Ltd. and Da Capo Press Inc., 1973.
pp.

***Macer Lynacro*.**
*Macer*s Herbal Practysyd by Doctor Lynacro.
Robert Wyer: London, ?1530.
STC 17172.
10,381 words

**Becon, *Waters Artyfycialles*.**
Roger Becon, This Boke Doth Treate all of the Beste Waters Artyfycialles, and the Vertues and Properties of the same, Moche Profytable for the Poore Sycke.
London: Robert Wyer, 1550.
STC (2nd ed.) 1180
pp. A2-C5.
3,490 words

**Turner, *The Names of Herbes*.**
William Turner, *The Names of Herbes*.
1548.
(English Dialect Society, 34.)
ed. J. Britten.
London: published for the English Dialect Society by Trübner & Co., 57 & 59, Ludgate Hill, 1881. Reprinted Vaduz: Kraus Reprint Ltd., 1965.
pp. 7-23.

## Verse

***Loscombe*.**
MS: Wellcome Medical Library 406, ff. 14r-20v.
Zettersten, A. (ed.):*The Virtues of Herbs in the Loscombe Manuscript. A contribution to Anglo-Irish language and literature*.
(Acta Universitatis Lundensis, Sectio I, 5.)
CWK Gleerup: Lund, 1967.
pp. 19-26.
1,790 words.

***Tretys of diverse herbis.***
MS: Stockholm Royal Library X.90, pp. 49-80.
Stephens, G.: 'Extracts in Prose and Verse from an Old English Medical Manuscript, preserved in the Royal Library at Stockholm'.
In: *Archaeologia* 30, 1844.
pp. 364-395.
6,634 words

***Medical treatise.***
MS: BL Additional 17866, ff. 5a-16a.
Garrett, R.M.: 'Middle English rimed medical treatise'.
In: *Anglia* 34, 1911.
pp. 164-183.
5,197 words.

**Crophill, *Rosemary*.**
MS: BL Harley 1735, ff. 51r-52v.
Ayoub, L. J.: John Crophill's Books: An Edition of British Library MS Harley 1735.
Unpublished Doctoral Thesis.
University of Toronto, 1994.

pp. 266-271.
701 words.

# Appendix II: Texts in addition to MEMT and ACHE

## Additional pre-1500 texts

***In hoote somere.***
Ms: Trinity College Cambridge R.14.51 ff. 1r-45r.
Miller, E.M.: 'In hoote somere'*: A Fifteenth Century Medical Manuscript*.
Unpublished Dissertation, Princeton University, 1978.
University Microfilms International: Ann Arbor.
pp. 1-59.
12,351 words.

***Stockholm prose recipes*.**
Ms: Stockholm Royal Library X.90, pp. 1-18, 32-35, 47-48, 86-93, 95-123, 126-150, 152-155.
Mueller, G.: *Aus mittelenglischen Medizintexten: Die Prosarezepte des stockholmer Miszellankodex X.90*. (Koelner Anglistische Arbeiten 10.)
Leipzig: Verlag Von Bernhard Tauchnitz, 1929.
ff. 27-80.
12,358 words.

***Naples recipes*.**
Ms: Naples Xiii.B.29.
Vallese, T.: *Un ignoto ricettario medico inglese del XIV secolo trovato nella biblioteca nazionale di Napoli*.
Naples: A.G.D.A., 1940.
pp. 19-53.
6,880 words.

## EMEMT

**Hieronymus von Braunschweig: *The Noble Experyence of the Vertuous Handy Warke of Surgeri.***
London: Petrus Treveris, 1525.
(The English Experience 531.)
Facsimile.
Amsterdam and New York: Theatrum Orbis Terrarum and Da Capo Press, 1973.
ff. A3-C2, R1-S1.
12,873 words.

***Here begynneth the seynge of Uryns*** / of all the colours that Uryns be of / with medycynes annexed to euery Uryne / & euery Uryne his Urynall / not Imprynted in

englysshe before this tyme / moche profytable for euery man to knowe.
London: J. Rastell for Rycharde Banckes, 1525.
STC (2nd ed.) / 22153.
ff. A1-H3.
13,917 words.

***Regimen sanitatis Salerni*.** This Boke techyng al people to gouerne them in helthe / is translated out of the Latyne tonge in to englishe by Thomas Paynell. Whiche boke is as profitable & as nedefull to be had and redde as any can be to obserue corporall helthe.
London: T. Berthelet, 1528.
ff. B1-F3.
10,487 words.

***Here Begynneth a Lytell Boke of the .Xxiiii. Stones Pryncipalles.***
London: Richard Pynson, 1528.
5,897 words.

**Robert Copland: *The Secrete of Secretes of Arystotle.***
Robert Copland, 1528.
Manzalaoui, M.A.: Secretum Secretorum*: Nine English Versions*, Vol. 1, *Text*.
(Early English Text Society 276.)
Oxford: Oxford University Press, 1977.
pp. 331-357.
4,972 words.

***Prognosticacion Drawen out of the Bookes of Ipocras***, Auicen, and other notable Auctours of Physycke, shewynge the daunger of dyuers syckenesses, that is to say, whether peryll of death be in them or not, the pleasure of almyghtye GOD reserued.
London: ?Robert Wyer, ?1530.
3,872 words.

**Thomas Moulton: *This is the myrour or glasse of helth***, necessary and nedefull for euery person to loke in, that wyll kepe theyr body from the syckenes of the pestylence: and it sheweth howe the planettes raygne, in euery houre of the daye and the nyght: with the natures and exposicions of the .xii. sygnes, deuided by the .xii. monthes of the yere. And sheweth the remedyes for manye diuers infyrmytes and diseases, that hurteth the body of man.
London: Robert Wyer, 1531.
STC (2nd ed.) / 18214a.
ff. A.i.-H.v.
16,421 words.

**Erasmus of Rotherdam: *Declamatio in lavdem nobilissimae artis medicinae***
London: Robert Redman, 1537.
STC (2nd ed.) / 10473.5

ff. A.ii.-C.vii.
8,954 words.

***The Compost of Ptholomeus.***
London: Robert Wyer, 1540.
ff. B.ii-H.iii.
9,960 words.

**Eucharius Roesslin:** ***The Byrth of Mankynde newly translated out of Laten into Englysshe.***
London: T. R., 1540.
ff. IX-XXXIII.
10,916 words.

**Boorde, Andrew:** ***The Boke for to Lerne a Man to be Wyse in Buildyng of his Howse for the Helth of Body & to Holde***
Quyetnes for the Helth of his Soule, and Body.
London: Robert Wyer, 1540?
pp. Ai-Div.
5,458 words.

**Thomas Elyot:** ***The Castel of Helth*** Corrected and in Some Places Augmented, by the Fyrste Authour Thereof, Syr Thomas Elyot Knyght, the Yere of Oure Lord 1541.
pp. 1-29.
11,676 words.

**Andrew Boorde:** ***A Dyetary of Helth*****.**
London: Robert Wyer for Jonh Gowghe, 1542.
Furnivall, F.J.: *Andrew Boorde's Introduction and Dyetary, with Barnes in the Defence of the Berde*. (Early English Text Society E.S. 10.)
Millwood, N.Y.: Kraus Reprint Co., 1973 (1870).
pp. 242-303.
15,865 words.

**Joannes de Vigo:** ***The Most Excellent Workes of Chirurgerye.***
London: Edwarde Whytchurche, 1543.
(The English Experience 67.)
Facsimile.
Amsterdam and New York: Theatrum Orbis Terrarum and Da Capo Press, 1968.
ff. I-V (Sample 1).
ff. Cxvii-Cxxi (Sample 2).
9,000 words.

**Joannes de Vigo:** ***The Most Excellent Workes of Chirurgerye*****.**
London: Edwarde Whytchurche, 1543.
(The English Experience 67.)

Facsimile.
Amsterdam and New York: Theatrum Orbis Terrarum and Da Capo Press, 1968.
ff. Cxcix-Cciii (Sample 1).
ff. Ccxx-Ccxxv (Sample 2).
9,041 words.

**Thomas Phayer: *The Boke of Chyldren.***
In: The kegiment [sic] of life wherunto is added A treatyse of the pestilence, with The booke of children newly corrected and enlarged by T. Phayer.
London: Edward Whitchurche, 1546.
STC (2nd ed.) / 11969.
ff. S.i.-Aa.i.
10,168 words.

**Andrew Boorde: *The Breuiary of Helthe*.**
London: Wyllyam Myddelton, 1547.
(The English Experience 362.)
Facsimile.
Amsterdam and New York: Theatrum Orbis Terrarum and Da Capo Press, 1971.
ff. Ii-Xxix.
15,748 words.

**Christopher Langton: *A Uery Brefe Treatise, Ordrely Declaring the Pri~cipal Partes of Phisick***.
London: E. Whitchurche, 1547.
pp. A1-F3.
11,086 words.

**Robert Recorde: *The Vrinal of Physick.***
London: Reynolde Wolfe, 1547.
pp. 9-46v.
18,489 words.

T**homas Vicary: *The Anatomie of the Bodie of Man.***
London: Henry Bamforde, 1577.
Furnivall, F.J. and Furnivall, P.: *The Anatomie of the Bodie of Man. The Edition of 1548 as Re-Issued by the Surgeons of St. Bartholomew's In 1577*.
(Early English Text Society E.S. 53.)
London: Oxford University Press, 1930 (1888).
p. 3 (Sample 1).
pp. 5-48 (Sample 2).
11,931 words.

# Appendix III: Affinity of herbals, passages shared

The following tables show the rhemes or individual passages with herb-related information in herbals of ACHE. A rheme included in a herbal is indicated by an X on the appropriate row. The names of rhemes are derived from the content of each passage; they are not a systematic presentation of maladies in the Middle Ages, and should therefore not be used for anything else but determining the textual affinity within the genre of herbals.

## Table 1: Shared *Bethonica*-related information in herbal entries

| | *Agnus castus* | *Vertues* | Braunschweig | *Grete herball* | *Medical treatise* | *Tretys of diverse ...* | *Macer* | *Macer Lynacro* | *Bancke's Herbal* | Turner | *Trilingual herb ...* | *Waters Artyfycialles* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 27 peppers | | | | | x | x | x | | | | | |
| Adder bite | | | x | | | x | x | | | | | |
| Against evil medicines | | | x | | | | | | | | | |
| Appetite lost | | | | x | | | | | | | | |
| Back pain | | | | | | x | | | | | | |
| Bear venom | | x | | | | | | | | | | |
| Belching | | | | | | | | | | | | x |
| Bladder pain | | | | x | | | | | | | | |
| Blood, increase | | | | | | | | | | | | x |
| Boils | | | | x | | | | | | | | |
| Breast | | | x | | | | | | | | | x |
| Breast, lungs | | | x | | | | | | | | | |
| Broken bones | x | | x | x | | | | | | | | |
| Broken bones head | | | | | | | | x | x | | | x |
| Broken head | | | | | | | x | | | | | |
| Cleanse womb | | | | | x | | | | | | | |
| Cold dropsy | | | | | | | | | | | | x |
| Colica passio | | | | x | | | | | | | | |
| Cotidian fever | | x | | x | x | x | x | | | | | |
| Cough | | | x | | x | | | | | | | |
| Cough honey | x | | | x | | x | x | x | x | | | |
| Descr. | x | | | | | | | x | | | | |
| Diarrhoea, 'flume' | | | | | | | | | | | | x |
| Difficult of children | | | | | | | | | | | | x |
| Digestion | | x | x | | x | | x | | | | | x |
| Digestion water | | | | | | | | | | | | |
| Dog bite | | | x | x | | | | | | | | x |
| Dropsy | | x | x | | x | x | x | | | | | |

| | *Agnus castus* | *Vertues* | Braunschweig | *Grete herball* | *Medical treatise* | *Tretys of diverse ...* | *Macer* | *Macer Lynacro* | *Bancke's Herbal* | Turner | *Trilingual herb ...* | *Waters Artyfycialles* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Drunkennes | x | x | | x | x | x | x | x | x | | | x |
| Ears | x | | x | x | x | | x | x | x | | | x |
| Ears (rose water) | | | | | | x | | | | | | |
| Ears pain | | | x | | | | | | | | | |
| Ears, hearing | | | | | | x | | | | | | |
| Epilepsy | | | x | | | | | | | | | x |
| Evil sores | | | x | | | | | | | | | |
| Evil spirits | | | | | x | x | | | | | | |
| Excess moisture, stomach digestion | | | x | | | | | | | | | |
| Eyes | | | x | | x | x | x | x | | | | |
| Eyes dimness | | | x | x | | | | | | | | |
| Eyes, head | x | | | | | | | | | | | |
| Eyes, pain | | | | | | | | | x | | | |
| Eyes, rue | | x | | | x | x | x | | | | | |
| Eyes, watery | x | x | x | | x | x | x | x | x | | | x |
| Eyes, web | x | x | | | | | x | x | x | | | |
| Fair colour | | x | x | | | | x | | | | | |
| Fearfulness | | | | x | | | | | | | | |
| Fistula | | | | x | | | | | | | | |
| Flux, blood, veins | | | | | | | | | | | | x |
| General | | x | | | x | x | x | | | | | |
| Grief | | | | x | | | | | | | | |
| Grinding of teeth | | | x | | | | | | | | | |
| Habitat | x | | | x | | | | x | | x | | |
| Harmful humours | | | | | | | x | | | | | |
| Headache | | x | | | | | | | | | | |
| Headache, cold | | | x | | | | | | | | | |
| Headache, wine | | | x | x | | x | | | | | | |
| Headache, ointment | | | | | | x | | | | | | |
| Hips, bladder, pain | | | x | | | | | | | | | |
| Inability to 'hold meat' | x | | | | | | | x | x | | | |
| Jaundice | | | x | x | | | x | | | | | |
| Liver | | | x | | | | | | | | | |
| Matrix, womb | | x | | x | | | | | | | | |
| Menstruation | | | x | | | | | | | | | |
| Mouth | | | x | | | | | | | | | |
| Mouth, queasiness | | | x | | | | | | | | | |
| Names synonyma | x | | x | x | | x | x | x | x | x | x | |
| Neck pain | | | | | | | x | | | | | |
| Nosebleed | x | | | x | | | x | x | x | | | |
| Pain | | | x | | | | | | | | | x |
| Pain (kidneys) | | | | x | | | | | | | | |
| Pain (ribs) | | | | x | | | | | | | | |
| Pain (stomach) | | | | x | | | | | | | | |
| Pain (labour) | | | | x | | | | | | | | |
| Pain, head | | | x | | | | | | | | | |
| Palsy | | | | x | | | | | | | | |

| | *Agnus castus* | *Vertues* | Braunschweig | *Grete herball* | *Medical treatise* | *Tretys of diverse ...* | *Macer* | *Macer Lynacro* | *Bancke's Herbal* | Turner | *Trilingual herb ...* | *Waters Artyfycialles* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Panacea | | | | | x | | | | | | | |
| Paralysis | | | | | | | | | | | | x |
| Parts to use | | | | x | | | | | | | | |
| Penis | x | | | x | | | | x | x | | | |
| Phlegm (*glet*) | | | | | x | | | | | | | |
| Phthisis | | | | x | | | | | | | | |
| Podagra | x | | x | x | | | | x | x | | | x |
| Poison | | | x | | x | x | x | | | | | x |
| Pregnancy | | x | | | | | | | | | | |
| Purge | | | | | | | x | | | | | |
| Purge womb | | | | | | x | | | | | | |
| Quartain | | | x | x | | | | | | | | x |
| Sidepain | | | | | | | | | x | | | |
| Snake garland | | | | | x | x | x | | | | | |
| Sores, evil | | | x | | | | | | | | | |
| Spitting blood | | | x | x | | | x | | | | | |
| Spleen | | | x | x | | | x | | | | | x |
| Stomach | | x | | | | | | | | | | |
| Stomach (?digestion) | | | | | x | | | | | | | |
| Stomach + mint | | | | | | x | | | | | | |
| Stomach + spleen | | | | | x | x | | | | | | |
| Stomach digestion | | | | | | x | | | | | | |
| Stones | | x | x | x | x | x | x | | x | | | |
| Stones (vervain) | | | | | | | x | x | | | | |
| Strangury | | | | | | | | | | | | x |
| Teeth, grinding | | | x | | | | | | | | | |
| Temperature | x | x | | x | | | | x | x | x | | |
| Temples | | | | x | x | x | | | | | | |
| Temples (head, eyes) | | | | | | | | | | | | |
| Tertian fever | | x | | x | | | x | | | | | |
| Thirst | | | x | | | | | | | | | |
| Throat, neck | | | | x | | | | | | | | |
| Time of gathering | | | x | | x | x | | | | | | |
| Toothache | x | | x | x | x | x | x | x | x | | | x |
| Trembling | | | | | | | | | | | | x |
| Urine | | | x | | | | | | | | | x |
| Urine (stones) | | | | | | | | | | | | |
| Weariness | | | | x | x | x | | | | | | |
| Venom bear | | | | | | | x | | | | | |
| Womb | | | | | | | x | | | | | x |
| Womb ache | | | | x | | | | | | | | |
| Womb, raise | | | | | | | x | | | | | |
| Women, menstruation | | | x | | | | | | | | | |
| Vomit | | | | x | x | x | x | | | | | x |
| Vomiting blood | | x | | | | | | | | | | |
| Worms (*verbena*) | | | | | | | | | x | | | |
| Worms (wormwood) | | | | x | | | | | | | | |

| | *Agnus castus* | *Vertues* | Braunschweig | *Grete herball* | *Medical treatise* | *Tretys of diverse ...* | *Macer* | *Macer Lynacro* | *Bancke's Herbal* | Turner | *Trilingual herb ...* | *Waters Artyfycialles* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| worms, pimpernel | | | | | | x | | | | | | |
| Worms, womb | | | | | | | | x | | | | |
| Wound, head | x | | | x | | | | x | x | | | x |
| Wound, salt | | | | | x | | x | | | | | |
| Wounds | | | x | | | | | | | | | |
| Wounds, out/inward | | | x | | | | | | | | | |

## Table 2: Shared *Absinthium*-related information in herbal entries

| | Trevisa | *Macer* | *Agnus castus* | *Grete Herball* | *Macer Lynacro* | *Bancke's Herbal* | *Vertues* | *Medical treatise* |
|---|---|---|---|---|---|---|---|---|
| Bitter taste | x | | | | | | | |
| Boils | | x | | | | | | |
| Chest | | x | | | | | | |
| Cheeks, swollen | | x | | | | | | |
| Clothes, moths, bookworms | x | x | x | x | x | | | |
| Description | x | | x | x | x | | | |
| Dropsy | | | x | | x | x | x | |
| Drunkenness | x | | | | | | | |
| Ears, running | x | x | | | | | | |
| Ears, stopped | | x | | | | | | |
| Ears, worms | x | | | x | x | x | x | |
| Eyes, dimness | x | x | | x | x | x | x | |
| Eyes, gout | | | | | | | x | |
| Eyes, stew | x | | | | | | | |
| Fair hair/colour | x | x | | | | | | |
| Fleas | | x | x | | | | | |
| Headache | x | | | x | | | | x |
| Hiccup | | x | | | | | | |
| Ink | | x | | | | | | |
| Jaundice | x | x | | | | | | |
| Laxative/constipative | x | x | | x | x | x | | |
| Lethargy, pills, purge head | x | | | | | | | |
| Liver | x | x | | x | | | | |
| Menstruation, provoking | | x | | x | | | | |
| Moles and skin blemishes | x | | | | | | | |

| | Trevisa | *Macer* | *Agnus castus* | *Grete Herball* | *MacerLynacro* | *Herbal Bancke's* | *Vertues* | *treatise Medical* |
|---|---|---|---|---|---|---|---|---|
| Mouth, teeth, honey | | x | x | | x | x | | |
| Names | x | | x | | x | x | | |
| Nostrils, moisture | x | | x | | x | | | |
| Rationale | x | | | x | x | x | | |
| Sides, ache, sage | | | | | x | x | | |
| Sleep | | x | | | | | | |
| Smile | x | | | | | | | |
| Spleen | x | x | | x | x | x | x | |
| Stomach & heart | x | x | x | | x | x | | |
| Stomach, horhowne | | x | | | | | | |
| Stomach, *lupinus*, honey | | x | x | | | x | | |
| *Subfumigacioun*, ?abortion | | x | | | | | | |
| Temperature | x | x | | x | x | x | x | |
| Time of gathering | x | | | x | | | | |
| Tinnitus, bull's gall | x | x | x | | | | | |
| Venom, poison | x | x | | | | | x | |
| Wicked winds | x | x | x | | x | x | | |
| Womb, wine | | x | | | | x | | |
| Womb, worms, milk | x | | | | x | x | | |
| Vomiting | x | x | | | x | x | x | |
| Worms, betony, centory | | | | x | x | x | x | |
| Wounds | x | | | | | | | |

## Table 3: Shared *Artemisia*-related information in herbal entries

| | *Trevisa* | *Agnus castus* | *Vertues* | *Macer* | *treatise Medical* | *seven planets Seven herbs,* | *Herbal Bancke's* | *Grete Herball* | *MacerLynacro* |
|---|---|---|---|---|---|---|---|---|---|
| Chest ache | | | | | x | | | x | |
| Conception | | | x | | x | x | x | | x |
| Description of herb | | x | | | x | | | | x |
| Evil sights/evil eye | | | | | x | | | x | |
| Evil spirits | x | x | | | x | | x | x | x |
| Evil thoughts | x | | | | | | | x | |
| Fair colour | | | x | | | | x | | x |
| Fever | | | | | x | | | | x |
| Gut ache | | | | | | | x | x | x |
| Hemorroids | | | x | | | | x | x | x |

| | *Trevisa* | *Agnus castus* | *Vertues* | *Macer* | *Medical treatise* | *Seven herbs, seven planets* | *Herbal Banckes's* | *Grete Herball* | *MacerLynacro* |
|---|---|---|---|---|---|---|---|---|---|
| History | x | | | x | | | | | |
| Jaundice | | | x | x | | | x | | x |
| Menstruation | x | | x | x | | | x | x | x |
| Names | x | x | x | x | x | x | x | x | x |
| Sore feet | x | x | | | | | x | x | x |
| Stomach | | | x | x | | | x | | x |
| Stones | x | | x | x | | | x | | x |
| Temperature | x | x | x | x | | | x | | x |
| Weariness | | x | x | | x | | x | x | x |
| Venomous beasts | | | | x | | | x | | x |
| Womb, hardness | | | | x | | | | x | |
| Womb, purge | x | | x | | | | x | | x |
| Womb, dead embryo | x | | x | x | | | x | | x |

## Table 4: Shared *Ruta*-related information in herbal entries

| | *Trevisa* | *Agnus castus* | *Vertues* | *Macer* | *Medical treatise* | Turner | *Bancke's Herbal* | *Grete Herball* | *Macer Lynacro* | *A Tretys of diverse...* | *Alphita* | *Sinonoma* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ale | | | | | x | | | | | x | | |
| Arthritis | | | | x | | | | | | | | |
| Bite, mad dog | x | x | x | | | | | | | | | |
| Bite, venomous | | | | | | | x | x | x | | | |
| Bite, venomous 2 | x | | | x | | | | | | | | |
| Bite, venomous, preventive | x | x | | | | | | | | | | |
| Chest ache | | | x | x | | | x | | x | | | |
| Brokenness | | | | x | | | | | | | | |
| Constipation | | | | | | | | x | | | | |
| Consumption | | | | x | | | x | | x | | | |
| Cough | | | | x | | | | | | | | |
| Description | x | x | | | | | | x | | | x | |
| Diarrhoea | | | | | | | x | | x | | | |
| Dropsy | | | x | x | | | | | | | | |
| Ear ache | | | | x | | | | | | | | |

| | *Trevisa* | *Agnus castus* | *Vertues* | *Macer* | *Medical treatise* | Turner | *Bancke's Herbal* | *Grete Herball* | *Macer Lynacro* | *A Tretys of diverse...* | *Alphita* | *Sinonoma* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Epilepsy | x | | | | | | | x | | | | |
| Epilepsy, diptan | | | x | | | | | x | | | | |
| Epilepsy, wine | | | | | | | | x | | | | |
| Eyes | x | | | x | | | | | | | | |
| Eyes, ale | | | | | | | x | | x | | | |
| Eyes, betony | | | x | x | x | | | | | x | | |
| Eyes, celandine, vervain, fennel | | | | | x | | | | | x | | |
| Eyes, cummin | | x | x | | | | | x | | | | |
| Eyes, eat, drink | x | x | | | x | | | x | | x | | |
| Eyes, eufrasie | | | x | | | | x | | x | | | |
| Eyes, rose, fennel | x | | x | x | | | x | x | x | x | | |
| Fevers | | | | x | | | | | | | | |
| Habitat | | | | | | | | x | | | | |
| Head, apostemes | | | | x | | | | | | | | |
| Headache | | | x | | | | | | | | | |
| Headache, nostrils | | | | | | | x | x | x | | | |
| Headache, vinegar | | | | x | | | | | | | | |
| Headache, wine | | | | | | | x | x | x | | | |
| Ignis sacer | | | | x | | | | | | | | |
| Lechery | x | | x | x | | | | x | | | | |
| Liver | | | | | | | x | x | x | | | |
| Lung inflammation | x | | | x | | | | | | | | |
| Menstruation | | | | x | | | | x | | | x | |
| Mucous phlegm | | | | | x | | | | | | | |
| Names | x | x | | | | x | x | x | x | | x | x |
| Nose, bleeding | x | x | x | x | | | | | | | | |
| Paralysis | x | | | | | | | | | | | |
| Parts used | x | | | | | | x | x | x | | x | |
| Phthisis | | | x | | | | | | | | | |
| Planting | x | | | | | | | | | | | |
| Podagra | | | | x | | | | | | | | |
| Poison | x | | x | | x | | x | x | x | x | | |
| Poison, figs | x | | x | x | | | | | | | | |
| Pores | x | | | | | | | | | | | |
| Sage, venom | x | | | | x | | | | | x | | |
| Stomach | x | | x | x | | | | | | | | |
| Stomach 2 | | | x | x | | | | | | | | |

| | *Trevisa* | *Agnus castus* | *Vertues* | *Macer* | *Medical treatise* | Turner | *Bancke's Herbal* | *Grete Herball* | *Macer Lynacro* | *A Tretys of diverse...* | *Alphita* | *Sinonoma* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stomach, coldness | | | | x | | | x | x | | | | |
| Storage | | | | | | | x | x | x | | | |
| Suppurative sore | | | | | | | | | x | | | |
| Temperature | x | x | x | x | | x | x | x | x | | | |
| Testicles | | | | x | | | | | | | | |
| Toothache | x | | x | | | | | x | | | | |
| Urination problems | | | | | | | | x | | | | |
| Urination problems, fennel | | | | | | | x | x | x | | | |
| Virtues, general | | | | | | | x | | x | | | |
| Windiness | x | | | | | | | | | | | |
| Womb | x | | | x | | | | | | | | |
| Womb, ache | x | | x | | | | | x | | | | |
| Womb, dead embryo | x | | x | x | | | | | | | | |
| Womb, moisten | | | | x | | | | | | | | |
| Womb, purge | x | | | | | | | | | | | |
| Womb, swelling | | | | x | | | | | | | | |
| Womb, worms | x | | x | x | | | | | | | | |

## Table 5: Shared *Verbena*-related information in herbal entries

| | *Sinonoma* | *Alphita* | *Vertues* | *Tretys of diverse ...* | *Medical treatise* | *Macer* | *Macer Lynacro* | *Bancke's Herbal* | *Grete Herball* | *Waters Artyfycialles* | Turner |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Apostemes | | | | x | x | x | | | | | |
| Bad breath | | | x | | | | x | x | | | |
| Barking dogs | | | | | | x | | | | | |
| Bites, deadly | | | | | | x | x | x | | | |
| Blooming, gathering | | | | x | x | | | | | | |
| Descr. | | | | x | x | | | | x | | x |
| Doves, charm | | | | x | x | | | | | | |
| Epilepsy, devil | | | | x | x | | | | | | |
| Eyes, fennel | | | | x | x | | | | x | x | |
| Fever, tertian/quartain | | | x | | | x | x | x | x | | |

| | *Sinonoma* | *Alphita* | *Vertues* | *Tretys of diverse ...* | *Medical treatise* | *Macer* | *Macer Lynacro* | *Bancke's Herbal* | *Grete Herball* | *Waters Artyfycialles* | Turner |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Habitat | | | | x | x | | | | | | x |
| Headache | | | | | | x | | | | | |
| Heart, phlegm, celidony, rue | | | | | x | | | | | | |
| Jaundice, whooping cough | | | | | | x | | | x | | |
| Manipulation | | | x | x | x | x | x | x | | | |
| Merriness | | | | | | x | | | | | |
| Mouth, apostemes | | | | | | x | | | x | | |
| Names | x | x | | x | x | x | x | | x | | x |
| Parts used | | | | x | | | | | | | |
| Poison | | | x | x | x | x | x | x | x | | |
| Progn. life & death | | | | | | x | | | | | |
| Stomach, liver, lungs, guts | | | x | | | x | x | x | | | |
| Stones | | | x | | | x | x | x | x | | |
| Talking asleep | | | | | | | | | | | |
| Temperature | | | x | | | | x | x | x | | |
| Womb, menstr. | | | | | | | | | x | | |
| Worms | | | | | x | | | | | | |
| Wounds | | | | | | x | | | | | |

## Table 6: Shared *Rosmarinus*-related information in herbal entries

| | *Alphita* | *Synonyma* | Daniel, *Rosemary* | *Loscombe* | Crophill, *Rosemary* | *Agnus castus* | *Bancke's Herbal* | *Macer Lynacro* | *Grete Herball* | Braunschweig | *Watersartyfycialles* | Turner |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| After bloodletting | | | x | | | | | | | | | |
| Against thieves | | | | x | | | | | | | | |
| Aposteme | | | x | | | | | | | x | | |
| Appetite | | | x | | | | x | x | | x | x | |
| Aqua vitae, coldness | | | | | | | | | | x | | |
| Blood, purification of | | | | | | | | | | x | | |
| Blooming | | | x | | | | | | | | | |
| Bones, good marrow | | | x | | | | | | | x | | |
| Books, clothes | | | x | | x | | x | x | | | | |
| Breath, lost | | | | | | | x | x | | | | |

| | *Alphita* | *Synonyma* | Daniel, *Rosemary* | *Loscombe* | Crophill, *Rosemary* | *Agnus castus* | *Bancke's Herbal* | *Macer Lynacro* | *Grete Herball* | Braunschweig | *Watersartyfyciallles* | Turner |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Canker | | | x | | x | | x | x | | x | x | |
| Coldness | | | x | x | x | | x | x | | | | |
| Colica passio | | | x | | | | | | | | | |
| Comforts the spirit | | | | | | | | | | | x | |
| Consumption | | | | | | | | | | x | | |
| Cough, cardiac | | | x | | | | | | | | | |
| Cough, peppers, honey | | | x | | | x | | | | | | |
| Cough, plain | | | x | | | | | | | x | | |
| Cough, straitness at the breast | | | | | x | | | | | | | |
| Cough, white wine | | | | | x | | x | x | | | | |
| Descr. | | | x | | | x | | | x | | | |
| Diseases of cold | | | | | | | | | | x | | |
| Dishes | | | x | | | | | | | | | |
| Dreams, nightmares | | | x | x | x | | x | x | | | | |
| Epatyk | | | | | | | | | | x | | |
| Epilepsy | | | | x | | | | | | | | |
| Evil spirits | | | x | | | | | | | | | |
| evils, body | | | x | x | x | | x | x | | x | | |
| Eyes, honey | | | x | | | x | | | | x | | |
| Fair face | | | x | x | x | | x | x | | x | x | |
| Feeble-mindedness | | | x | | x | | | | | | | |
| Feet, joints | | | x | | | | | | | | | |
| Feet, vinegar | | | | | x | | | | | | | |
| Fever tertian/quartain | | | x | | | x | | | | x | | |
| Fistulas | | | | | | | | | | x | | |
| Flux, diarrhoea | | | x | | | | x | | | x | x | |
| Gardening | | | x | x | | | | | | | | |
| General properties | | | | | | | | x | x | | x | |
| Gout, legs | | | x | | | | x | x | | | | |
| Guts, wicked air | | | x | | | | | | | | | |
| Habitat | | | | | | | | | x | | | x |
| Hair | | | x | | x | | | | | x | x | |
| Head | | | x | | | | | | | x | x | |
| Health | | | | | | | | | | x | | |
| Heart | | | | | | | | | x | x | x | |
| History | | | x | | | | | | | | | |
| Itch | | | | | | x | | | | | | |
| Merriness | | | x | x | x | | x | x | | x | | |

| | *Alphita* | *Synonyma* | Daniel, *Rosemary* | *Loscombe* | Crophill, *Rosemary* | *Agnus castus* | *Bancke's Herbal* | *Macer Lynacro* | *Grete Herball* | Braunschweig | *Watersartyfycialles* | Turner |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Migrain | | | x | | | | | | | | | |
| Mouth | | | | | | | | | | x | | |
| Names | x | x | | | | x | | | x | x | | x |
| Neck, sore | | | | | | | | | | | | |
| Oil | | | | | | | | | | x | | |
| Ointment names | | | x | | | | | | | | | |
| Panacea | | | | | | | | | | | x | |
| Paralysis | | | | | | | | | | x | | |
| Parts used, storage | | | x | | | | | | x | x | | |
| Pestilence, air | | | | | | | | | | x | | |
| Pestilence, sores | | | x | | | | | | | | | |
| Phthisis | | | x | | | | x | x | | | | |
| Podagra | | | | | | | | | | x | | |
| Poison | | | | | | | | | | x | x | |
| Poison, spoon | | | x | | x | | x | x | | | | |
| Profitability | | | | | | | x | x | | | | |
| Rejuvenation | | | x | x | x | | x | x | | x | x | |
| Rhetorics | | | | | | | | | | x | | |
| Scabs | | | x | | | | | | | | | |
| Serpent, body | | | x | | x | | | | | | x | |
| Sick, anointing | | | x | | | | | | | | | |
| Sleeping body parts | | | | | | | | | | x | | |
| Stomach, burning | | | | | x | | | | | | | |
| Stomach, coldness | | | | | x | | | | x | | | |
| Stones | | | x | | | | | | | | | |
| Strangury | | | x | | | | | | | | | |
| strengthen, body parts | | | x | | | | | | | x | | |
| Sweating | | | x | | x | | | | | x | | |
| Swelling, sour bread | | | | | x | | x | x | | x | | |
| Temperature | | | x | x | | x | x | x | x | | | x |
| Throat | | | | | | | | | x | | | |
| Thunder | | | x | | | | | | | | | |
| Toothache | | | x | | | x | | | | x | x | |
| Toothache, worm, coals | | | x | x | x | | x | x | | | | |
| Urine | | | | | | | | | x | | | |
| Weakness of the brain | | | | | | | | | x | | | |
| Veins | | | | | | | | | | x | | |
| Venomous beasts | | | x | | x | | x | x | | | | |

| | *Alphita* | *Synonyma* | Daniel, *Rosemary* | *Loscombe* | Crophill, *Rosemary* | *Agnus castus* | *Bancke's Herbal* | *Macer Lynacro* | *Grete Herball* | Braunschweig | *Watersartyfyciallles* | Turner |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wicked humours, gout | | | **x** | | | | | | | | | |
| Wicked wind | | | **x** | | | | | | | | | |
| Wine stale | | | **x** | | **x** | | **x** | **x** | | | | |
| Womb, ache | | | | | | | | | **x** | | | |
| Womb, conception | | | | | | | | | **x** | **x** | **x** | |
| Vomiting | | | | | | | | | | | **x** | |
| Wounds, tallow | | | **x** | | | **x** | | | | | | |

# Appendix IV: Survey of incipits in manuscripts with herbals included in ACHE

The following table lists manuscripts with one or more of the herbals that have been included in *A Corpus of Herbals in English*. All the incipits in this table are in Middle English, i.e. the incipits in non-English languages have been excluded. *Special treatises* include texts on certain diseases, encyclopaedias, purely theoretical texts, and technical texts on treatment procedures (such as bloodletting). *Surgeries* include both surgical and anatomical texts. Herbals have been excluded from the category of *remedies and materia medica* for the purposes of this study. Therefore, the *Remedies* category contains texts such as recipe collections, general texts on health management (regimens of health), quintessence texts, and charms. The category *other* includes scientific texts or texts otherwise pertaining to knowledge, but not to medicine. Each row gives a manuscript call mark, and the numbers of texts in each genre or genre cluster. The two final rows state the absolute counts of texts in each genre, and the percentage of the genre distribution through manuscripts studied.

## Table 1: Survey: incipits in MSS with herbals

| **Incipits in manuscripts with herbals** | | | | |
|---|---|---|---|---|
| **MSS** | **Herbals** | **Specialised** | **Remedies** | **Surgeries** |
| Aberdeen Univ. 258 | 7 | 2 | 10 | 0 |
| BL Addit. 12056 | 1 | 0 | 2 | 1 |
| BL Addit. 15236 | 1 | 0 | 0 | 0 |
| BL Addit. 17866 | 1 | 2 | 5 | 0 |
| BL Addit. 19674 | 1 | 11 | 5 | 0 |
| BL Addit. 27329 | 1 | 0 | 1 | 0 |
| BL Addit. 27944 | 1 | 1 | 0 | 0 |
| BL Addit. 29301 | 2 | 1 | 2 | 0 |
| BL Addit. 37786 | 2 | 0 | 2 | 0 |
| BL Addit. 4698 | 2 | 12 | 4 | 0 |
| BL Addit. 4797 | 1 | 0 | 0 | 0 |
| BL Addit. 60577 | 1 | 0 | 0 | 0 |
| BL Arundel 272 | 1 | 1 | 2 | 0 |
| BL Arundel 42 | 2 | 1 | 1 | 0 |
| BL Harley 3840 | 1 | 0 | 1 | 0 |

| Incipits in manuscripts with herbals | | | | |
|---|---|---|---|---|
| **MSS** | **Herbals** | **Specialised** | **Remedies** | **Surgeries** |
| BL Harley 4789 | 1 | 0 | 0 | 0 |
| BL Harley 614 | 1 | 0 | 0 | 0 |
| BL IA.55454 | 4 | 0 | 9 | 0 |
| BL Lansdowne 680 | 1 | 0 | 2 | 0 |
| BL Royal 12.E.1 | 1 | 0 | 0 | 0 |
| BL Royal 12.G.4 | 1 | 3 | 8 | 0 |
| BL Royal 17.a.3 | 1 | 8 | 6 | 0 |
| BL Royal 17.A.32 | 1 | 3 | 7 | 0 |
| BL Royal 17.B.48 | 1 | 0 | 1 | 0 |
| BL Royal 17.c.15 | 1 | 9 | 1 | 2 |
| BL Royal 18.A.6 | 2 | 3 | 5 | 0 |
| BL Sloane 120 | 1 | 5 | 4 | 1 |
| BL Sloane 1315 | 1 | 9 | 4 | 0 |
| BL Sloane 135 | 1 | 1 | 8 | 0 |
| BL Sloane 140 | 1 | 0 | 18 | 0 |
| BL Sloane 146 | 1 | 0 | 0 | 0 |
| BL Sloane 147 | 1 | 0 | 3 | 0 |
| BL Sloane 1571 | 2 | 0 | 2 | 0 |
| BL Sloane 1592 | 1 | 0 | 0 | 0 |
| BL Sloane 1609 | 1 | 6 | 4 | 0 |
| BL Sloane 2187 | 1 | 1 | 3 | 0 |
| BL Sloane 2269 | 2 | 0 | 11 | 0 |
| BL Sloane 2403 | 1 | 0 | 8 | 1 |
| BL Sloane 2407 | 1 | 0 | 0 | 0 |
| BL Sloane 2457 | 1 | 2 | 2 | 1 |
| BL Sloane 2460 | 2 | 0 | 0 | 0 |
| BL Sloane 2527 | 1 | 5 | 4 | 0 |
| BL Sloane 284 | 1 | 0 | 0 | 0 |
| BL Sloane 297 | 6 | 8 | 8 | 0 |
| BL Sloane 3160 | 4 | 8 | 10 | 0 |
| BL Sloane 3215 | 2 | 1 | 1 | 0 |
| BL Sloane 3217 | 6 | 5 | 5 | 1 |
| BL Sloane 3466 | 2 | 3 | 4 | 0 |
| BL Sloane 347 | 1 | 0 | 0 | 0 |
| BL Sloane 3489 | 1 | 2 | 4 | 1 |
| BL Sloane 3542 | 1 | 5 | 15 | 0 |
| BL Sloane 3866 | 2 | 5 | 5 | 0 |
| BL Sloane 393 | 3 | 0 | 4 | 0 |
| BL Sloane 405 | 2 | 7 | 9 | 0 |
| BL Sloane 5 | 1 | 12 | 2 | 0 |
| BL Sloane 540A | 1 | 5 | 4 | 0 |
| BL Sloane 7 | 3 | 5 | 9 | 0 |
| BL Sloane 962 | 3 | 1 | 9 | 0 |
| BL Sloane 963 | 1 | 15 | 8 | 0 |
| BL Sloane 964 | 1 | 0 | 2 | 0 |
| BL Sloane 983 | 2 | 3 | 7 | 0 |

| Incipits in manuscripts with herbals | | | | |
|---|---|---|---|---|
| **MSS** | **Herbals** | **Specialised** | **Remedies** | **Surgeries** |
| Bodl. Addit. A.106 | 4 | 10 | 19 | 0 |
| Bodl. Ashmole 1379 | 2 | 0 | 0 | 0 |
| Bodl. Ashmole 1397 | 4 | 3 | 3 | 0 |
| Bodl. Ashmole 1432 | 2 | 0 | 6 | 0 |
| Bodl. Ashmole 1438 | 3 | 19 | 24 | 1 |
| Bodl. Ashmole 1442 | 2 | 0 | 2 | 0 |
| Bodl. Ashmole 1444 | 1 | 6 | 21 | 0 |
| Bodl. Ashmole 1447 | 1 | 4 | 12 | 0 |
| Bodl. Ashmole 1477 | 8 | 21 | 10 | 0 |
| Bodl. Bodley 1031 | 2 | 0 | 0 | 0 |
| Bodl. Bodley 483 | 7 | 2 | 5 | 0 |
| Bodl. Bodley 536 | 1 | 0 | 0 | 0 |
| Bodl. Bodley 591 | 3 | 9 | 7 | 1 |
| Bodl. Digby 29 | 1 | 5 | 9 | 0 |
| Bodl. Digby 75 | 1 | 3 | 5 | 0 |
| Bodl. Digby 95 | 4 | 4 | 3 | 0 |
| Bodl. e Musaeo 16 | 1 | 0 | 0 | 0 |
| Bodl. Hatton 29 | 1 | 4 | 5 | 0 |
| Bodl. Laud misc. 553 | 3 | 2 | 5 | 0 |
| Bodl. Rawlinson A.393 | 1 | 5 | 7 | 0 |
| Bodl. Rawlinson C.81 | 1 | 2 | 2 | 0 |
| Bodl. Selden B.35 | 1 | 0 | 0 | 0 |
| Bodl. Selden Supra 73 | 4 | 16 | 13 | 0 |
| Bodl. Wood D.8 | 1 | 1 | 2 | 0 |
| Bristol City MS 9 | 1 | 0 | 0 | 0 |
| Cambridge Caius 200/106 | 1 | 0 | 0 | 0 |
| Cambridge Magdalene College Pepys 1661 | 4 | 1 | 7 | 1 |
| Cambridge Trinity Coll. O.1.13 | 3 | 7 | 13 | 0 |
| Cambridge Trinity Coll. O.2.13 | 1 | 3 | 12 | 0 |
| Cambridge Trinity Coll. R.14.32 | 4 | 9 | 13 | 1 |
| Cambridge Trinity Coll. R.14.51 | 1 | 10 | 4 | 0 |
| Cambridge Trinity Coll. R.7.23 | 2 | 2 | 6 | 0 |
| Cambridge Univ. Ee.1.15 | 4 | 6 | 9 | 1 |
| Cambridge University Dd.10.44 | 1 | 12 | 12 | 0 |
| Cambrige Univ. Library Ii.v.41 | 1 | 0 | 0 | 0 |
| Columbia Univ. Library MS Plimpton 263 | 1 | 0 | 0 | 0 |
| Exeter Chatedral 3519 | 1 | 0 | 1 | 0 |
| Glasgow Univ. Ferguson 147 | 1 | 2 | 3 | 0 |
| Glasgow Hunterian 497 | 1 | 0 | 1 | 0 |
| Huntington Library HM 58 | 2 | 0 | 7 | 0 |
| Huntington Library HU 1051 | 2 | 2 | 6 | 0 |
| Huntington Library MS 64 | 1 | 26 | 23 | 0 |
| Lincoln Cathedral Library 91 | 1 | 2 | 1 | 0 |
| London Royal College of Physicians 411 | 1 | 3 | 4 | 0 |
| London University Coll. lat 11 | 1 | 0 | 0 | 0 |
| National Library of Wales Addit. 572D | 2 | 0 | 3 | 0 |

| **Incipits in manuscripts with herbals** | | | | |
|---|---|---|---|---|
| **MSS** | **Herbals** | **Specialised** | **Remedies** | **Surgeries** |
| National Library of Wales Peniarth 369B | 3 | 0 | 12 | 0 |
| Oxford Balliol Coll. 329 | 1 | 0 | 7 | 0 |
| Oxford Corpus Christi Coll. 171 | 2 | 0 | 1 | 0 |
| Oxford Corpus Christi Coll. 265 | 1 | 0 | 6 | 0 |
| Oxford Pembroke Coll. 2 | 1 | 0 | 0 | 0 |
| Pierpont Morgan Bühler 21 | 2 | 2 | 2 | 0 |
| Pierpont Morgan Library M 875 | 1 | 0 | 0 | 0 |
| Rylands Eng 404 | 1 | 4 | 3 | 0 |
| Soc. Antiquaries 101 | 1 | 4 | 8 | 0 |
| Stockholm Royal Library X.90 | 4 | 3 | 11 | 0 |
| Stockholm Royal Library X.91 | 2 | 0 | 4 | 0 |
| Uppingham School | 1 | 0 | 0 | 0 |
| Wellcome 406 | 1 | 2 | 6 | 0 |
| Wellcome 409 | 1 | 6 | 10 | 0 |
| Yale Medical School MS 47 | 1 | 8 | 5 | 0 |
| Yale Medical School MS 27 | 1 | 2 | 5 | 0 |
| Yale Medical School MS 40 | 3 | 0 | 5 | 0 |
| Yale Univ. MS 163 | 1 | 1 | 10 | 0 |
| York Minster 16.E.32 | 2 | 7 | 9 | 2 |
| York Minster XVI.O.10 | 1 | 0 | 4 | 0 |
| **count** | **229** | **410** | **644** | **16** |
| **percentage** | **14.9** | **26.7** | **42.0** | **1.0** |