Medical Writing in Early Modern English

Medical writing tells us a great deal about how the language of science has developed in constructing and communicating knowledge in English. This volume provides a new perspective on the evolution of the special language of medicine, based on the electronic corpus of Early Modern English Medical Texts, containing over 2 million words of medical writing from 1500 to 1700. The book presents results from large-scale empirical research on the new materials and provides a more detailed and diversified picture of domain-specific developments than any previous book. Three introductory chapters provide the sociohistorical, disciplinary and textual frame for nine empirical studies, which address a range of key issues in a wide variety of medical genres from fresh angles. The book is useful for researchers and students within several fields, including the development of special languages, genre and register analysis, (historical) corpus linguistics, historical pragmatics, and medical and cultural history.

IRMA TAAVITSAINEN is Professor of English Philology in the Department of Modern Languages at the University of Helsinki.

PAIVI PAHTA is Professor of English Philology in the School of Modern Languages and Translation Studies at the University of Tampere.
STUDIES IN ENGLISH LANGUAGE

General editor
Merja Kytö (Uppsala University)

Editorial Board
Bas Aarts (University College London), John Algeo (University of Georgia), Susan Fitzmaurice (University of Sheffield), Christian Mair (University of Freiburg) and Charles F. Meyer (University of Massachusetts)

The aim of this series is to provide a framework for original studies of English, both present-day and past. All books are based securely on empirical research and represent theoretical and descriptive contributions to our knowledge of national and international varieties of English, both written and spoken. The series covers a broad range of topics and approaches, including syntax, phonology, grammar, vocabulary, discourse, pragmatics and sociolinguistics, and is aimed at an international readership.

Already published in this series:
Charles F. Meyer: Apposition in Contemporary English
Jan Firbas: Functional Sentence Perspective in Written and Spoken Communication
Izchak M. Schlesinger: Cognitive Space and Linguistic Case
Katie Wales: Personal Pronouns in Present-Day English
Laura Wright: The Development of Standard English, 1300–1800: Theories, Descriptions, Conflicts
Charles F. Meyer: English Corpus Linguistics: Theory and Practice
Stephen J. Nagle and Sara L. Sanders (eds.): English in the Southern United States
Anne Curzan: Gender Shifts in the History of English
Kingsley Bolton: Chinese Englishes
Irma Taavitsainen and Päivi Pahta (eds.): Medical and Scientific Writing in Late Medieval English
Elizabeth Gordon, Lyle Campbell, Jennifer Hay, Margaret Maclagan, Andrea Sudbury and Peter Trudgill: New Zealand English: Its Origins and Evolution
Raymond Hickey (ed.): Legacies of Colonial English
Merja Kytö, Mats Rydén and Erik Smitterberg (eds.): Nineteenth Century English: Stability and Change
John Algeo: British or American English? A Handbook of Word and Grammar Patterns
Christian Mair: Twentieth-Century English: History, Variation and Standardization
Evelien Keizer: The English Noun Phrase: The Nature of Linguistic Categorization
Raymond Hickey: Irish English: History and Present-Day Forms
Günter Rohdenburg and Julia Schluter (eds.): One Language, Two Grammars?
Laurel J. Brinton: The Comment Clause in English
Geoffrey Leech, Marianne Hundt, Christian Mair and Nicholas Smith: Change in Contemporary English: A Grammatical Study
Jonathan Culpeper and Merja Kyto: Early Modern English Dialogues: Spoken Interaction as Writing
Daniel Schreier, Peter Trudgill, Edgar Schneider and Jeffrey Williams: The Lesser-Known Varieties of English: An Introduction
Hilde Hasselgård: Adjunct Adverbials in English
Raymond Hickey: Eighteenth-Century English: Ideology and Change
Charles Boberg: The English Language in Canada: Status, History and Comparative Analysis
Thomas Hoffmann: Preposition Placement in English: A Usage-Based Approach
Claudia Claridge: Hyperbole in English: A Corpus-Based Study of Exaggeration
Päivi Pahta and Andreas H. Jucker (eds.): Communicating Early English Manuscripts
Medical Writing in
Early Modern English

Edited by

IRMA TAAVITSAINEN
University of Helsinki

and

PÄIVI PAHTA
University of Tampere
## Contents

- **List of plates**  
  page ix  
- **List of figures**  
  x  
- **List of tables**  
  xii  
- **Notes on contributors**  
  xiv  
- **Preface**  
  xvii  
- **List of abbreviations**  
  xix  

1. An interdisciplinary approach to medical writing in Early Modern English  
   PÄIVI PAHTA AND IRMA TAAVITSAINEN  
   1  

2. Medical texts in 1500–1700 and the corpus of *Early Modern English Medical Texts*  
   IRMA TAAVITSAINEN, PETER MURRAY JONES, PÄIVI PAHTA, TURO HILTUNEN, VILLE MARTTI LA, MAURA RATIA, CARLA SUHR AND JUKKA TYRKKO  
   9  

3. Medical literacies and medical culture in early modern England  
   PETER MURRAY JONES  
   30  

4. Verbs of knowing: discursive practices in early modern vernacular medicine  
   TURO HILTUNEN AND JUKKA TYRKKO  
   44  

5. Defining in Early Modern English medical texts  
   ROD MCCONCHIE AND ANNE CURZAN  
   74  

6. Dissemination and appropriation of medical knowledge: humoral theory in Early Modern English medical writing and lay texts  
   IRMA TAAVITSAINEN  
   94  

7. Code-switching in Early Modern English medical writing  
   PÄIVI PAHTA  
   115
Contents

8 New arguments for new audiences: a corpus-based analysis of interpersonal strategies in Early Modern English medical recipes  
VILLE MARTILA 135

9 Efficacy phrases in Early Modern English medical recipes  
MARTTI MAKINEN 158

10 Medical pamphlets: controversy and advertising  
MAURA RATIA AND CARLA SUHR 180

11 The development of specialized discourse in the Philosophical Transactions  
MAURIZIO GOTTI 204

12 The expression of stance in early (1665–1712) publications of the Philosophical Transactions and other contemporary medical prose: innovations in a pioneering discourse  
BETHANY GRAY, DOUGLAS BIBER AND TURO HILTUNEN 221

Appendix A: Raw data tables corresponding to Figures 4.3–4.14 248
Appendix B: Raw data tables corresponding to Figures 8.1–8.4 252
Appendix C: Stance markers used in the analysis in Chapter 12 255
Appendix D: Preliminary list of texts in the corpus of Early Modern English Medical Texts (EMEMT) 258

Bibliography 264
Index 294
Plates

1. Title page, with owner signature and scribblings in the margin, of *The Castel of Helth* by Sir Thomas Elyot, 1534
2. William Clowes, *A Briefe and Necessarie Treatise, Touching the Cure of the Disease Called Morbus Gallicus*, 1585
3. Page providing almanac lore and depicting a zodiac man from *Frende, A New Almanacke and Prognostication*, 1593
4. Frontispiece and title page, *The Christians Refuge; or, Heavenly Antidotes Against the Plague* by W.W., 1665
5. Anatomical diagrams of the female body from *The Birth of Mankynde* by Eucharius Rösslin, 1565
6. Pages 1 and 2 of the beginning of William Harvey’s discussion on the motion of the heart and the circulation of blood in *Anatomical Exercises*, 1653
7. Title page of *A Pretious Treasury: Or a New Dispensatory. Contayning 70. Approved Physicall Rare Receits …* by Salvator Winter, 1649
8. Frontispiece portrait and title page of *The Gentlewomens Companion or a Guide to the Female Sex*, 1682 by Hannah Woolley, 1682
9. Frontispiece and title page, *The English Physician; or, an Astrologo-Physical Discourse of the Vulgar Herbs of This Nation – Being a Compleat Method of Physick* by Nicholas Culpeper, 1652
10. Title page of *Elixir Salutis: The Choice Drink of Health* by Anthony Daffy, 1675
Figures

2.1 Proportions of EMEMT text categories

2.2 EMEMT timeline with background developments

4.1 Frequency of knowing-verbs by corpus category

4.2 Frequency of knowing-verbs in extracts longer than 2,000 words

4.3 Modal auxiliaries and their type by category

4.4 Modal auxiliaries and their type on the timeline

4.5 Trends in the use of pronominal subjects in the categories

4.6 Polarity in relation to category

4.7 Polarity in relation to timeline

4.8 Changes in the knower class on the timeline

4.9 Knower classes of third-person singular subjects in relation to category

4.10 Knower classes of third-person plural subjects in relation to category

4.11 Topoi in relation to timeline

4.12 Sub-topoi of assertive knowledge

4.13 Sub-topoi of practical knowledge

4.14 Topoi of knowledge in relation to category

8.1 Frequency of overt reader reference (per 1,000 words)

8.2 Frequency (per 1,000 words) and proportion of references to reader as patient

8.3 Frequency (per 1,000 words) and proportion of patient references in second and third person

8.4 Frequency of classical terminology (per 1,000 words)

9.1 Presence of efficacy phrases in lay texts

9.2 Presence of efficacy phrases in learned texts

9.3 Efficacy phrase types in lay texts

9.4 Efficacy phrase types in learned texts

9.5 Distribution of efficacy phrases between Latin and English in lay texts

12.1 Distribution of grammatical structures

12.2 Distribution of modals
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.3</td>
<td>Distribution of stance adverbials</td>
<td>234</td>
</tr>
<tr>
<td>12.4</td>
<td><em>That</em>-complement clause types</td>
<td>235</td>
</tr>
<tr>
<td>12.5</td>
<td>Non-communication verb-controlled <em>that</em>-complement clauses</td>
<td>236</td>
</tr>
<tr>
<td>12.6</td>
<td>Communication verb-controlled <em>that</em>-complement clauses</td>
<td>236</td>
</tr>
<tr>
<td>12.7</td>
<td>Adjective-controlled <em>that</em>-complement clauses</td>
<td>240</td>
</tr>
<tr>
<td>12.8</td>
<td>Noun-controlled <em>that</em>-complement clauses</td>
<td>240</td>
</tr>
</tbody>
</table>
Tables

4.1 Classification of knowers
4.2 Topoi of knowledge
6.1 Frequency of ‘humour’ in EEMT
8.1 Frequency (per 1,000 words) of direct authority reference by type
9.1 Texts, their division and the types of efficacy phrases
10.1 The frequencies of first- and second-person singular and plural pronouns in two controversies
10.2 Frequencies of first- and second-person pronouns in medical pamphlet advertisements
10.3 Frequencies of deictic markers in two medical pamphlet controversies
10.4 Frequencies of intertextual deictic markers in two medical controversies
10.5 Frequencies of deictic markers in medical pamphlet advertisements
12.1 Corpus material for this study
12.2 Stance categories and example items
12.3 Stance patterns in the use of verb-controlled that-complement clauses
A1 Raw frequencies of modal auxiliaries and their type by category (see Figure 4.3)
A2 Raw frequencies of modal auxiliaries and their type on the timeline (see Figure 4.4)
A3 Trends in the use of pronominal subjects in the categories (see Figure 4.5)
A4 Polarity in relation to category (see Figure 4.6)
A5 Polarity in relation to timeline (Figure 4.7)
A6 Changes in the knower class on the timeline (see Figure 4.8)
A7 Knower classes of third-person-singular subjects in relation to category (see Figure 4.9)
List of tables xiii

A8 Knower classes of third-person plural subjects in relation to category (see Figure 4.10) 250
A9 Topoi in relation to timeline (see Figure 4.11) 250
A10 Sub-topoi of assertive knowledge (see Figure 4.12) 250
A11 Sub-topoi of practical knowledge (see Figure 4.13) 251
A12 Topoi of knowledge in relation to category (see Figure 4.14) 251
B1 Raw and normalized frequencies of all overt references to the reader in the texts (see Figure 8.1) 252
B2 Raw and normalized frequencies of references to reader as patient, with percentage of all reader references in each text (see Figure 8.2) 252
B3 Raw and normalized frequencies of references to the patient in the second and third person, with percentage of all patient references in each text (see Figure 8.3) 253
B4 Raw and normalized frequencies of classical terminology by category (see Figure 8.4) 254
C1 Forms used in the analysis of stance 255
Notes on contributors

DOUGLAS BIBER is Regents’ Professor of English (Applied Linguistics) at Northern Arizona University. His research efforts have focused on corpus linguistics, English grammar and register variation (in English and cross-linguistic; synchronic and diachronic). He has written thirteen books and monographs, including academic books published with Cambridge University Press (1988, 1995, 1998, 2009) and the co-authored Longman Grammar of Spoken and Written English (1999).

ANNE CURZAN is Associate Professor of English at the University of Michigan. Her research focuses primarily on the history of English, lexicography, language and gender and historical corpus linguistics. In addition to numerous articles and book chapters, she is the author of Gender Shifts in the History of English (Cambridge University Press, 2003) and co-author of How English Works: A Linguistic Introduction (2nd edn, 2009).

MAURIZIO GOTTI is Professor of English Language and Translation at the University of Bergamo. His main research areas are English syntax, English lexicology and lexicography and the features and origins of specialized discourse, both in a synchronic and diachronic perspective. He is the editor of English Diachronic Syntax (1993), co-author of Variation in Central Modals (2002) and author of The Language of Thieves and Vagabonds (1999), Robert Boyle and the Language of Science (1996) and Investigating Specialized Discourse (2nd edn, 2008). He is a member of the editorial board of several national and international journals and edits the Linguistic Insights series for Peter Lang.

BETHANY GRAY is a Ph.D. candidate in applied linguistics at Northern Arizona University. Her research investigates register variation using corpus linguistics methodologies, with a focus on documenting variation across written academic registers and disciplines. She has published in the Journal of English for Academic Purposes.

TURO HILTUNEN’S Ph.D. thesis (2010) deals with disciplinary differences in present-day English academic writing. He is a member of the Scientific Thought-Styles project at the Research Unit for Variation, Contacts and
Notes on contributors xv

Change in English, University of Helsinki. His research interests include corpus linguistics, English for academic purposes, history of scientific and medical writing and historical pragmatics.

ROD McCONCHIE Ph.D. is a senior lecturer and researcher at the University of Helsinki. He has published on medical terminology and lexicography (Lexicography and Physicke, 1997) and, more recently, articles on the prefix *dis*- in Middle English, and on sixteenth- and seventeenth-century English lexicographers. He has also edited and co-edited volumes of essays and conference proceedings. He has an ongoing interest in book history, and his most recent research is on the earliest English medical dictionaries.

MARTTI MÄKINEN is a senior lecturer at Hanken School of Economics, Helsinki. His research interests include corpus linguistics, manuscript and genre studies and historical linguistics. His dissertation was on the medieval English herbal genre (University of Helsinki). He was one of the compilers of the corpus of *Middle English Medical Texts* (2005) and is a co-compiler of *The Middle English Grammar Corpus* (2007–).

VILLE MARTTILA MA is a postgraduate researcher at the University of Helsinki, working on his Ph.D. thesis on medieval culinary recipes and their pragmatic features. He is a member of the Scientific Thought-Styles project at the Research Unit for Variation, Contacts and Change in English and also a member of the Digital Editions for Corpus Linguistics project. His research interests include manuscript studies, digital editing, historical pragmatics and the historical development of the recipe genre.

PETER MURRAY JONES is Fellow and Librarian at King’s College, Cambridge. He has published *Medieval Medicine in Illuminated Manuscripts* (1998) and studies on medieval and early modern medicine and surgery. He is interested in the circulation of medical books in early modern England and in the relationship of communication in print to oral and manuscript circulation of medical knowledge.

PÄIVI PAHTA is Professor of English Philology at the School of Modern Languages and Translation Studies, University of Tampere. Her research interests include manuscript studies, historical (corpus) linguistics, history of scientific writing, language contact and multilingualism. Her main publications include *Medieval Embryology in the Vernacular* (1998), *Medical and Scientific Writing in Late Medieval English* (co-edited with Irma Taavitsainen, Cambridge University Press, 2004), the corpus of *Middle English Medical Texts* (with Irma Taavitsainen and Martti Mäkinen, 2005), *Social Roles and Language Practices in Late Modern English* (co-edited with Minna Nevala, Arja Nurmi and Minna Palander-Collin, 2010), and *Communicating Early English Manuscripts* (co-edited with Andreas H. Jucker, Cambridge University Press, 2010).
xvi  Notes on contributors

MAURA RATIA MA is a Ph.D. student and member of the Scientific Thought-Styles project at the Research Unit for Variation, Contacts and Change in English, University of Helsinki, working on argumentative strategies in the early modern tobacco controversy in a multidisciplinary frame, combining the study of language and medical history. For her thesis, she has compiled a corpus of tobacco texts of different genres.

CARLA SUHR holds an MA in history and in English philology. She is Assistant at the Department of English, University of Helsinki, and a member of the Scientific Thought-Styles project at the Research Unit for Variation, Contacts and Change in English. She is preparing her Ph.D. dissertation on the evolution of Early Modern English witchcraft pamphlets.

IRMA TAAVITSAINEN is Professor of English Philology and Deputy Director of the Research Unit for Variation, Contacts and Change in English at the University of Helsinki. Her research focuses on the evolution of scientific and medical writing, historical pragmatics, corpus linguistics and stylistics. She has co-edited several books, including Medical Writing in Late Medieval English (with Päivi Pahta, Cambridge University Press, 2004), Diachronic Perspectives on Domain-Specific English (with Marina Dossena, 2006), Speech Acts in the History of English (with Andreas H. Jucker, 2008) and Methods in Historical Pragmatics (with Susan Fitzmaurice, 2007), and the handbook Historical Pragmatics (with Andreas H. Jucker). She compiled the corpus of Middle English Medical Texts (with Päivi Pahta and Martti Mäkinen, 2005). She also co-edits the Journal of Historical Pragmatics.

JUKKA TYRKKÖ MA is a postgraduate researcher and member of the Scientific Thought-Styles project at the Research Unit for Variation, Contacts and Change in English, University of Helsinki. His forthcoming Ph.D. thesis studies coherence in hypertext narratives. In addition to textual coherence and text linguistics, his research interests include the history of scientific writing, historical corpus linguistics and the history of the book, with a particular focus on early lexicography.
The large field of medical writing in Early Modern English is still a fairly uncharted area from a linguistic point of view, and this is what our book sets out to explore. In language-external developments, the era between 1500 and 1700 is remarkable: the world view gradually changed from Ptolemaic to Copernican, new continents were discovered, and people ceased to believe in received knowledge. Scientific and medical writing became more diversified with the new medium of the printing press, and the position of English, which had begun to emerge as a language of science and medicine from the shadow of Latin during the fourteenth and fifteenth centuries, became stronger. Medieval conventions continued in medical writing well beyond the Late Middle English period as early printed books imitated manuscripts, and it took at least half a century or more for a new print culture to break away from the old. Generic developments were dynamic: during the two centuries, the top genres of old scholasticism declined, lost their position as the spearhead of science and were adapted to writings that dealt with established or inherited knowledge. This process created a vacuum at the top. Institutional developments gave an incentive to further changes, and by the time of the Royal Society the written word in the printed form had achieved a leading role in communicating science. Members of the new, close-knit discourse community made a conscious decision to communicate their scientific findings and opinions by writing in the new *Philosophical Transactions*. The birth of the scientific journal paved the way to future developments that led to the spearhead position of the new medium. The genres in use by Royal Society members have direct relevance to present-day scientific writing; today, new discoveries and achievements are first reported to the global discourse community in research articles in scientific journals. But there is continuity at the lower end of the scale as well. The aftermath of medieval science lives on in popular adaptations of the *homo signorum* and other astrological doctrines to broad and heterogeneous readerships, even today. This development can be traced to the early modern period and beyond to almanac literature. Between these two means of communicating, *Philosophical Transactions* and the almanac, there is a wide range of publications, including textbooks, treatises, health guides, collections of remedies
Preface

and pamphlets. The scale is broad and interesting, with different types of new manifestations of commercialism in advertisements, debate conflicts in short tracts and household literature for women in demand with increasing literacy.

The research reported in this book is mostly produced in the frame of the Scientific Thought-Styles project, launched about fifteen years ago at the University of Helsinki. In this book venture, the project team has been complemented by other scholars – visiting fellows, as it were – sharing an interest in scientific discourse and in the history of medicine and medical writing. We would like to thank the Research Unit for Variation, Contacts and Change in English at the University of Helsinki for providing us with the opportunity to organize workshops with some of our visiting fellows to discuss, on the one hand, the interdisciplinary nature of our endeavour with Peter Murray Jones, and, on the other hand, the more technical questions and software solutions of corpus linguistics with Douglas Biber and Raymond Hickey.

The members of the Scientific Thought-Styles project have received funding from various organizations during their work on this book, and we gratefully acknowledge this: the Academy of Finland; the Research Unit for Variation, Contacts and Change in English at the University of Helsinki; the Emil Aaltonen Foundation; the Finnish Cultural Foundation; the Finnish Graduate School in Language Studies; and the School of Modern Languages and Translation Studies at the University of Tampere. We would also like to thank the Department of English at the University of Helsinki for financial aid in editing the book.

We would like to express our thanks to the anonymous reviewers at Cambridge University Press for their helpful comments. We are grateful to Merja Kytö, the series editor of Studies in English Language, for recommending the book for publication, and to Helen Barton for all her editorial work. It has been a great pleasure for us to collaborate with them. We are grateful to the Wellcome Library and to Catherine Draycott, for giving us permission to publish pictures from the Wellcome collections, and to Julianne Simmons, for suggesting the interesting range of pictures to us, many of which have not been used as book illustrations before.

Our team deserves our deepest gratitude. We wish to thank the authors – core project members and visiting fellows alike – for their excellent collaboration, enthusiasm and willingness to participate in this exciting joint venture. We thank Jukka Tuominen for his valuable contribution as our editorial assistant, Anu Lehto and Raisa Oinonen for their careful and cheerful assistance in various tasks and Mark Shackleton for polishing our language. Finally, our home teams deserve a special word of thanks for their support and understanding.
Abbreviations

CED  A Corpus of English Dialogues 1560–1760
EMEMT  Early Modern English Medical Texts
EP(s)  efficacy phrase(s)
ESTC  English Short-Title Catalogue
KWIC  keyword in context
MEMT  Middle English Medical Texts
MS  manuscript
PCEEC  Parsed Corpus of Early English Correspondence
PT  Philosophical Transactions
VP  verb phrase