

*English Library:
the Linguistics Bookshelf*

Volume 10

Tatiana Canziani, Kim Grego,
Giovanni Iamartino
(eds)

Perspectives in Medical English

Polimetrica
International Scientific Publisher

Open Access Publications

2014 Polimetrica ® S.a.s.
Website: www.polimetrica.com

ISSN 1974-0603 Printed Edition
ISSN 1974-0670 Electronic Edition
ISBN 978-88-7699-153-0 Printed Edition
ISBN 978-88-7699-154-7 Electronic Edition

The electronic edition of this book is not sold and is made available in free access. Every contribution is published according to the terms of “Polimetrica B License”. “Polimetrica B License” gives anyone the possibility to distribute the contents of the work, provided that the authors of the work and the publisher are always recognised and mentioned as such. It does not allow use of the contents of the work for commercial purposes or for profit. Polimetrica Publisher has the exclusive right to publish and sell the contents of the work in paper and electronic format and by any other means of publication. Additional rights on the contents of the work are the author’s property.

Printed in Italy by DigitalPrint Service Srl – Segrate (MI)

Contents

Perspectives in Medical English: An Introduction 11

Tatiana Canziani, Kim Grego, Giovanni Iamartino

Part I Researching into Medical English: Past and present insights

Medical English as a research field: Results, trends, and perspectives.. 17

Kim Grego

1. Origins and development..... 17
2. Lines of research in EMP 19
3. EMP research worldwide..... 21
4. EMP research and teaching in Italy 27
5. Present trends, future developments 32
- References 35

‘Family sayings’: Two generations of Italian quack-doctors in 17th-century London 47

Roberta Mullini

1. Background and primary sources 47
2. Charlatans, empirics, mountebanks, or quacks: changing names for irregular practitioners..... 51
3. Medical professional language in the Winter family 55
 - 3.1. General terms 56
 - 3.2. Which diseases and what anatomy? 58
4. Concluding remarks..... 60
- References 66

Exploring the humoral self: Elizabethan and early Stuart churchmen and Galenic medicine 71

Paola Baseotto

1. Introduction 71
2. The popularization of medical knowledge by early modern physicians72
 - 2.1. Galenic medicine and laypeople 72
 - 2.2. The crucial role of English in the process of popularizing medical knowledge 73
3. Interdisciplinary learning and multiple vocations..... 75
 - Sir Thomas Elyot 75
4. The interaction of body, mind and soul 76
5. Theological assimilation of medical knowledge..... 77
 - 5.1. The divine sanction of medical knowledge..... 78

6. Churchmen and the emotional self	80
6.1. Early modern views of passion	80
6.2. William Perkins's Cases of Conscience	81
6.3. Edward Reynolds's Treatise of Passions	82
7. Conclusion	85
References	86

Medical entries in 18th-century encyclopaedias: The lexicographic construction of knowledge **89**

Elisabetta Lonati

1. Background and primary sources	89
1.1. A new approach to real life	89
1.2. British medical context	90
1.3. Sources	90
1.4. Aims	91
1.5. Methodology	91
2. Definitional patterns in the three encyclopaedias: a survey	92
2.1. Approaching medical knowledge: the shortest entries	92
2.2. Expanding medical knowledge: encyclopaedic descriptions	101
3. Concluding remarks	103
References	104

Evidentiality and commitment: An example from sports medical writing **109**

Marianna Lya Zummo

1. Introduction	109
1.1. The linguistic focus	109
1.2. Theoretical background	111
1.3. Aims of this paper	113
2. Data and methodology	113
3. Results	115
3.1. Evidentiality	115
3.2. Epistemic Modality	118
4. Discussion of results	120
5. Conclusion	121
References	123

Metaphors they heal by? **127**

Tatiana Canziani

1. Introduction	127
2. Background	127

2.1. Metaphor interpretation.....	127
2.2. Metaphors: written medical literature	128
2.3. Metaphors in a medical context: doctor-patient communication	130
3. Methods	131
4. Results & discussion.....	132
4.1. Metaphors and medical nomenclature.....	132
4.2. Eponymic disease terms.....	133
4.3. Non-eponymic and metaphor-based disease terms	135
4.4. Eponymic syndrome terms.....	137
4.5. Non-eponymic and metaphor-based syndrome terms	138
5. Conclusions	140
References	142
Appendix	145

Part II Studying and teaching Medical English: Teaching practice and tools

Reflections on a syllabus review: Teaching practice and research in language teaching at Rome Medical School

Philippa Mungra

1. Introduction	151
2. Structure of English course and its varied applications at Rome's Medical school	152
2.1. Upon entry into medical school	152
2.2. The core course	152
2.3. Strategies.....	153
2.4. Variations between different courses	154
2.5. Evaluation & Testing	155
2.6. Usefulness of the portfolio	157
2.7. Measuring effectiveness of teaching	157
3. Problem areas	158
4. Future Directions and Conclusion	159
References	160

Medical English in Italian university courses in sports sciences: Some issues in focus

Barbara Cappuzzo

1. Background.....	163
1.1. Research on medical communication and English for medical purposes (EMP).....	164
1.2. English for Medical Purposes (EMP): a definition	165

2. ‘ <i>Lingua straniera</i> ’, ‘ <i>lingua inglese</i> ’: the terminological question of the denomination of the discipline in sports sciences courses	166
3. The importance of medical English in the Italian sports sciences courses curriculum	167
3.1. Eponyms in sports medicine language: a sample terminological issue	168
4. Credits, attendance at courses, and syllabuses in sports sciences study courses	169
5. Some medical English teaching-related issues in sports sciences study courses	171
5.1. Students’ initial linguistic competences	171
5.2. Subtechnical vocabulary, pre-modification and nominalization in medical discourse	171
5.3. Genre-centred syllabuses and content and language integrated learning (CLIL)	173
6. Concluding remarks	175
References	176

Multimodal syllabus construction for students of medical sciences. Do you still need a course in English when the entire degree in Medicine and Surgery is taught in English?

Anthony Baldry, Deirdre Kantz, Fabrizio Maggi	
1. Introduction	181
2. Background.....	184
3. Goals.....	185
3.1. Incremental exposure to a wide range of medical genres.....	185
3.2. Text linguistics syllabus through improved levels of English.....	186
3.3. Prior knowledge of scientific or medical genres	187
4. Multimodal text linguistics in medical degree courses	189
4.1. Websites and their subdivisions	190
4.2. Integrated visual, spatial and linguistic resources	191
4.3. Hierarchical and cyclic rather than linear organization.....	191
4.4. Meaning-multiplying and meaning-compressing processes.....	192
4.5. Pattern formation.....	192
4.6. The pressure-to-conform norm.....	192
4.7. Holistic, dynamic, trajectory-based and negotiational	193
4.8. Integration of interpersonal, ideational and textual meanings.....	193
5. A three-phase course plan: a multimodal approach.....	194
5.1. Phase 1	195
5.2. Phase 2	196

5.3. Phase 3	196
6. Multimodal literacy and the structure of medical information	196
6.1. Multimodal literacy as cultural shock	197
6.2. Information structure theory and multimodal corpus techniques	199
7. Squaring intercultural awareness with multimodality	202
8. Guidelines for students	204
9. Reception	206
10. Conclusion	209
Acknowledgements	212
References	212
Internet resources for Medical English	219
Alessandra Vicentini, Alessandra Radicchi	
Background.....	219
1. Aims	221
2. Corpus and method.....	222
3. Analysis and discussion.....	223
3.1. Quantitative results	223
3.2. Qualitative results	224
3.2.1. Online medical English courses	224
3.2.2. Online medical dictionaries and glossaries.....	232
3.2.3. Online medical encyclopaedias: UK Health Encyclopaedia & US MedlinePlus	240
3.2.4. Online medical journals.....	242
4. Conclusions	244
References	246
<i>English Toolbox for Nurses: A meaningful learning experience.....</i>	251
Jaana Helena Simpanen, Antonina Ausilia Uttilla	
1. Introduction	251
1.1. ESP background.....	252
1.2. ESP courses.....	253
1.3. Who should teach ESP?	255
1.4. ESP and globalization	256
1.5. Social context.....	257
1.6. International (student) nurses' language problems.....	259
2. <i>English Toolbox for Nurses</i>	261
2.1. A meaningful learning experience in Sicily	261
2.2. Project objectives	263
2.3. Start up.....	264
2.4. Project development.....	267

2.5. A project plan in a nutshell	272
3. Results	273
4. Conclusions	274
References	275

Perspectives in Medical English: An Introduction

Tatiana Canziani – University of Palermo
tatiana.canziani@unipa.it

Kim Grego – University of Milan
kim.grego@unimi.it

Giovanni Iamartino – University of Milan
giovanni.iamartino@unimi.it

In spite of the growing economic and political power of a sub-continent like China, the increasing international role of South America or the continuing influence of Russia at world level, the pre-eminence of English as the vehicle of scientific, academic, political and business communication – to name its main usages – remains undisputed. Indeed, a global variety of English, powered by today's fastest means of communication, has long been acknowledged as the *lingua franca* of inter-linguistic / intercultural exchanges – including of those with the said countries and continents. In this scenario, two seemingly opposed yet complementary trends may be observed. On the one hand, English – no longer the exclusive of the original English-speaking countries – has become a global possession or, differently viewed, no one's possession. In other words, there are now only a few English-speaking countries within an increasingly English-speaking world. On the other hand, the gap between a simplified, instrumental global English and domain-specific Englishes or English for Specific Purposes (ESP) as spoken and written by professional communities of practice has even increased – and so has the primacy of the latter in establishing who belongs to a certain profession and who does not. It is therefore not surprising that ESP research and teaching still hold and have possibly increased their key role in applied linguistics, especially in those non-originally English-speaking countries.

This volume explores the Italian situation of ESP as employed in a highly specialized and exclusive scientific-professional domain: medicine. The papers collected here deal with both the research and

the didactics of the English of medicine, seen as integrated aspects of the same linguistic phenomenon, whose relevance in Italy is unquestionable, considering for instance the recent (and controversial) implementation of degree courses in medicine entirely taught in English. Not only, English for Medical Purposes (EMP) continues to prove of interest to linguists and professionals alike, and the subject of several conferences organized by Italian universities in recent years – Erice in 2007, Palermo in 2009, Foggia in 2010 and the latest ones in Bergamo and Italian-speaking Lugano in 2014.¹ Publications in this field also abound, pre-eminently of course in English-speaking countries, but with Italy catching up in recent decades.²

The first part of the present volume intends to outline the current status of EMP research and didactics in Italy, with reflections on the development and usage of EMP. **Kim Grego** opens with a general overview of and reflection on the international and Italian situation of EMP, providing bibliographic references to some of the main works published on the subject as regards both research and teaching. **Paola Baseotto** contributes the first of three historical studies, namely on Elizabethan and early Stuart churchmen and how they popularized Galenic medicine, thus contributing to shaping the perception and discourse of the passion in modern Western thought. **Roberta Mullini** brings us to 17th-century London, analysing the lexicon of the handbills written by an Anglo-Italian family of quack-doctors that practiced empiric medicine there and then, at a time when the scientific revolution was already long in progress. With **Elisabetta Lonati**'s paper, strictly lexicographic in nature, we come to the 18th century and to how knowledge was (being) constructed in the medical terminology of three 'dictionaries of arts and sciences' of the time. Reaching the present day **Marianna Lya Zummo** analyses evidentiality and commitment in sports medicine journals, using tools from corpus linguistics to carry out a quantitative and qualitative evaluation of authors' position towards scientific information in this relatively recent academic field. **Tatiana Canziani** researches the concept

¹ See Grego, this volume, note 28.

² See Grego, this volume, References.

and application of the concept of metaphor in medical language, listing and analysing qualitatively the metaphorical elements referring to pathologies in the 26th edition of *Stedman's Medical Dictionary*.

The second part of this volume offers insights into the present and short-term future of English teaching in medicine and health-related degree courses. **Philippa Mungra** provides an outline of the syllabus of English-language teaching in Italian medical schools, drawing on her experience at La Sapienza – Università di Roma, and reflecting on the content, the organization and the testing strategies of English language courses, with remarks on possible future directions. **Barbara Cappuzzo** does a similar thing applied to degrees in sports sciences, reviewing the status of the curriculum and highlighting the relevance of lexical notions, and eponyms in particular, in the English language instruction of students of sports sciences. The two following papers both address the usefulness of multimodal resources in teaching English to students of medicine. **Anthony Baldry, Deirdre Kantz** and **Fabrizio Maggi** pose the provoking yet fundamental question of why teaching English should be needed in a degree course in medicine entirely taught in English, and go on to argue in favour of a changed approach in teaching the language that should not consider it something external and ‘in addition’ to the other subjects taught but a key tool to develop intercultural awareness, based in particular on multimodal text linguistics. **Alessandra Vicentini** and **Alessandra Radicchi** explore English Internet resources that may prove useful for medical students, reviewing a number of different resources belonging to various genres like the online dictionary or encyclopaedia, the medical portal, the journal, showing how both popular and specialised Internet materials can be adopted with a didactic purpose, even if they were not originally conceived so. Finally, **Jaana Helena Simpanen** and **Antonella Ausilia Uttila** report on the “English Toolbox for Nurses”, a project implemented at the *Laboratorio Linguistico del Polo Universitario della Provincia di Agrigento* to provide a web-based English-learning environment for student nurses that can be used in parallel with their hospital practice for an integrated practical approach to teaching / learning English for the medical professions.

This volume is representative of a wide range of approaches in terms of useful teaching tools and strategies (internet resources, multimodal and web-based Medical English learning), ‘food for thought’ for various teaching \ learning key points (lexical notions, medical students’ linguistic competences, testing strategies) and research perspectives (historical, cultural and lexicographic). All in all, these papers underline the importance of promoting research on the different facets of medical discourse and its pedagogical implications suggesting the importance of a cooperation between linguists and medical experts in order to improve medical students’ learning opportunities in relation to their future role as communicators (as clinicians and researchers) in a multicultural and global society.

Part I

Researching into Medical English: Past and present insights

Medical English as a research field: Results, trends, and perspectives

Kim Grego – University of Milan
kim.grego@unimi.it

1. Origins and development

Although a ‘language of medicine’ has naturally existed ever since the establishment of the medical profession itself, medical English or English for Medical Purposes (EMP) as a university teaching and an academic field of research can only be traced back to very recent times, its codification being linked to that of English for Specific Purposes (ESP),¹ of which EMP represents, together with Business English and Legal English, one classical branch, connected to the so-called ‘traditional’ professions.

The interest raised by ESP is to be ascribed to the ever-increasing influence and specialization of professional settings, combined with the expansion of English as a language for international and interdisciplinary communication that gained momentum as the 21st century and its scientific technological developments began to unfold, doing so along divergent directions: in search of the microscopic on the one hand (atomic sub nuclei, DNA, microelectronics) and of the macroscopic on the other (deep space observation, satellites, probes). Contemporary Western culture and languages followed parallel trends, seeking sectorial hyper-specialization, while promoting globalization through cross-communication – phenomena to explain thoroughly which would require a lengthy sociolinguistic analysis with many a philosophical implication.

It is generally acknowledged that the first attempts to codify ESP can be identified as starting in the 1970s-1980s (Gotti 2005, Bhatia 2002), the culmination of centuries of interest in specialized language. A phenomenon linked mostly (but not exclusively) to the

¹ As is well known, other definitions like ‘English for Special Purposes’ or ‘Domain-Specific English’ are employed to describe the field.

17th century's scientific revolution (Gotti 2003), it is testified to by the creation of dozens of specialized treatises and glossaries, and was boosted up by the novel functionalist theories emerging at the beginning of the past century. Until the 1970s, however, lexicon, as the specialized languages' most evident distinguishing feature, had been the main focus of research, and it remained so until the advent of genre and discourse analysis widened linguistic perspectives to include syntactical, textual and eventually discursive patterns as objective descriptors of specialized languages. It was thus only in the 1980s that ESP began to be consciously researched as a linguistic area *per se* and that a consistent bibliography on the subject began to appear; the establishment of dedicated and regular academic teachings, training courses for professionals, journals and conferences worldwide followed shortly.

EMP is both a clear and a classical instance of the above-described phenomenon, its development being exemplary of ESP in particular and LSPs (Language for Specific Purposes) in general:

It is not until the second half of the XVII century that medicine begins to consolidate its usual forms of written specialized scientific communication. The journal *Philosophical Transactions of the Royal Society of London* is generally acknowledged as the first example of its type in modern science, although, to be true to fact, the French medical periodical *Journal des Scavans* preceded the *Royal Society's* publications by a few days. Certainly, this London-based society's writings, both for their content and form, were those that most influenced all the following developments of the structure and style of many of the written medical genres used today (Posteguillo-Gómez & Piqué-Angordans 2007: 169, my transl.).

In contemporary linguistics, too, EMP precisely fits the standard definition of a horizontal variety of English – with discursive traits common to other ESP varieties but its own specific lexical features – created, shared, employed by and aimed at a given professional community, for communicative purposes within its specific field of work. Sub-categorization is also possible and often occurs, for example when considering medical sub-communities such as medical practitioners / researchers specializing in restricted fields, nurses, paramedics, non-medical healthcare operators, etc. – all of whom share a basic common variety of EMP, overlapping one or

more further EMPs specific to each speaker's own sub-community and possibly to other communities too. It is nonetheless worth remembering that, although ESPs and EMP in particular have by now been well defined theoretically, medicine's pragmatic nature and constant developments make its language(s) very volatile, and a comprehensive categorization thereof very arduous as well as synchronically pointless. More interesting to the scope of this essay is to sketch the present situation of EMP as it appears today, with specific attention to research.

2. Lines of research in EMP

Describing the current state of the art in EMP cannot be undertaken without bearing in mind that, as seen above, EMP originated and developed as an ESP, and that ESPs flourished in English as a Foreign Language (EFL) contexts, in fact almost always implying it is only used in contexts characterized by an L1 \neq English and an L2 = English. Moreover, the fact that native Anglophone professionals in English-speaking countries commonly receive training – and later practice and communicate even internationally – in English, and that the current language of science and medicine is and is expected to remain English in the next few decades at least, it is no surprise that the didactic purpose has the leading role in EMP studies.

All the above may be easily verified as follows. Among the world's top "Life Sciences & Medicine Faculties" according to QS,² the first 14 positions are firmly held by institutions of English-speaking countries. None of these offers undergraduate courses in ESP or in medical terminology,³ although some do offer elective

² THE-QS University Ranking (2013). This company specializing in education has established itself as a leading authority in compiling annual rankings of universities worldwide, subsequently reported by major newspapers such as *The Times* (Ebner 2012) and *Repubblica* (Intravaia 2009).

³ Further confirming the Foreign Language Teaching nature of Languages for Specific Purposes, the Faculties of Medicine of two (differently) bilingual countries, the Canadian McGill University and the USA Johns Hopkins' School of Medicine, respectively offer a "French Medical Workshop" (McGill 2014) and a "Medical Spanish Course" (Johns Hopkins Medicine 2014).

courses bordering on the linguistic (“Understanding the Peer-Reviewed Literature”, Harvard Medical School 2014), the historical-philosophical (“Magic to Science”, University College London 2013), and the artistic-literary (“Medical Humanities”, Imperial College London 2012: 256-260); all include compulsory courses in doctor-patient relations and ethics. Among the first 10 non-Anglophone medical universities listed, almost all feature English as a compulsory subject in their undergraduate MD curricula, if these are not entirely taught in English.⁴ In particular, Heidelberg’s Medizinischen Fakultät informs that “Weiter ist eine gute Beherrschung der englischen Sprache unabdingbar, Lateinkenntnisse werden nicht mehr vorausgesetzt, sind aber in jedem Fall hilfreich” (2009); Korea’s Seoul National University “is also working to increase the number of courses lectured in English. Currently about 10% of our courses are instructed in English, more of which are graduate courses than undergraduate courses” (Kim 2007); the Faculties of Medicine of Sweden’s Karolinska Instituteten (2014) and Uppsala Universitet (2014a) offer fully English-taught Masters and courses, the latter going so far as to state, referring to an optional research course, that “In the case a foreign student attends the course it will be given in English” (Uppsala Universitet 2014b). The current pre-eminence of English in international communication, therefore, seems to apply particularly to professional settings, shifting the focus from the classical division into those who can and cannot ‘speak’ English to a subtler discrimination between those who can and cannot ‘work’ in English.

These considerations well explain why research in EMP to the present day has been mostly concerned with didactics, especially in non-Anglophone countries where EMP is still first and foremost an EFL branch. They also clarify why research on EMP as a subject *per se* (not for didactic purposes) first started in English-speaking countries, and has only recently become of interest in other countries too. The following paragraphs will briefly mention some of the main academic institutions devoted to EMP studies around

⁴ The few exceptions regard some universities in China and Japan. Far-East countries, nevertheless, traditionally host a flourishing private EFL industry.

the world, before presenting a synthetic outline of EMP research in Italy.

3. EMP research worldwide

The Health Communication Research Centre (HCRC) was established in 1998 at the University of Cardiff (UK), specializing in medical language and communication, from a discourse-analytical perspective deeply grounded in sociology and with a focus on doctor-patient relations. Many key publications in current EMP research stem from this institution. In particular, HCRC's Founding Director Srikant Sarangi⁵ co-edited the now 14-year old volume *Talk, Work and Institutional Order*, in which the dimensions of medical practice, mediation and management were first ambitiously brought together within a discourse-analytical framework and insisting on them being "grounded in an ethics of practical relevance" (Sarangi & Roberts 1999: 2). Many of his research projects and publications in the field of healthcare discourse concentrate on genetic counselling, thanks to two grants he received in 2000⁶ and 2004⁷ by the Wellcome Trust, the UK's largest charity funding biomedical research, among which Sarangi (2000, 2002, 2005) and Sarangi & Howell (2001). The HCRC was also involved in the editing of the specialist journal *Communication & Medicine*. In November 2013, Srikant Sarangi founded the Danish Institute of Humanities and Medicine, based at Aalborg University, Denmark. Among his most recent publications, an interesting line of research is the one dealing with genetic issues (Sarangi 2013, Arribas-Ayllon *et al.* 2011, Clarke, Sarangi & Verrier-Jones 2011, Thomassen & Sarangi 2012, Arribas-Ayllon & Sarangi 2014).

⁵ Srikant Sarangi is currently a Professor at the Department of Communication and Psychology of the University of Aalborg, Denmark.

⁶ Award-winning project: "Communicative frames in counselling for predictive testing" (The Wellcome Trust 2000).

⁷ Award-winning project: "Explanation in genetics: causality and accountability in complex disorders", with Lancaster University (The Wellcome Trust 2004).

Also on the editorial board of *Communication & Medicine*, and having worked as an NHS research consultant, Celia Roberts⁸ studies doctor-patient communication, with a focus on institutional medical settings and drawing on sociolinguistics and ethnography. Within the King College's Language & Literacy Research Group, she is currently investigating the area of discourse and disadvantage in institutions. Some of Roberts's most interesting EMP-related publications include, apart from the above-mentioned Sarangi & Roberts (1999), a research paper on communicative styles in medicine (Roberts *et al.* 2003), on multilingual healthcare workplaces (Roberts 2006), and the volume *Born and Made: An Ethnography of Preimplantation Genetic Diagnosis* (Franklin & Roberts 2006) about, but not only, "how the question of being born and made is represented, inhabited, communicated, celebrated and decried" (Franklin & Roberts 2006: xvi), and exploring the "new kinds of 'interliteracy' [that] have emerged between practitioners in diverse disciplines" (Franklin & Roberts 2006: xvii). Recently, Roberts has been focusing, among other issues, on telecare for the elderly (Roberts & Mort 2009; Milligan, Roberts & Mort 2011; Roberts, Mort & Milligan 2013; Mort *et al.* 2014).

Previously at Lancaster University (UK) and closely sharing Sarangi and Roberts' field is Christopher Candlin,⁹ currently working in Australia. His many research projects have dealt with specialized communication in general clinical practice¹⁰ and healthcare professional interpreting.¹¹ Candlin's extensive list of publications includes articles on health risk (Candlin & Candlin 2003a), on the quality of life (Jones, Candlin & Yu 2000) and on

⁸ Celia Roberts is Professor of Applied Linguistics at King's College London, UK.

⁹ Christopher Candlin is Senior Research Professor Emeritus in Linguistics at Sidney's MacQuarie University (Australia).

¹⁰ "The nature of expert communication as required for general practice – A discourse analytical study", a PhD research project carried out at the Department of Linguistics, Macquarie University, Sydney (O'Grady 2011), supervised by Candlin.

¹¹ "Health Care Interpreters & Speech Pathologists: Understanding and addressing the challenges of this professional partnership" is a project funded by a MU External Collaborative Grant with partner funding from Dept Immigration, Multicultural and Indigenous Affairs and NSW Health Care Interpreter Service (MacQuarie University, 2014).

the applied linguistics aspects of healthcare communication (Candlin & Candlin 2003b). Candlin (2000), presented as the “2000 Cardiff Lecture”, is a further reflection on the discourse of healthcare patients; Candlin (2002) investigates institutional medical discourse from the academic / didactic perspective; finally, Candlin (2006) and Moore, Candlin & Plum (2001) discuss the notion of overlapping expertises resulting in interdiscursivity, along the same lines as Roberts’ ‘interliteracy’. More recently, Candlin has dealt with nursing (Candlin & Candlin 2007, 2014) and the discourse of trust in relation to healthcare settings (O’Grady & Candlin 2013).

Also based in Oceania and in Asia, the International Research Centre for Communication in Healthcare (IRCCH) was established in July 2013, “in response to the now irrefutable evidence that communication is central to effective and safe healthcare delivery”.¹² It boasts over 70 members from universities all round the world and, though the related publications feature many studies preceding the foundation of the centre, these are likely to increase and represent a varied and interesting contribution to the field.

One of the most prolific – and longest into the subject – EMP researchers, based in Venezuela, is Françoise Salager-Meyer,¹³ Head of the Research Group on Scientific Discourse Analysis of the Faculty of Medicine (Universidad de los Andes 2006), has studied medical English at both the diachronic (Salager-Meyer 1995, 1999; Salager-Meyer, Alcaraz Ariza & Zambrano 2006) and the synchronic levels. She has looked at it through the oral and written medium (Gotti & Salager-Meyer 2006), from the viewpoint of linguistics (Salager-Meyer 1992 on modality; 1994 on genre), sociolinguistics (Salager-Meyer 2001, 2003), cross-cultural / cross-linguistic linguistics (Salager-Meyer 2005, 2007; Salager-Meyer, Alcaraz Ariza & Pabón Berbesí 2009 on medical discourse in English, French and Spanish), and has published her results across a significant number of countries in Europe and the Americas. More recent research by Salager-Meyer concentrates on a variety of

¹² As reported in the institute’s presentation online, at <http://ircch.org/in-a-nutshell/>.

¹³ Françoise Salager-Meyer is *profesora titular* of EMP and Russian at the Universidad de los Andes.

written medical genres (Salager-Meyer, Alcaraz Ariza & Pabón Berbesí 2010, 2011), including the book review (Salager-Meyer, Alcaraz Ariza & Pabón Berbesí 2007a, 2007b; Salager-Meyer, Alcaraz Ariza & Luzardo Briceño 2012), the research paper (Salager-Meyer 2012; Salager-Meyer, Alcaraz Ariza & Lewin 2014), the medical case report (Salager-Meyer, Alcaraz Ariza & Luzardo Briceño 2013a) and older texts (Salager-Meyer *et al.* 2011; Salager-Meyer, Alcaraz Ariza & Luzardo Briceño 2013b).

Another Spanish-speaking centre of EMP investigation, back in Europe though, is the Instituto Interuniversitario de Lenguas Modernas Aplicadas (IULMA), a joint initiative of the Universidad de Alicante, the Universidad Jaume I de Castellón and the Universitat de València (Spain). Founded in 2005 and currently directed by Francisca Suau Jiménez,¹⁴ it stands out as an ambitious project because it not only hosts research groups and taught courses, but also offers professional services, and not just in English and/or in one domain, but in five languages (English, Spanish, Catalan, French, German) and across a wide range of disciplines (healthcare, business, law, tourism, science / technology, etc.). One important line of investigation pursued by the “Inglés Profesional y Académico” section, formerly headed by the late Enrique Alcaraz Varo¹⁵ and now by Francisco Yus Ramos,¹⁶ is “El lenguaje de las Ciencias de la Salud” (IULMA 2014), which was also the subject of the 1st International Conference on Language and Health Care that IULMA hosted in 2007, drawing together scholars and medical practitioners from all over the world. The Proceedings from the Conference were published in 2008 and collect most of the papers presented, of which many deal with English or compare it to other languages (V.V. A.A. 2008). Other EMP-relevant publications by IULMA include Salager-Meyer, Alcaraz Ariza & Zambrano (2006, in French) on a multilingual comparison of the

¹⁴ Francisca Suau Jiménez is Associate Professor in English Language and Linguistics at the University of Valencia.

¹⁵ Enrique Alcaraz Varo (d. 2008) was *catedrático* of English philology at the Universidad de Alicante and Director of IULMA in the Comunidad Valenciana till his death in 2008.

¹⁶ Francisco Yus Ramos is *profesor titular* of English philology at the Universidad de Alicante.

book review genre, Posteguillo-Gómez & Piqué-Angordans (2007, in Spanish but with particular attention to English) on the languages of science, Alcaraz Ariza (2005) on Spanish borrowings into medical English and, to conclude, some distinguished instances of lexicographic work: Gómez (2005) on model bilingual dictionaries for translation and, especially, Alcaraz Varó, Dominguez Gil & Martinez Motos (2008)'s English-Spanish bilingual dictionary of pharmaceutical terminology. An updated bibliography is present on the IULMA's website at <http://www.iulma.es/noticia.asp?idnoticia=2232>.

Before moving on to Italy in the next paragraph, mentioning the Università della Svizzera italiana of Lugano (Switzerland) seems particularly relevant for its role as a forefront research centre in health communication studies and a non-Italian yet Italian-speaking institution, thus geographically and figuratively linking Italy to central Europe. Stemming from the Faculty of Communication Sciences, the Institute of Communication and Health (ICH)

explores the field of communication sciences for both theoretical and applied research aimed at the preservation and development of individual health, and through social and corporate programs for the promotion of health, well-being and social policies [...] [seeking] interdisciplinary integration between humanistic tradition and social sciences (ICH 2014).

Led by Peter Schulz,¹⁷ the ICH is organized into several didactic and research units, including a Center of Applied Research in Communication and a Health Care Communication Laboratory (2014), the former promoting health in the community with the help of institutional partnerships, the latter investigating theoretical issues. Differently from the other institutions mentioned above, in ICH research, English may be involved because the investigated subject is communication taking place in an English-speaking country (Rubinelli 2005), or because it involves web-based

¹⁷ Peter Schulz is *Professor for Communication Theories and Health Communication at the Faculty of Communication* of the Università della Svizzera italiana. His impressive list of publications may be viewed at <http://search.usi.ch/people/9494d34ce54c85d6c4258adca3d18706/Schulz-Peter-Johannes/publications>.

phenomena using English as a *lingua franca* (for instance, see Orizio *et al.* 2009 on on-line pharmacies), thus making English interesting as a code but not *per se*. Nonetheless, while linguistics and English are not its main objects of investigation, the Lugano institute represents a leading authority in health communication, with established connections to international partner institutions (including Cardiff University in the UK and the Università degli Studi di Brescia in Italy). The ICH numerous publications may be found on the institute's website at <http://search.usi.ch/unita-organizzative/141/Istituto-di-comunicazione-sanitaria/publicazioni>.

As it appears, major EMP research centres globally often revolve around single senior academics, who share or have shared collaborations in the past and hopefully will in the future. Many more scholars, research groups and institutions worldwide ought to be mentioned, including, in passing, the Health Language Research Group of the University of Nottingham (Chair: Paul Crawford,¹⁸ also on the board of *Communication & Medicine*), and the University of Helsinki's project "Scientific thought-styles: the evolution of English medical writing" (University of Helsinki 2012); the above selection was made limited and according to the purposes of the present paper.

Most of the above research centres and institutes are connected through a network of academic relations aimed at consolidating methodologies and exchanging insights into the field of medical communication. One relevant outcome of this international research network is the Conference on Communication, Medicine and Ethics (COMET), which started out in 2003 at Cardiff (UK), and went on to become an annual appointment for all those interested in healthcare communication. The ICH very recently hosted the 12th COMET conference in Lugano, Switzerland, in June 2014; the next meeting will be in Hong Kong in 2015.

¹⁸ Paul Crawford is Professor in Health Humanities at the University of Nottingham.

4. EMP research and teaching in Italy¹⁹

A necessary premise to any outline of EMP research in Italy is that, in fact, the country boasts a long tradition of studies on domain-specific – at large – and medical – in particular – English terminology, at least in the fields of English literature (suffice it to mention the wide literature existing on Shakespeare and medicine (see, e.g., Simpson 1959, or the more recent Hoeniger 1992) and history of English (e.g. Gotti 1996, Dossena 2001, Lonati 2002, Gotti 2008, Iamartino forthcoming). It is no surprise, then, that many Italian EMP scholars developed an interest in the subject having, as they do, a historical linguistics or literature background – the other driving stimulus being, of course, didactics.²⁰

Textbooks and manuals designed specifically with medical students in mind abound. To name but a few, Webber & Cichello (1985) was a pioneer handbook developed for and used by undergraduates at the programmes in Medicine of Sapienza – Università di Roma; Bettinelli, Carlini & Catenaccio (2005) and Bettinelli, Catenaccio & Beatty (2006) are a more recent two-volume manual, tailored to suit the Italian reformed university curriculum; and so is Mungra (2004, 2010), elaborated by a linguist with long EMP teaching experience, who knows very well the difficulty of reconciling the “august body’s”²¹ academic requirements with those of “the most Anglophobic medical student” (Mungra 2004: ix). Based at the Università Vita San Raffaele, Milan, with its own teaching hospital, Michael John has published an EMP textbook especially designed for students of medicine (2006).

¹⁹ All information about the academic affiliation and status of Italian scholars was retrieved from the Italian Ministry of Education, Universities and Research’s database <http://cercauniversita.cineca.it/php5/docenti/cerca.php>, last consulted on 10 July 2014.

²⁰ In fact, historical studies on the language of medicine do exist. However, given the different types of publications that can host them, it would take a detailed search to retrieve them all. Three of the contributions in this volume (Baseotto, Mullini and Lonati) try to bridge this gap with insights into historical-linguistic and historical-cultural studies on medicine.

²¹ The “body” being Italy’s Permanent Council of the Heads of Medicine Degree Programmes.

Leaving the strictly didactic dimension, the major and possibly oldest centre specializing in ESP research in Italy is the Centro di Ricerca sui Linguaggi Specialistici (CERLIS), based at the Università di Bergamo. Founded in 1999, it has investigation, the exchange and collection of research material and the creation of didactic material among its purposes. Directed by Maurizio Gotti,²² it brings together experts in various languages and professional domains, coming from a number of North Italian universities. The languages of law, business and economics are the main LSPs studied at CERLIS, although scientific discourse is also well represented,²³ for instance in much of Gotti's own research (Gotti 1996; Gotti & Salager-Meyer 2006), in Dossena (2001), in Garzone & Viezzi (2001). EMP, in particular, was interestingly investigated at CERLIS by Gotti as a co-editor of the above-mentioned recent collection entirely dedicated to medical discourse (Gotti & Salager-Meyer 2006). Other CERLIS scholars who published in the field are Davide Simone Giannoni,²⁴ comparing English and Italian journal editorials (2008a), describing biomedical laboratories narratives (2008b), studying evaluation, popularization and impoliteness in journal editorials (2011 and 2012), and Stefania Maci,²⁵ who has especially investigated medical genres, their variations and popularization (2008, 2011, 2012a, 2012b, 2012c, 2012d, 2012e, 2014). Also a member of CERLIS, Giuliana Garzone, too, who has long investigated legal English, has recently published on genre variation in medical communication (2011). Noticeably, the most recent CERLIS conference (Bergamo, June 2014) was entirely dedicated to “the language of medicine: science, practice and academia”.²⁶

²² Maurizio Gotti is *professore ordinario* in English language and translation at the Università di Bergamo.

²³ See the CERLIS Publications' section on “Scientific Discourse” (CERLIS 2014).

²⁴ Davide Simone Giannoni is *professore associato* in English language and translation at the Università degli Studi di Bergamo.

²⁵ Stefania Maria Maci is *ricercatore* in English language and translation at the Università degli Studi di Bergamo.

²⁶ The CERLIS 2014 Conference's webpage, <http://dinamico.unibg.it/cerlis/page.aspx?p=263>.

Italy does not currently seem to feature another research centre as comprehensive and specialized in ESP as the CERLIS, although its multidisciplinary nature necessarily decreases its focus on EMP. Other smaller but more EMP-specific research units and groups, sometimes not even officially established as such, or made up of individual or few scholars, are spread throughout Italy, often working unaware of each other, for want of a comprehensive EMP network of relations. In the north of Italy, since 2006, the Università di Milano has hosted a small research unit led by Giovanni Iamartino,²⁷ made up of scholars from the former Faculties of Arts and Humanities and Medicine, and cooperating with the Università dell'Insubria. Working on the ideological, ethical and emotional aspects of English medical discourse, this group has been looking at the evolving multimodal aspects of the subject, applied to web-based genres and in institutional communication (Vicentini 2008a, 2008b; Grego 2008, 2010; Grego & Vicentini 2009, 2011, forthcoming), and at specialized lexicography (Vicentini *et al.* 2012; Vicentini, Grego & Russo 2013). The Milan EMP research unit, in collaboration with the universities of Palermo and Foggia, has organised three conferences entirely focusing on EMP,²⁸ with various publications ensuing, including those in Loiacono, Iamartino & Grego 2011a and in the present volume.

Rome represents central Italy's and the whole country's largest multicampus, with four different universities offering undergraduate medicine programmes. The oldest and largest of them, Sapienza – Università di Roma, currently hosts six programmes altogether, each of which has its own three- or five-year (out of the curricular six years) EMP course. In fact, EMP

²⁷ Giovanni Iamartino is *professore ordinario* in English language and translation at the Università degli Studi di Milano, and taught EMP at the Faculty of Medicine of the same institution for several years.

²⁸ "Globalization, the English Language Leader Value in Medical-Scientific Literature", International School of Medical, Ettore Majorana Centre for Scientific Culture, Erice, 13 November 2007; "L'insegnamento dell'inglese nelle Facoltà di Medicina e Chirurgia: problemi e prospettive", Università degli studi Palermo, Facoltà di Medicina e Chirurgia, Palermo, 29-30 June 2009; "Teaching Medical English: Methods and Models", Dipartimento di Scienze Mediche e del Lavoro, University of Foggia, Foggia and Bari, 28-30 April 2010.

lecturers Pauline Webber and Tracie Dornbusch²⁹ were two of the very few linguists in Italy actually working permanently and full-time for a medical faculty. In addition to publishing her 1985 manual, Webber also investigated various medical genres, focusing on the historical development of letters to the editor (1996a), the use of metaphors in medical abstracts (1996b), and spoken vs. written author interaction (2005). At Rome's programme in Medicine of the Università Cattolica del Sacro Cuore, EMP courses used to be managed, prior to her retirement, by Maria Ibba,³⁰ the author of two relevant texts. Ibba (1988) is a classical student manual, divided into ten units for classroom- or self-study; it is however introduced by an essay correctly addressing key issues in EMP – such as definition problems (general vs. specific English), didactic problems (specialist-linguist vs. linguist-specialist), linguistic bases (generativism vs. functionalism) and theoretical approaches (from structuralism to sociolinguistics to discourse analysis) – with argumentations that, considering it dates back to 1988, could be said to have proved successful to this day. Ibba (1994), conversely, is a collection of papers about “ricerca ed esperienza didattica” in biomedical English that, while being one of the few Italian attempts at bringing together both linguists and doctors at the academic level, remains focused on the didactic dimension of EMP alone.

The south of Italy also hosts a widespread EMP research scene. A contributor to Ibba (1994), Maria D'Albora Calabrese,³¹ now also retired, used to be one of the few scholars working for both a faculty and a department in the medical-scientific field at the Seconda Università degli Studi di Napoli, and is herself the author of two EMP handbooks (1979, 1987). Franca Daniele³² authored a terminology textbook (1999), a *Handbook of Scientific English*

²⁹ Both now retired, Pauline Webber was *professore associato* in English language and translation. Tracie Dornbusch was a *ricercatore* in English language and translation, teaching EMP at the Latina campus.

³⁰ Maria Ibba was *professore associato* in English language and translation at the Università Cattolica del Sacro Cuore.

³¹ Maria D'Albora Calabrese was *professore associato* in English language and translation at the Seconda Università degli Studi di Napoli.

³² Franca Daniele is *ricercatore* in English language and translation at the Università degli Studi “Gabriele d'Annunzio” di Chieti-Pescara.

(2000), and is currently editing, with Giuliana Garzone of the Università degli Studi di Milano, a volume on science – including EMP – popularisation (Daniele & Garzone forthcoming). At Foggia's and Bari Medicine programmes, Anna Loiacono³³ published about ESP, genres and translation (1989, 2006, 2012a), teaching English to students of medicine (Loiacono, Iamartino & Grego 2011b), and various EM textbooks (Loiacono 2012b, 2013). Maria Grazia Guido³⁴ wrote very specific works about the genre-hybridization (2002), the discourse of post-traumatic stress disorder (2006a) and the translation of scientific discourse (1999, 2006b). The Università degli Studi di Palermo hosts a number of scholars who research and teach English for the Healthcare Professions. Barbara Cappuzzo³⁵ investigated various lexical aspects of medical English and Italian (2004, 2008a, 2008b, 2010), didactic (2011) and syntactic aspects (2013), and even Chinese-to-English terminology (2009). Tatiana Canziani,³⁶ also a psychologist, wrote on dyslexia in an Italian-English perspective (2005), co-authored a volume on ESP (Canziani & Canciamilla 2005), introduced terminology issues in EMP (2007, forthcoming), studied eponyms in EMP (2011) and deals with English medical acronyms in this volume; she furthermore co-authored works on medical lexicography (Mungra & Canziani 2011, 2013). Marianna Zummo³⁷ also contributed various works, especially, in the past few years, on doctor-patient interaction (2011, 2012a, 2012b, 2012c).

Many more texts and researchers might have been included in this review; those that were omitted were left out due to the very synthetic nature of the present outline; some may have been

³³ Anna Loiacono is *professore associato* in English language and translation at the Università degli Studi di Foggia and Bari.

³⁴ Maria Grazia Guido is *professore ordinario* in English language and translation at the Università del Salento.

³⁵ Barbara Cappuzzo is *ricercatore* in English language and translation at the Università degli Studi di Palermo, and teaches EMP at the Programme in Sport and Exercise Science.

³⁶ Tatiana Canziani is *ricercatore* in English language and translation at the Università degli Studi di Palermo, and teaches EMP at the Programme in Medicine.

³⁷ Marianna Lya Zummo is *ricercatore* in English language and translation at the Università degli Studi di Palermo.

unwillingly overlooked; none were ignored. The subject could also be observed from more perspectives: the relationship between EMP and genres has been hinted at above but, for example, it would be interesting to further investigate bilingual and multilingual translation of EMP discourse. Sociolinguistic aspects, too, would deserve a whole chapter (possibly a book) of their own; the hybridization of specialized and popular language can be used to conclude this overview by exemplifying one of many possible lines of research in medical English. Chiaro (2008) observes this trend from the viewpoint of Humour Studies (Giannoni 2007 also contributes a reflection along similar lines), in a paper on the well-known *House M.D.* TV series. The protagonist is (in)famous for his sharp, politically incorrect remarks: although no one would wish to become the target of Dr House's scathing sarcasm, most would laugh at it being directed at others, and everyone would welcome his diagnostic skills in case of falling victim to a mysterious illness. In the series, serious (containing specialized language) and humorous moves alternate, even in the doctors' own speech:

most VEH [verbally expressed humour] occurs in utterances that followed or else are preceded by 'serious' utterances, in the sense that they are totally intertwined within the surrounding dialogue which remains unmarked (Chiaro 2008: 114).

In fact, doctors use humorous (non-specialized) utterances to reformulate medical concepts for the benefit of the patient / spectator: a plain-English campaign, just cunning professional screenwriting, or an exaggerated representation of a real trend in the medical profession? Both medical and linguistic experts – for professional, sociological, linguistic or didactic purposes alike – could attempt to answer this sample research question in EMP; a joint effort would probably issue the best results.

5. Present trends, future developments

Two diverging trends seem to emerge from this short overview: while in the countries where EMP research started later this is still being tailored to the local needs, where it has long been studied it is

already moving on to a different stage, undergoing a process of hybridization that is reshaping it into an altogether new (different?) field.

Starting from the hybridizing end, there noticeably are studies on English for Medical Purposes – in English or in other languages – and studies on health communication in any language – presented in English. Sometimes these overlap, more often they do not. Although EMP can be investigated from various perspectives (didactic, linguistic, sociolinguistic, etc.), for linguists English and the specialized purpose with which it is used cannot be a mere accident, serve only as an instrumental code: they must remain the main objective of research. Certainly, when dealing, for instance, with health communication in an English-language setting, the analysed data and the analysis itself would be expected to be in English; therefore, a study of this type might be listed by some as an EMP study. However, what is being argued here is that, unless the specialized language purpose is clear in the research and informs it at all times, this remains a study in communication, or sociology, or marketing – or a mix of them – carried out on a health issue, using English. This would not be in contrast with or taking the place of EMP research; it would merely represent something different. There is already a field accounting for this sort of instances: it is Medical Humanities, the evolution of the past decades of studies on biomedical ethics and doctor-patient or science-humanities interaction, and it can already count on several departments or research centres, undergraduate and postgraduate university programmes, literature and journals worldwide.³⁸ Possibly, Medical Humanities can include linguistics, as one tool serving the purposes of both fields.

At the other end of the continuum, there are the usually non-English speaking countries and contexts in which medical English's first role is still a didactic one. Italy is one of these, though instances of original if discontinuous research in the subject have

³⁸ Some examples are: The Centre for Medical Humanities of Durham University (UK); the "Corso Postdiploma in Medical Humanities" of the Fondazione Corbaro, in partnership with the Universities of Insubria (Italy) and Geneva (Switzerland) in Bellinzona (Switzerland); the department of Medical Humanities of the East Carolina University (USA); the BMJ's publication *Medical Humanities*.

existed for several decades now and have flourished into an internationally renowned centre (CERLIS), minor research groups, and a moderate – but increasing in quantity and quality – production of relevant literature. The didactic dimension is hardly a lesser aspect in EMP research: it was the initial driving force of the discipline worldwide, including the English-speaking countries and, as its objective is far from having been reached, it is only expected to maintain its unquestioned key role in research. Nonetheless, even in these countries, the new global trends – like the advent of the 2.0 media, the rise of the new variety of ELF (e.g. Seidlhofer 2004), or the above sociological process of closer collaboration between the humanities and science, especially in biomedicine – cannot be ignored. The Italian university system has long embraced change by introducing, several years ago, English in undergraduate medical curricula as a compulsory subject, as well as many novel healthcare-related programmes beside medicine (nursing, biotechnologies, etc.). EMP researchers, on their part, are also called to meet these evolutionary needs. To make just one example, English for Medical Purposes could be renamed English for Healthcare Purposes (EHP) to adapt to the new degree programmes – could English for Health Humanities Purposes (EHHP) be introduced for the new field? While the former is a serious proposal, the latter is closer to a mild provocation, though it is always worth remembering (a) the utilitarian nature of LSPs (they serve their users, not the opposite) and (b) that new acronyms must correspond to new theoretical formulations in order not to prove meaningless. The deeply-rooted connection of LSPs to their respective professional settings has always been their strength; it can be their demise if such professional settings evolve and their own special languages do not. To prevent this, and with an eye to more advanced research contexts, it is only advisable to achieve closer cooperation between linguists and between linguists and healthcare operators, as well as newer and stronger partnerships between the academic and the professional world.

References

- Alcaraz Ariza, M.Á. 2005, "Medical English: A short study of Spanish borrowings", *Lebende Sprachen*, 2, pp. 58-61.
- Alcaraz Varó, E., A. Dominguez Gil & R. Martinez Motos 2008, *Diccionario terminológico de las ciencias farmacéuticas*, Editorial Ariel, Barcelona.
- Arribas-Ayllon, M. & S. Sarangi 2014, "Counselling uncertainty: Genetics professionals' accounts of nondirectiveness and trust / distrust", *Health, Risk and Society*, 16: 2, pp. 161-174.
- Arribas-Ayllon, M., S. Sarangi & A. Clarke 2011, *Genetic Testing Accounts of Autonomy, Responsibility and Blame*, Routledge, London.
- Bettinelli, B., N. Carlini & P. Catenaccio 2005, *English for Medicine*, vol. 1, Hoepli, Milano.
- Bettinelli, B., P. Catenaccio & K. Beatty 2006, *English for Medicine*, vol. 2, Hoepli, Milano.
- Bhatia, V. 2002, "LSP and professional practice", in M. Gotti, D. Heller and M. Dossena (eds), *Conflict and Negotiation in Specialized Texts*, Peter Lang, Bern, pp. 41-57.
- Candlin, C.N. & S. Candlin (eds) 2003a, "Discourse, expertise and the management of risk", Special Issue of *The Journal of Research on Language & Social Interaction*, 35: 2.
- Candlin, C.N. & S. Candlin 2003b, "Healthcare communication as a problematic site for applied linguistic research", *Annual Review of Applied Linguistics*, 23, pp. 134-154.
- Candlin, C.N. 2000, *The Cardiff Lecture 2000: New Discourses of the Clinic Rediscovering the Patient in Healthcare*, Cardiff, Cardiff University, University of Wales Press, pp. 1-23, also available at <http://www.caerdydd.ac.uk/encap/resources/cardifflecture2.pdf>.
- Candlin, C.N. 2002, "Medical discourse as professional and institutional action: Challenges to teaching and researching languages for special purposes", in M. Bax and J.-W. Zwart (eds), *Reflections on Language and Language Learning. In honour of Arthur van Essen*, John Benjamins, Amsterdam, pp. 185-207.
- Candlin, C.N. 2006, "Accounting for interdiscursivity: Challenges to professional expertise", in M. Gotti and D.S. Giannoni (eds), *New Trends in Specialized Discourse Analysis*, Peter Lang, Bern.
- Candlin, S. & C.N. Candlin 2007, "Nursing over time and space: Some issues for the construct 'community of practice'", in R. Iedema (ed.), *The Discourse of Hospital Communication*, Palgrave Macmillan, Basingstoke.
- Candlin, S. & C.N. Candlin 2014, "Presencing in the context of enhancing patient well-being in nursing care", in H. Hamilton and S. Chou (eds), *The Routledge Handbook of Language & Health Communication*, Routledge, London.

- Canziani, T. & G. Canciamilla 2005, *English for specific purposes*, Carbone, Palermo.
- Canziani, T. 2005, "Un disturbo dell'apprendimento: la dislessia nella lingua italiana e nella lingua inglese", *Acta Paediatrica Mediterranea*, 21, pp. 89-93.
- Canziani, T. 2007, *I linguaggi specialistici: la lingua inglese ed il Medical English*, in F. Canziani, *Manuale di psichiatria infantile*, Carbone, Palermo, pp. 399-411.
- Canziani, T. 2011, "The status of medical eponyms: Advantages and disadvantages", in A. Loiacono, G. Iamartino and K. Grego (eds), pp. 221-234.
- Canziani, T. forthcoming, "Lexical verbs in a medical wordlist: A linguistic description in a didactic perspective", in F. Daniele and G. Garzone (eds).
- Cappuzzo, B. 2004, "Aspetti del lessico specialistico medico: italiano e inglese a confronto", in *ARCO-JOURNAL online*, pp. 1-15, http://www.arcojournal.unipa.it/pdf/cappuzzo_24_1_04.pdf.
- Cappuzzo, B. 2008a, "Calques and loanwords from English in Italian specialized press. An investigation on the names of sports", *Journal of Sport Sciences and Law*, I: 1, sez. 1, pp. 129-139, available at <http://www.rivista.scienze motorie.unipa.it>.
- Cappuzzo, B. 2008b, "Eponyms or descriptive equivalent terms? The question of scientific accuracy in medical discourse", in L. Auteri (ed.), *Esercizi. Miscellanea del Dipartimento di Scienze filologiche e linguistiche*, II, Luxograph, Palermo, pp. 25-35.
- Cappuzzo, B. 2009, "The translation of Chinese medical terms into English. Linguistic considerations on the language of TCM", *Journal of Sport Sciences and Law*, II: 3, sez. 1, pp. 49-60, available at <http://www.rivista.scienze motorie.unipa.it>
- Cappuzzo, B. 2010, "Patterns of use of english synonymous medical terms: The case of disease and illness. A corpus-based study", *Journal of Sport Sciences and Law*, III: 1, sez. 1, pp. 19-40, available at <http://www.rivista.scienze motorie.unipa.it>.
- Cappuzzo, B. 2011, "Medical English textbooks for Italian university students. do they meet the MIUR educational instructions about scientific English learning? Three works under investigation", in A. Loiacono, G. Iamartino and K. Grego (eds), pp. 299-311.
- Cappuzzo, B. 2013, "Virtual medical communication in English. A corpus-based analysis of inclusive we, us and our in the intercultural clinical log", *Textus*, issue on "The Use of English in Intercultural Professional Settings: Virtual Encounters and Identities", ed. by R. Salvi and W. Cheng, XXVI: 1, pp. 161-171.
- CERLIS 2014, "Linguaggio scientifico", available at <http://dinamico.unibg.it/cerlis/page.aspx?p=67#Scientifico>.

- Chiaro, D. 2008, "The games doctors play: Humour talk revisited", in M. Bertucelli Papi, A. Bertacca and S. Bruti (eds), *Threads in the Complex Fabric of Language. Linguistic and Literary Studies in Honour of Lavinia Merlini Barbaresi*, Felici, Ghezzano, Pisa.
- Clarke, A., S. Sarangi & K. Verrier-Jones 2011, "Voicing the lifeworld: Parental accounts of responsibility in genetic consultations for polycystic kidney disease", *Social Science & Medicine*, 72: 11, pp. 1743-1751.
- D'Albora Calabrese, M. 1979, *A Rapid Course in English for Medical Students*, St.I.L.T.E., Barra, Napoli.
- D'Albora Calabrese, M. 1987, *Readings in English for Medical Students*, Zanichelli, Bologna.
- Daniele, F. & G. Garzone forthcoming, *Medical English: Communicating Science, Popularizing Science*, Piccin, Roma.
- Daniele, F., 1999, *Body Words*, Pierrecongress, Pescara.
- Daniele, F., 2000, *Handbook of Scientific English*, Pierrecongress, Pescara.
- Dossena, M. 2001, "For the advancement of the commonwealth: Hypotheses in Scots scientific discourse of the 16th-17th centuries. A preliminary investigation", *Scottish Language*, 20, pp. 47-65.
- Ebner, S. 2012, "The QS rankings of the top 100 universities in the world", 11 September 2012, available at <http://www.thetimes.co.uk/tto/education/gooduniversityguide/article3534270.ece>, last consulted on 10 July 2014.
- Franklin, S. & C. Roberts 2006, *Born and Made: An Ethnography of Preimplantation Genetic Diagnosis*, Princeton University Press, Princeton and Oxford.
- Garzone, G. & M. Viezzi, 2001, *Comunicazione specialistica e interpretazione di conferenza*, EUT, Trieste.
- Garzone, G. 2011, "Rethinking genres in medical communication: Theoretical issues and pedagogical implications", in A. Loiacono, G. Iamartino and K. Grego (eds), pp.105-131.
- Giannoni, D.S. 2007, "Popularizing features in English journal editorials", *English for Specific Purposes*, 27: 2, pp. 212-232.
- Giannoni, D.S. 2008a, "Medical writing at the periphery: The case of Italian journal editorials", *Journal of English for Academic Purposes*, special issue on "English for Research Publication Purposes", ed. by M. Cargill and S. Burgess, 7: 2, pp. 97-107.
- Giannoni, D.S. 2008b, "Biomedical laboratory narratives: Linguistic and disciplinary traits", in M. Solly, M. Conoscenti and S. Campagna (eds), *Verbal / Visual Narrative Texts in Higher Education*, Peter Lang, Bern, pp. 73-88.
- Giannoni, D.S. 2011, "'Don't be stupid about intelligent design': Confrontational impoliteness in medical journal editorials", in F. Salager-Meyer and B. Lewin (eds), *Crossed Words: Criticism in Scholarly Writing*, Peter Lang, Bern, pp. 79-98.

- Giannoni, D.S. 2012, "Evaluation and Popularisation in journal editorials: Medicine vs applied linguistics", in M. Gotti (ed.), *Academic Identity Traits: A Corpus-Based Investigation*, Peter Lang, Bern, pp. 173-186.
- Gómez, A. 2005, "Specialized bilingual dictionaries for translators. Some considerations for a user-oriented approach", *Revista Alicantina de Estudios Ingleses*, 18, pp. 71-83.
- Gotti, M. & F. Salager-Meyer (eds) 2006, *Advances in Medical Discourse Analysis: Oral and Written Contexts*, Peter Lang, Bern.
- Gotti, M. 1996, *Robert Boyle and the Language of Science*, Guerini, Milano.
- Gotti, M. 2003, *Specialized Discourse. Linguistic Features and Changing Conventions*, Peter Lang, Bern.
- Gotti, M. 2005, *Investigating Specialized Discourse*, Peter Lang, Bern.
- Gotti, M. 2008, "Developments in Medical Discourse in Early Modern English", in J. Douthwaite & D. Pezzini (eds), *Words in Action*, ECIG, Genova, pp. 92-105.
- Grego, K. 2008, "Medical English and institutional communication: Linguistic accessibility to ethically-sensitive topics in national health systems' websites – UK vs. USA", in M.A. Campos Pardillos and A. Gómez González-Jover (eds), *Proceedings of the 1st International Conference on Language and Healthcare, Alicante, Spain, 24-26 October 2007*, IULMA, Alicante, electronic edition.
- Grego, K. 2010, "The headache from Hell: www.aspirin.com between marketing and science communication", *Rassegna italiana di linguistica applicata*, monographic issue on "Specialised Usages of English in Economic and Business Contexts", ed. by P. Kennan and P. Tornaghi, 42, pp. 141-158.
- Grego, K. & A. Vicentini 2009, "Building South African web identity: Health care information for citizens vs. foreigners", in G. Garzone and P. Catenaccio (eds), *Identities across Media and Modes: Discursive Perspectives*, Peter Lang, Bern, pp. 137-162.
- Grego, K. & A. Vicentini 2011, "Holiday dialysis in Italy on the Web: Multidimensional hybridization in institutional healthcare communication", in S. Sarangi, V. Polese & G. Caliendo (eds), *Genres on the Move. Hybridization and Discourse Change in Specialized Communication*, ESI, Napoli, pp. 393-406.
- Grego, K. & A. Vicentini forthcoming, "The revolution of devolution. Issues of multilingualism in Italian public healthcare websites", in F. Daniele and G. Garzone.
- Guido, M.G. 1999, *Processi di analisi e traduzione del discorso scientifico-settoriale inglese: un modello psicopedagogico*, Armando, Roma.
- Guido, M.G. 2002, "Scientific rivalry on the human genome: A case study on genre hybridization", in M. Gotti, D. Heller and M. Dossena (eds), *Conflict and Negotiation in Specialized Texts*, Peter Lang, Bern, pp. 363-386.

- Guido, M.G. 2006a, "The discourse of post-traumatic stress disorder: Specialized-genre conventions vs. West African refugees' Narrative Representations", in M. Gotti and F. Salager-Meyer (eds), pp. 87-110.
- Guido, M.G. 2006b, "Intercultural issues in the translation of popular scientific discourse: A case study on 'nutrigenomics'", in M. Gotti and S. Sarcevic (eds), *Insights into Specialized Translation*, Peter Lang, Bern, pp. 213-234.
- Harvard Medical School 2014, "Understanding the peer-reviewed literature", available at <http://medcatalog.harvard.edu/courselist.aspx?cl=elective &group=48&subject=Literature%20and%20Medicine>, last consulted on 10 July 2014.
- Health Care Communication Laboratory 2014, "Mission", available at <http://www.hcc-lab.com.usi.ch>, last consulted on 10 July 2014.
- Hoener, F.D. 1992, *Medicine and Shakespeare in the English Renaissance*, University of Delaware Press, Newark.
- Iamartino, G. forthcoming, "Translators as wordsmiths: Lexical innovations in Harvey's *De Motu Cordis* in English", in M. Sturiale, C. Nocera and G. Iamartino (eds), *English Words in Time*, Polimetrica, Monza.
- Ibba, M. 1988, *L'inglese della medicina*, Vita e pensiero, Milano.
- Ibba, M. 1994, *L'inglese delle scienze biomediche nel contesto accademico*, La Scuola, Brescia.
- ICH 2014, "Institute", available at <http://www.ich.com.unisi.ch/en/istituto.htm>.
- Imperial College London 2012, "Intercalated BSc courses 2013/2014", pp. 256-260, available at <http://www1.imperial.ac.uk/resources/EEE02031-71E9-4AB3-8A15-B5678A25EC3D/>, last consulted on 25 April 2009.
- Intravaia, S. 2009, "Università, l'Italia retrocede nella top 200 un solo ateneo", in *Repubblica*, 14 febbraio 2009, p. 25, also available at <http://ricerca.repubblica.it/repubblica/archivio/repubblica/2009/02/14/universita-italia-retrocede-nella-top-200.html>, last consulted on 10 July 2014.
- IULMA 2014, "El lenguaje de las ciencias de la salud", outline available at <http://www.iulma.es/noticia.asp?idnoticia=470>.
- John, M. 2006, *English for the Medical Profession*, Masson, Milano.
- Johns Hopkins Medicine 2014, "Medical Spanish course offerings", available at <http://www.hopkinsmedicine.org/som/Courses/MedicalSpanish>, last consulted on 10 July 2014.
- Jones, R.H., C.N. Candlin & K.K. Yu 2000, *Culture, Communication and Quality of Life of People Living with HIV/AIDS in Hong Kong*, The AIDS Trust Fund and Centre for English Language Education & Communication Research, City University of Hong Kong, Hong Kong.
- Karolinska Institutet 2014, "Global Master's programmes", available at <http://ki.se/en/education/global-masters-programmes>, last consulted on 10 July 2014.

- Kim, W.J. 2007, "Key directions of transformation of SNU", 31 October 2007, available at <http://www.useoul.edu/academic/aca0701.jsp>, last consulted on 25 April 2009.
- Loiacono, A. 1989, *English for Business and Economics: A Linguistic Survey*, no publisher, no place.
- Loiacono, A. 2006, *Traduttologia: storia e critica della traduzione dal 1975 al 1990*, Adriatica, Bari.
- Loiacono, A. 2012a, "Medical genres in socio-political communication: Overcoming gaps", in M. Cambria, C. Arizzi and F. Cocchetta (eds), *Web Genres and Web Tools: With Contributions from The Living Knowledge Project*, IBIS, Como, pp. 81-100.
- Loiacono, A. 2012b, *Medical Communication: Systems and Genres*, IBIS, Como.
- Loiacono, A. 2013, *A Virtual Hospital for Medical English: Multimodal Sequence-Based Text Studies*, IBIS, Como.
- Loiacono, A., G. Iamartino & K. Grego (eds) 2011a, *Teaching Medical English. Methods and Models*, Polimetrica, Monza.
- Loiacono, A., G. Iamartino & K. Grego 2011b, "Teaching medical English. An introduction", in A. Loiacono, G. Iamartino and K. Grego (eds), pp. 21-27.
- Lonati, E. 2002, "Scienza medica e tradizione enciclopedica nell'Inghilterra del Settecento: testi a confronto", *Mots Palabras Words*, 2, LED, Milano, pp. 29-59, available at: <http://www.ledonline.it/mpw/allegati/mpw0202lonati.pdf>, last consulted on 10 July 2014.
- Maci, S. 2008, "The research letter: An emerging medical genre", in G. Di Martino, V. Polese and M. Solly (eds.), *Identity and Culture in English Domain-specific Discourse*, Edizioni Scientifiche Italiane, Napoli, pp. 367-39.
- Maci, S. 2011, "Genre variation in medical discourse: The case of medical posters", in S. Sarangi, V. Vanda and G. Caliendo (eds), *Genres on the Move. Hybridization and Discourse Change in Specialized Communication*, ESI, Napoli, pp.169-190
- Maci, S. 2012a, "Fast-track publications: The genre of medical research letters", in M. Gotti (ed.), *Academic Identity Traits*, Peter Lang, Bern, pp. 243-262.
- Maci, S. 2012b, "Medical discourse from a quantitative perspective. The case of poster abstracts", in F. Dalziel, S. Gesuato and M.T. Musacchio (eds), *A Lifetime Of English Studies*, Il Poligrafo, Padova, pp. 217-229.
- Maci, S. 2012c, "Poster makers should think as much about show business as science. the case of medical posters in a diachronic perspective", in G. Garzone, P. Catenaccio and C. Degano (eds), *Genre Change in the Contemporary World*, Peter Lang, Bern, pp. 77-98.
- Maci, S. 2012d, "The discussion section of medical research articles: A cross cultural perspective", in M. Gotti (ed.), *Academic Identity Traits*, Peter Lang, Bern, pp. 95-119.

- Maci, S. 2012e, "The genre of medical conference poster", in M. Gotti (ed.), *Academic Identity Traits*, Peter Lang, Bern, pp. 283-301.
- Maci, S. 2014, "Institutional popularization of medical knowledge: The case of pandemic influenza A H1N1", in G. Caliendo and G. Bongo (eds), *The Language of Popularization: Theoretical and Descriptive Models / Die Sprache der Popularisierung; teoretische und deskriptive Modelle*, Peter Lang, Bern, pp. 165-190.
- Macquarie University 2014, Department of Linguistics, Centre for Language in Social Life, "Health care interpreters & speech pathologists: Understanding and addressing the challenges of this professional partnership", project outline available at http://www.mq.edu.au/about_us/faculties_and_departments/faculty_of_human_sciences/linguistics/linguistics_research/az_research_list/speech_pathology_research/.
- McGill University 2014, "French Medical Workshop Information", available at <http://www.mcgill.ca/ugme/curriculum/french-medical-workshop/>, last consulted on 10 July 2014.
- Medizinischen Fakultät Heidelberg 2009, "Hinweise für Studienplatzbewerber", available at <http://www.medizinische-fakultaet-hd.uni-heidelberg.de/Hinweise-fuer-Studienplatzbewerber.2326.0.html>, last consulted on 25 April 2009.
- Milligan, C., C. Roberts & M. Mort 2011, "Telecare and older people: Who cares where?", *Social Science and Medicine*, 72: 3, pp. 347-354.
- Moore, A., C.N. Candlin & G. Plum 2001, "Making sense of viral load: One expert or two?", *Culture, Health & Sexuality*, 3, pp. 429-450.
- Mort M., C. Roberts, J. Pols, M. Domenech, I. Moser & The EFORTT investigators 2014, "Ethical implications of home telecare for older people: A framework derived from a multi-sited participative study", *Health Expectations*, 6 August 2013.
- Mungra, P. 2004, *Reading skills in medical English*, Delfino, Roma.
- Mungra, P. 2010, "Teaching writing of scientific abstracts in English: CLIL methodology in an integrated English and Medicine course", *Ibérica*, 20, pp. 151-166.
- Mungra, P. & T. Canziani 2011, "A lexicographic study: Medical vocabulary in use", in G. Di Martino, L. Lombardo and S. Nuccorini (eds), *Papers from the 24th AIA Conference – Challenges for the 21st Century: Dilemmas, Ambiguities, Direction*, Edizioni Q, Roma, pp. 593-601.
- Mungra, P. & T. Canziani 2013, "Lexicographic studies in medicine: Academic Word List for clinical case histories", *Ibérica*, 25, pp. 39-62.
- O'Grady, C. & C.N. Candlin 2013, "Engendering trust in a multi-party consultation involving an adolescent patient", in C.N. Candlin and J. Crichton (eds), *Discourses of Trust*, Palgrave Macmillan, Basingstoke.

- O'Grady, C. 2011, "The nature of expert communication as required for general practice – A discourse analytical study", PhD thesis, Department of Linguistics, Macquarie University, Sydney, outline available at http://www.mq.edu.au/about_us/faculties_and_departments/faculty_of_human_sciences/linguistics/linguistics_research/a-z_research_list/medical_expert_communication/, last consulted on 10 July 2014.
- Orizio, G., P.J. Schulz, S. Domenichini, L. Calmi, C. Rosati, S. Rubinelli & U. Gelatti 2009, "Cyberdrugs: A cross sectional study of online pharmacies characteristics", *European Journal of Public Health*, 16, pp. 1-3.
- Posteguillo-Gómez, S. & J. Piqué-Angordans 2007, "El lenguaje de las ciencias médicas: comunicación escrita", in E. Alcaraz Varó, J. Mateo Martínez and F. Yus Ramos (eds), *Las lenguas profesionales y académicas*, Ariel, Barcelona, pp. 167-178.
- Roberts, C. & M. Mort 2009, "Reshaping what counts as care: Older people, work and new technologies", *ALTER: European Journal of Disability Research*, 3: 2, pp. 138-158.
- Roberts, C. 2006, "Continuities and discontinuities in doctor-patient consultations in a multilingual society", in M. Gotti and F. Salager-Meyer (eds), pp. 177-195.
- Roberts, C., M. Mort & C. Milligan 2013, "Care work and new technologies of care for older people living at home", in J. Field, R.J. Burke and C.L. Cooper (eds), *The Sage Handbook of Ageing, Work and Society*, Sage, London, pp. 157-169.
- Roberts, C., V. Wass, R. Jones, A. Gillett & S. Sarangi 2003, "Understanding communication in medicine: Identification of components of communicative styles", *Medical Education*, 37, pp. 192-201.
- Rubinelli, S. 2005, "'Ask your doctor'. Argumentation in advertising of prescription medicines", *Studies in Communication Sciences*, 5: 2, pp. 75-98.
- Salager-Meyer, F. 1992, "A text-type and move analysis of verb tense and modality distribution in Medical English abstracts", *English for Specific Purposes*, 11, pp. 93-115.
- Salager-Meyer, F. 1994, "Reading medical English abstracts: A genre study of the interaction between structural variables and the reader's linguistic-conceptual competence L2", *Journal of Research in Reading*, 17, pp. 120-146.
- Salager-Meyer, F. 1995, "The evolution of medical English writing 1880-1994", paper presented at the IV Congreso Nacional de AVEPLEFE, Mérida.
- Salager-Meyer, F. 1999, "Professional conflict in 19th and 20th century academic writing", in J. Verschueren (ed.), *Pragmatics in 1998. Selected Papers from the 6th International Pragmatics Conference*, vol. 2, International Pragmatics Association, Antwerp, pp. 490-505.

- Salager-Meyer, F. 2001, "From self-highlightedness to self-effacement: A genre based study of the socio-pragmatic function of criticism in medical discourse", *LSP and Professional Communication*, 1: 2, pp. 63-84.
- Salager-Meyer, F. 2003, "El inglés profesional y académico en la sociedad de la información y del conocimiento", paper presented at the XXI Congreso internacional de la Asociación Española de Lingüística Aplicada, 10-12 de abril del 2003, Universidad de Santiago de Compostela.
- Salager-Meyer, F. 2005, "Interpersonal and ideational function in English, French and Spanish scholarly book reviews: The case of critical speech acts", paper presented at the XXIII Congreso Internacional de la Asociación Española de Lingüística Aplicada AESLA, Islas Baleares, Palma de Mallorca, March 2005.
- Salager-Meyer, F. 2012, "Análisis contrastivo de los títulos en los artículos de investigación de neurología redactados en español e inglés", *LSP Journal*, 3: 2, pp. 27-50.
- Salager-Meyer, F., Alcaraz Ariza, M. Á. & N. Zambrano, 2006, "Big Science, internationalisation, professionalisation et fonction sociale de la science à travers l'analyse diachronique des recensions d'ouvrages", *LSP and Professional Communication*, 6: 1, pp. 8-25.
- Salager-Meyer, F., M.A. Alcaraz Ariza & B. Lewin 2014, "Abstract quality in complementary and alternative medicine papers: A structural and cross-generic analysis", in M. Bondi and R. Lorés Sanz (eds), *Abstracts in Academic Discourse: Variation and Change*, Peter Lang, Bern, pp. 221-242.
- Salager-Meyer, F., M.A. Alcaraz Ariza & M. Luzardo Briceño 2012, "The dynamics of critical voices over time: The case of the medical book review 1890-2010", in K. Hyland and C. Sancho Guinda (eds), *Stance and Voice in Written Academic Genres*, Palgrave Macmillan, Basingstoke, pp. 232-247.
- Salager-Meyer, F., M.A. Alcaraz Ariza & M. Luzardo Briceño 2013a, "Titling and authorship practices in medical case reports: A diachronic study (1840-2009)", *Communication and Medicine*, pp. 63-80.
- Salager-Meyer, F., M.A. Alcaraz Ariza & M. Luzardo Briceño 2013b, "The medical narrative from a diachronic perspective (1840-2009): Titling practices and authorship", in M. Gotti and C. Sancho Guinda (eds), *Narratives in Academic and Professional Genres*, Peter Lang, Bern, pp. 293-319.
- Salager-Meyer, F., M.A. Alcaraz Ariza & M. Pabón Berbesí 2007a, "Collegiality, critique and the construction of scientific argumentation in medical book reviews: A diachronic approach", *Journal of Pragmatics*, 39: 10, p. 1758-1774.
- Salager-Meyer, F., M.A. Alcaraz Ariza & M. Pabón Berbesí 2009, "Backstage solidarity in Spanish- and English-written medical research papers: Publication context and the acknowledgment paratext", *Journal of the American Association of Information Science and Technology*, 60: 2, pp. 307-317.
- Salager-Meyer, F., M.A. Alcaraz Ariza & M. Pabón Berbesí 2010, "Hidden influencers and the scholarly enterprise: A cross-linguistic / cultural analysis of

- acknowledgments in medical research papers”, in M.F. Ruiz-Garrido, J.C. Palmer-Silveira and I. Fortanet-Gómez (eds), *English for Professional and Academic Purposes*, Rodopi, Amsterdam, pp. 43-56.
- Salager-Meyer, F., M.A. Alcaraz Ariza & M. Pabón Berbesí, 2007b, “The prosecutor and the defendant: Contrasting critical voices in French- and English-written academic book reviews”, in K. Fløttum (ed.), *Language and Discipline Perspectives on Academic Discourse*, Cambridge Scholars Publishing, Newcastle-upon-Tyne, pp. 109-128.
- Salager-Meyer, F., M.A. Alcaraz Ariza, & M. Pabón Berbesí 2011, “Expert knowledge holders vs. factual reporters: Critical voices in written medical genres”, in F. Salager-Meyer and B. Lewin (eds), *Crossed Words: Criticism in Scholarly Writing*, Peter Lang, Bern.
- Salager-Meyer, F., M.A. Alcaraz Ariza, M. Luzardo Briceño & G. Jabbour 2011, “Scholarly gratitude in five geographical contexts: A diachronic and cross-generic approach of the acknowledgment paratext in medical discourse (1950-2010)”, *Scientometrics*, 86: 3, pp. 763-784.
- Sarangi, S. & C. Roberts (eds) 1999, *Talk, Work and Institutional Order: Discourse in Medical, Mediation and Management Settings*, Mouton de Gruyter, Berlin.
- Sarangi, S. & L. Howell 2001, “Uncertainty management in genetic counselling for predictive testing”, *European Journal of Human Genetics*, 9, Supplement 1, p. 258.
- Sarangi, S. 2000, “Activity types, discourse types and interactional hybridity: The case of genetic counselling”, in S. Sarangi and M. Coulthard (eds), *Discourse and Social Life*, Pearson, Harlow, pp. 1-27.
- Sarangi, S. 2002, “Discourse practitioners as a community of interprofessional practice: Some insights from health communication research”, in C.N. Candlin (ed.), *Research and Practice in Professional Discourse*, City University of Hong Kong Press, Hong Kong, pp. 95-135.
- Sarangi, S. 2005, “Activity analysis in professional discourse settings: The framing of risk and responsibility in genetic counselling”, *Hermès*, 41, pp. 111-120.
- Sarangi, S. 2013, “Genetic counselling communication: A discourse-analytical approach”, *eLS*, 19 September 2013.
- Seidlhofer, B. 2004, “Research perspectives on teaching English as a lingua franca”, *Annual Review of Applied Linguistics*, 24, pp. 209-239.
- Simpson, R. 1959, *Shakespeare and medicine*, E. & S. Livingstone, Edinburgh.
- The Wellcome Trust 2000, “Social, ethics and public policy research on biomedical science”, Award-winning project: “Communicative frames in counselling for predictive testing”, Principal Investigator: S. Sarangi, Health Communication Research Centre, Cardiff University, Research Summary outline available at http://www.cardiff.ac.uk/encap/resources/HCRC-genetic_final.pdf, last consulted on 10 July 2014.

- The Wellcome Trust 2004, "Social, ethics and public policy research on biomedical science", Award-winning project: "Explanation in genetics: Causality and accountability in complex disorders", Principal Investigators: S. Sarangi, Clarke, A., Chadwick, R. & Kitzinger, J., Lancaster University and Cardiff School of Social Sciences, Cardiff University, Research Summary.
- THE-QS University Ranking 2013, "Life sciences & Medicine", available at <http://www.topuniversities.com/university-rankings/faculty-rankings/life-sciences-and-medicine/> / 2013, last consulted on 10 July 2014.
- Thomassen, G. & S. Sarangi 2012, "Evidence-based familial risk explanations in cancer genetic counselling", *Health Risk & Society*, 14: 7-8, pp. 607-626.
- Universidad de los Andes 2006, "Información general: Grupo de Investigación Multidisciplinario del Análisis del Discurso Científico", outline available at <http://www.saber.ula.ve/handle/123456789/14742>.
- University College London 2013, "Magic to Science", available at <http://www.ucl.ac.uk/sts/staff/gregory/Teaching>, last consulted on 10 July 2014.
- University of Helsinki 2012, "Scientific thought-styles: The evolution of english medical writing", available at <http://www.helsinki.fi/varieng/domains/scientific%20thought.html>, last consulted on 10 July 2014.
- Uppsala Universitet 2014a, "International Master's programmes at Uppsala University", available at <http://www.uu.se/en/admissions/master/master-programmes/>, last consulted on 10 July 2014.
- Uppsala Universitet 2014b, "Development and Application of Large-scale Proteochemometrics", available at <http://www2.teknat.uu.se/forskning/uu/beskrivning.php?vetenskapsid=0&forskomr=2&id=82&lang=en>, last consulted on 4 May 2014.
- V.V. A.A. 2008, *Proceedings of the I International Conference on Language and Health Care, Alicante, Spain, 24-26 October 2007*, Alicante, Universidad de Alicante, electronic edition.
- Vicentini A. 2008a. "Strategies for communicating ethical and legal issues in healthcare websites: A linguistic analysis of WHO's and NHSs' webpages", in M.A. Campos Pardillos and A. Gómez González-Jover (eds), *Proceedings of the 1st International Conference on Language and Healthcare, Alicante, Spain, 24-26 October 2007*, IULMA, Alicante.
- Vicentini, A. 2008b, "Linguistic representation of ethnic groups in Canadian healthcare websites from the Anglophone perspective: Main and minor bilingualisms", presented at the 6th Conference on Communication, Medicine and Ethics COMET 2008, University of the Witwatersrand, Cape Town, South Africa, 2-4 July 2008.
- Vicentini, A., K. Grego & D. Russo 2013, "The Pro.Bio.Dic. Prototype of a Bioethics Dictionary project: Building a corpus of popular and specialized bioethics texts", *JAHR – Annual of the Department of Social Sciences and*

- Medical Humanities*, special issue on “The Language of Medicine – from Its Genesis to the Culture and Ethics of Communication”, ed. by A. Gjuran-Coha and A. Krišković, 4, pp. 339-354.
- Vicentini, A., K. Grego, B. Berti, P. Bellini & G. Orizio 2012, “Intercultural and ideological issues in lexicography: A prototype of a bioethics dictionary”, in R. Facchinetti (ed.), *English Dictionaries as Cultural Mines*, Cambridge Scholars Publishing, Newcastle-upon-Tyne, pp. 247-266.
- Webber, P. & S. Cichello 1985, *English in Medical Sciences*, Zanichelli, Bologna.
- Webber, P. 1996a, “Medical correspondence in English journals since 1665. Letters to the editor”, *Medicina nei Secoli: Arte e Scienza*, 8: 3, pp. 327-338.
- Webber, P. 1996b, “Metaphor in Medical English abstracts”, *Unesco ALSSED-LSP*, 19: 1, pp. 35-52.
- Webber, P. 2005, “Interactive features in medical conference monologue”, *English for Specific Purposes Journal*, 24: 2, pp. 157-181.
- Zummo, M.L. 2011, “Doctor-patient exchanges in web counselling”, in *Teaching Medical English: Methods and Models*, in A. Loiacono, G. Iamartino and K. Grego (eds), pp. 235-263.
- Zummo, M.L. 2012a, “Formal and informal features in CMMC. Some observation on Doctor-Patient Interaction in Online Communication”, in L. Di Michele (ed.), *Regenerating Community, Territory, Voices*, Liguori, Napoli, pp. 249-253.
- Zummo, M.L. 2012b, “Health on the net: The doctor answers”, in M. Dabrowska, J. Lesniewska and B. Piatek (eds), *Languages, Literatures And Cultures In Contact: English And American Studies, Part II – Computer-mediated Discourse*, Tertium, Cracow, pp. 191-217.
- Zummo, M.L. 2012c, “In-between discourse and genre: Doctor-patient interaction in online communication. Formal and informal features in CMC”, *Rjes*, 9: 1, pp. 78-90.

‘Family sayings’: Two generations of Italian quack-doctors in 17th-century London

Roberta Mullini – “Carlo Bo” University of Urbino
roberta.mullini@uniurb.it

1. Background and primary sources

On the title page of *A Pretious Treasury...* (Winter 1649a), published with the names of Salvator Winter and Francisco Dickinson in 1649, there is a curious woodcut reproducing a healer on a raised stage, while talking to a thick crowd assembled around the scaffold, and a child (or young man) near him, who is equally speaking to somebody in the audience (Fig. 1).¹ The man, richly dressed in a black doublet and a hose, with a white shirt, is wearing a high hat and holding two round jars; a scroll coming out of his mouth declares him a foreigner, given the incorrect use of the personal pronoun (“Me cure all Diseases”), and an empiric (or, as the category came to be called later in the second half of the seventeenth century, a quack) for the meaning of his sentence (i.e. his boast of curing all distempers). Beside him the younger personage, clad in the same manner but without any hat so as to show his youth, also has a scroll to his mouth (“Your Money Gent.”). The older man’s words proclaim him a healer, the younger one’s his helper in the act of asking their customers for money, while distributing a written sheet of paper. On the stage there is a large chest full of jars similar to those in the older man’s hands, while the people around the platform raise their heads attentively to the whole scene to see and listen. The picture would seem very similar to the diverse and sundry images of charlatans and

¹ The full title of Winter 1649a (which contains an address ‘To the Reader’ by Winter himself) is reproduced in the References below. Both Winter’s and Dickinson’s parts appeared separately in the same year (Winter 1649b and Dickinson 1649). Neither had a vignette. For an attempt to discuss the supposed overlapping identity of Winter and Dickinson, see Ferguson 1896, Part 1: 25-27.

mountebanks who swarmed all over Europe at the time, but it has something very peculiar: there is no ape, neither is there any Merry Andrew or *Commedia dell'arte* Zanni in a multicoloured and patchy costume entertaining the crowd, nor any instrumentalist playing a violin or a trumpet (Fig. 2),² while the only helper of the older man is a boy, perhaps of the former's own family. Very probably the image represents the healer himself, the principal author of the booklet, i.e. Salvator Winter, and his son, also named Salvator.³ In other words, the title page supposedly represents the Winter family while working together, in the open air (a square or a street), as sellers of medicines, remedies and 'secrets'. They came from Naples, as Salvator Senior repeatedly wrote in his handbills and on the title page of the other, different, edition of the pamphlet.

The first piece of extant information about Salvator Winter dates back to a couple of years previous to the publication of the two booklets: an anonymous hand wrote "1647" at the bottom of a handbill sent out by "Salvator Winter Moretto, Neapolitane" (Winter 1647). This, together with four others, and – when necessary – the two booklets and a series of instructions on how to use Winter's remedies (1664),⁴ will be the corpus of authentic texts taken into consideration in this chapter, in search of the permanence and

² For a wide series of images relating to mountebanks see Katritzky 2001 and 2007.

³ Salvator Winter's son is named John Baptista Quarenteni (for very strange and inexplicable reasons, since the two surnames are different) in a handbill dated 1669 by the *English Short Title Catalogue (ESTC)*, but in two other bills we find "Salvator Winter Junior" and "Salvator Winter, Son of the late Ancient and Famous Physician Salvator Winter" (Winter Jr. 1665[1679] and 1665? [1680], respectively). Actually the surname 'Winter' is also strange for an Italian. From where had Salvator 'Moretto' taken it? In the 1620s-30s there was in London a James Winter, apothecary and surgeon, who was fined by the College of Physicians for illegal practice (see Pelling, with White, 2004). Had Salvator Winter Senior been an apprentice of James's and taken his master's name? All quotations, whose dating is from the *ESTC*, are not modernized. For a possible new dating, see the discussion in this paper, as a result of which – in the text, the References and the tables – the suggested new dates are juxtaposed to those of the *ESTC* between square brackets.

⁴ Winter 1664 is a pamphlet of eight unnumbered pages. The Winters' handbills (later sometimes also referred to as bills or broadsheets) are catalogued according to their titles or first lines.

variations of the Winters' 'family sayings' concerning their common profession of irregular physicians in London.

Nothing is known about the Winters apart from what is retrievable from their printed production and a handful of facts recorded elsewhere. Certainly Salvator Winter Senior went through an alchemical phase,⁵ besides selling medicines as an irregular physician, given the tone and the words he uses in his second handbill, where he mentions 'Hermes' [Trismegistus?], and says, in a somehow confused way, that

we [his son and himself] found out the Key for to open the door of Natures Cabinet; wherein Learning by which means Nature every day draws Supercelestial Virtue, we attained the Knowledge of the power and operations of that invisible *Magnes*, which shut up in that Point, which is the Center to the Trigon of another Center, weddeth Day and Night, Heaven and Earth with *Platos* golden Chain (Winter 1669[1664]).⁶

What is relevant in this same handbill is that Winter invites the people to reach "this our Stage", that is, the scaffold which is his open-air shop.

What he writes in his pamphlet of directions, where he declares that "I my self at this time am Four-score and three years Old" (1664: 1), would mean that he was born in 1581 (or thereabouts). From his subsequent handbill (oddly dated 1665 by the *ESTC*) we learn that he was still at work when he was ninety-eight years old (of course he attributes the reason of his continuous good health to his own "Elixir Vitæ, which he alwayes carries in his pocket adayes, and at Night under his pillow", Winter 1665[1679]), and,

⁵ It is possibly during this period that he got to know Sir Kenelm Digby (1603-1665), a courtier, adventurer, alchemist and multi-faceted writer, who praised Winter's elixir (so much so that in the handbills posterior to 1669 the Winters rely on Digby's judgment to sell their own stuff). "The most Learned and Honourable Sir Kenelm Digby did highly commend it to the World, Stiling it in his Book, *The Miraculous Elixir Vitæ*", boasts Mr Winter Senior at 98 (1665[1679]: v). In fact, Winter's eulogy appears in Digby 1668, i.e. in a book published after its author's death and compiled by G. Hartman (Winter's balsam and "spirit" are mentioned on pp. 146-151: Winter's so-called spirit – the elixir? – is praised as "excellent", an adjective also used for the balsam).

⁶ [1664] is added to this bill because a handwritten date – June 1664 – is present on the page.

from Salvator Winter Junior's words in his second bill stating that his father lived "to the 99th year of his age", one can deduct that he died the following year (Winter Jr. 1665[1680]: r). We also know, from the *Calendar of Treasury Books*, that Winter Senior received some money "as royal bounty" in October 1679 from Charles II and that one of his apprentices was accused of stealing some bottles of his precious *elixir vitae* (again in 1679). This means that he was still alive in that year, when he is called "a very ancient Itallian Gentel man, who has long professed Physick in this Kingdom" in the Old Bailey documents of 15 October.⁷ If the date of birth is correct, he was 98 in 1679 and died in 1680. The last extant mention to the Winters dates May 1693, when the *Middlesex County Records. Calendar of Sessions Books 1689-1709, Session Book 505 discharged a certain* "David Goffe from his indenture of apprenticeship, it being proved that his master, Salvator Winter, of St. Giles'-in-the Fields, doctor of medicine, has gone away and made no provision for the said apprentice" (Hardy ed. 1905: 39): where Winter Junior went remains unknown.

Before leaving this introductory note, it is worth mentioning that John Church, another 'seller of medicines' who in 1682 published a booklet full of the names of patients allegedly cured by him, together with some receipts, had Salvator Winter's name printed on the title page of his own work, to testify to his profession and experience (Church 1682).

⁷ *The Proceedings of the Old Bailey*. The trial against the apprentice ended in a non-guilty verdict, whereas Mr Winter Junior was accused "for unlawfully breaking and entering the dwelling-house of his father" and fined accordingly. *The King's Warrant Book*, p. 121, and the *Money Book*, p. 242, record a payment due by Mr. Winter Junior dated October 22, 1679 (Shaw ed. 1913). Evidently the relationship between father and son had changed and the son was also alleged of being the real thief (it is not a coincidence, perhaps, that the son – in his first bill 1665 now datable 1679, on the basis of the Old Bailey document – announces a move from St. Giles to a house "at the Sign of St. Paul upon Little Tower-Hill, near the Victualling-Office, London").

All this information and the discussion in this paper should affect the dating of some of the Winters' works kept in the British Library.

2. Charlatans, empirics, mountebanks, or quacks: changing names for irregular practitioners

The Winter family practiced a very old profession, in a time when medicine was beginning to turn scientifically based on the study of the body, but nonetheless a time when academic physicians had few answers to the many sufferings of their patients (not to consider the high prices of medical consultations, which prevented the poor from addressing university physicians). In the seventeenth century, furthermore, the official prescriptions did not differ much from a charlatan's 'receipt'.⁸

The condemnation of charlatans and empirics is already present in Galen's works, but it became stronger and stronger when physicians with a university degree started to be a professional body in the towns and cities of Renaissance Europe.⁹ In England the College of Physicians was founded by Henry VIII in 1518, following the example of 'Civitatum in Italia & aliis multis Nationibus':

Collegium perpetuum doctorum et gravium virorum, qui medicinam in urbe nostra Londino & suburbibus [...] publice exercent, institui volumus atque imperamus [...] Consessimus etiam eisdem præsidenti & Collegio, seu communitati & successoribus suis, quod nemo in dicta civitate, aut per septem milliaria in circuitu eiusdem, exercent dictam facultatem, nisi ad hoc [...] admissus sit per eiusdem præsidentis & Collegii literas sigillo suo communi sigillatas, sub poena centum solidorum [...]

reads the King's Letter Patent dated September 23, "anno XIII & XV Henrici Octavi" (Merret 1660: 5-7). Outside the College there were both barbers and surgeons, who were united into the same company in "anno XXXII Henrici", i.e. 1541-2, to be called "the Mystery and Comminalty of Barbers and Chirurgeons of London for evermore, and by none other name" (Merret 1660: 21). These

⁸ For a rich account of quackery in England see Porter 2003 (1989). For the situation in Italy more or less in the same period see Cosmacini 1998 and Gambaccini 2002. See also *Gentilcore* 1998 and 2006.

⁹ About the Italian 'Protomedicati' see Pomata 1994; for Great Britain the many publications of Roy Porter (especially 1989), Pelling 1987 and Wear 1998.

two groups, therefore, were in charge of the public health, only that a couple of years later (“Anno XXXIII & XXXV Henrici”), another law was issued – later called ‘the quacks’ charter’ (Maple 1968: 60-82; Porter 2001: 196) – which allowed all the King’s subjects with

knowledge and experience of the nature of herbes, roots and waters, or of the operation of the same by speculation or practice within any part of the Realm of England, or within any other of the Kings Dominions, to practice, use and minister in and to any outward sore, uncome, wound, apostemations, outward swelling, or disease, any herb or herbs, ointments, bathes, pultes [poultices], and emplasters, according to their cunning, experience and knowledge in any of the diseases, sores, and maladies beforesaid, and all other like to the same, or drinks for the stone, and strangury, or agues, without suit, vexation, trouble, penalty or losse of their goods [...] (Merret 1660: 29).

The diseases “beforesaid” are called “customable” in the first paragraph of the royal Act and listed as follows: “womens breasts being sore, a pin and the web in the eye, uncomes of hands, scaldings, burnings, sore mouthes, the stone, strangury, saucelim, and morfew”.¹⁰ All these were made curable by “divers honest persons, as well men and women, whom God hath endued with the knowledge of the nature, kind and operation of certain herbs, roots and waters”. The reason for this new law was that the official healers (both physicians and surgeons) had proved interested only in “their own lucre, and nothing the profit or ease of the diseased or patient” (Merret 1660: 27). Later legislation by Queen Mary and

¹⁰ According to the *Oxford English Dictionary (OED)* UNCOME is not used now; s.v. ONCOME, **1.a.** Something harmful that comes upon a person, esp. as a calamity or affliction; *spec.* an attack of disease or an illness. S.v. STONE, **10. a.** A hard morbid concretion in the body, esp. in the kidney or urinary bladder, or in the gallbladder. S.v. STRANGURY, **1.** A disease of the urinary organs characterized by slow and painful emission of urine; also the condition of slow and painful urination. S.v. POX, **1.a.** Any of several infectious diseases characterized by a rash of pustules (pocks). S.v. SAUCEFLEME (SAUCELIM is obsolete) **A.** A swelling of the face accompanied by inflammation, supposed to be due to salt humours. S.v. MORPHEW (MORFEW), Any of various skin diseases characterized by localized or generalized discoloration of the skin.

King James I in particular confirmed Henry's laws, but also extended the College of Physicians' power (apothecaries too might be controlled by the College and their shops searched for adulteration). In any case, the abuses perpetrated by empirics who operated well beyond what Henry VIII had allowed them to, went on and were ferociously attacked by both the College as such and by individual physicians. Nevertheless, empirics continued to prosper and to multiply, especially in London. Among them, though, together with charlatans and mountebanks, one also has to count those foreigners who had graduated in medicine on the Continent but were not recognized as physicians by the College, so much so that to name them with the more neutral label 'irregular practitioners' is now preferred to the deeply biased and college-centred 'quacks' (see Pelling 2003: chap. 5).

Most irregular practitioners were vagrants, that is, they often changed addresses, moving from the countryside to town and vice versa, travelling through the whole kingdom. Many came from abroad: London, especially towards the end of the seventeenth century, was invaded by healers coming from Germany and the Netherlands, but also from Italy and France. Many were mountebanks: they sold their ware from a stage raised along a street or in a market square, and took advantage of such special occasions as festivals and fairs. On the Continent, as many travellers witnessed, mountebanks were often accompanied by women-helpers who either danced or played some musical instrument.¹¹ In England, and the more so before the Restoration when women were first allowed to act on theatrical stages, it seems rare to find a woman on a mountebank's stage; there were, though, other types of 'hands': as mentioned above, a Zanni or a Merry Andrew (mostly dressed as a court fool or as Harlequin) helped the seller to appeal to passers-by and turn them into an audience ready to buy medical products.

The Winter family, from the few data known about them, had begun – at least – as mountebanks, even though they were very probably not vagrants and, by judging from the various addresses

¹¹ Thomas Coryate, to quote just the most famous of these English travellers, vividly described Venetian mountebanks (1611: 272-275).

printed in their handbills, had settled in London. Salvator Winter Senior calls himself “Professor” and “Excellent Master in the drawing of Teeth” (possibly his first ‘specialization’) in his 1647 handbill; is silent about his titles later, while his son praises his own father by calling him “Ancient and Famous Physician” after his parent’s death and, at the end of the same bill, “Dr.,” while calling himself “True and Only Operator”. One should not forget, though, that a Salvator Winter is named “doctor of medicine” in the Middlesex County Records for 1693, but, unfortunately, it cannot be made clear whether the phrase refers to the father or the son (very probably it refers to the latter if the father had really died in 1680, even though nothing is known about either Winter ever taking a degree in medicine).¹² Evidently, the Winters succeeded in becoming really famous in London, and were appreciated by Charles II himself and by Sir Kenelm Digby. They disappeared from the scene, though: some time after his father’s death, Winter Junior melted into air (at least judging from the fact that David Goffe was released from all duties as Winter’s apprentice just because his master had “gone away and made no provision” for him).¹³

¹² Leslie G. Matthews (1979: 2), without declaring his exact sources and almost certainly mistaking the father for the son, writes that “In 1688 [Winter] asked leave to be examined by the College of Physicians, intending if possible to secure a licence from the College”, a licence which was refused. In fact, this piece of information derives from the Annals of the Royal College of Physicians for 1687-88: Salvator Winter [junior] asked to be examined, but his inability to communicate in Latin saw his request turned down, i.e. he was not allowed to sit an examination. The hearing of his request took place on 23 March 1687/8. I am grateful to Peter Basham of the Heritage Centre of the Royal College of Physicians of London for confirming this detail.

¹³ That Salvator Winter, almost certainly the elder, was famous in Restoration London is proved by a short speech in Thomas Shadwell’s comedy *The Sullen Lovers*. When, towards the end of the text, Ninny (a would-be playwright, defined “a conceited poet” in the list of the *Dramatis personae*), offers Emilia, the female protagonist, the text of a new play, she answers: “And your Playes are below the Dignity of a Mountebanks stage. *Salvator Winter* wou’d have refus’d them.” (Shadwell 1668: Act III, p. 34). Did this imply that Winter used to perform plays when selling his medicines? Nothing is known about that. There is another literary allusion to our quack – whether senior or junior cannot be ascertained – in a satirical treatise attributed to Aphra Behn: as a cure for sore nipples Mistris Know-all, one of the characters, declares that, besides other remedies, “she hath

3. Medical professional language in the Winter family

Before proceeding to the analysis of data, I think it convenient to present, even if cursorily, the material objects containing the data themselves. Quacks' handbills were slim sheets of cheap paper, often printed on both sides in tight and small fonts, and crammed with words. They were advertisements containing information targeted to all possible addressees (not to a specific social class), in order to sell proprietary medicines. When printed on one side only, they were also posted on walls for public reading. Generally the structure of this text type consisted in a title, sometimes accompanied by an image (the royal coat of arms was also used to confer authority to the vendor; see Mullini 2009), followed by many paragraphs which boasted about the fame of the self-proclaiming doctor and the vastity of his / her experience. The main part of the text served to introduce the name and the virtues of the medicine to be sold, and often listed a number of testimonials (people successfully cured). Sometimes handbills also hosted accusations against 'counterfeiters' of a given remedy, thus testifying to the brawls and competition of the medical market. Nearly all of them ended by mentioning the seller's address and practice times. Even if they were superseded by ads in newspapers, they were still used in the eighteenth century.

What follows aims at proposing and discussing the results obtained by transcribing the five extant handbills of the Winter family, which were afterwards searched by individual lexical words (i.e. nouns, verbs, adjectives and adverbs) and the determiners *ALL* and *ANY*. The number of word tokens in this small corpus is 3433, while the word types are 948, corresponding to 27.61% of the total. Among these, the lexical items (listed in a table omitted for brevity) are 292, that is, 30.8% of all types. The omitted table was the starting point on which the tables at the end of this paper are based: Table 1 presents a list of the 56 symptoms and diseases mentioned

[...] never found nothing under the Sun that was more noble than Salvator Winter's Salve, for that cures immediately: And you can have nothing better" (Behn 1922 [1682]: 91).

in the Winters' handbills,¹⁴ and Table 2 collects the 25 anatomical entries in the same. It is interesting to note that almost 20% of the 292 lexical words refer to illnesses and 8.56% to bodily parts.

3.1. General terms

From a previous research on quacks' handbills it resulted that the most largely used terms in a selected corpus of 85 handbill titles and 37 titles from books and/or pamphlets relating to quack medicine were the following: *ALL* with 45 occurrences (*ANY* occurred 25 times); *CURE* (N and V) with 39 occurrences + *MEDICINE* (present 28 times); *DISEASE* + *DISTEMPER* with 45 cases, to which 14 occurrences of *SICK/NESS* is to be added; *PHYSICIAN* + *DOCTOR* was present 53 times (Mullini 2010). It sounds quite normal, given the subject matter of the analysed types of publications, that terms referring to disease, cure and healers are of such high relevance: quack distributing their handbills at fairs and in the street aimed at an immediate and impressive appeal on their public, by using simple and direct language, and keeping to the point, as if to say: *"You suffer from diverse diseases, but here I am, a physician able to cure them all". It is not surprising, then, that the data emerging from those corpora are similar to those deriving from the Winters' publications, even though the total number of words taken into account on the two occasions differs.¹⁵

ALL occurs 37 times in the Winters' bills, thus showing that both father and son willingly wanted to stress the power of their products, good for 'all' types of sickness, a real panacea, even if

¹⁴ Paul Slack (1979: 264), writing about the vernacular medical literature in Tudor England, maintains that this type of production, especially chap-books containing 'receipts', enlisted symptoms rather than illnesses because of the low level of scientific knowledge of all medical practitioners (both legal and illegal), so that "agues and fevers might include anything from typhus and typhoid to malaria and influenza". Given the deeply conservative nature of this kind of literature, the quotation can well be applied to seventeenth-century popular medicine.

¹⁵ The corpus of handbill titles counted 3500 words and the titlepage one about 2250. Therefore, the grand total of words in the Winters' handbills (3433) is a bit more than half those processed in Mullini 2010. The results from the omitted table, though, do not correspond to this proportion as, on the contrary, one might hypothesize and, consequently, they are worth researching.

this noun is not used. Terms related to the semantic area of healing (*BENEFIT*, 6; *CURE* 16; *COMFORT*, 3; *EXTIRPATE*, 2; *GOOD*, 10; *HEAL*, 3; *LIFE-PRESERVING*, 2; *MEDICINE*, 4; *PRESERVE*, 5; *PREVENT*, 5; *REMEDY*, 9; *RESTORE*, 4; *REVIVE*, 5) amount totally to 74, which is very near the number of similar terms in my previous analysis. There is, nevertheless, a notable difference: in the Winters' handbills the vocabulary used is much richer, due, one might surmise, to more attention paid by the authors to the variety of the language.¹⁶

Another feature emerging from the general results is the relatively scanty employment of bombastic self-eulogistic language. Actually both Winters intersperse some effective adjectives in their handbills (*SUPERCELESTIAL* in Winter 1669[1664] being certainly the most grandiloquent; this is not by chance, since this adjective is in the 'alchemical' bill), such as *APPROVED* (2), *EXCELLENT* (8), *FAMOUS* (6), *INCOMPARABLE* (1), *MIRACULOUS* (5), *PRECIOUS* (1). Again, the terms of comparison derive from my previous research in which *APPROVED* appeared 18 times, *EXCELLENT* 16, *FAMOUS* 25, *MIRACULOUS* 3, *PRECIOUS* 2, while *INCOMPARABLE* was never present.¹⁷

However, what strikes one most in the series of the Winters' handbills is the frequent presence of terms related to specific diseases and to the human body, with a process of focalization from Salvator Winter Senior's 1647 less professional bill, to his own last one (when he declares to be 98 years old). When writing bills for a late Restoration public, Winter Senior seems to pay attention to the changes in medicine due to the scientific progress in the field (even though still from a clear quack-like stance, discernable, for example, when he declares that his *elixir vitae* "is good for all sorts of Catarrhs, pains in the Head, Lethargy, any sort of Sore Eyes, for dimness of sight, hardness of Hearing, stinking Breath, Scurvy in the Mouth or any other part of the body, Tooth-ach, sore Throat, for all sorts of Coughs", 1665[1679]: r). Another relevant aspect of all

¹⁶ It might be interesting to see if the English language used by other foreign empirics presents similar features: if so, the result would confirm that, at least when writing, foreigners tend to show a very conscious and attentive use of their second language.

¹⁷ In spite of the time elapsed between Mullini 2010 and the present research, the approach to the quantitative analysis is the same, and the text types taken into consideration quite similar: this justifies the parallels and the comparisons drawn.

these handbills is that Winter Junior more or less simply copied his father's last bill, with very slight variations, thus highlighting the continuity in the family trade and sayings.

3.2. *Which diseases and what anatomy?*

The Act approved by Henry VIII in favour of popular healers ('the quacks' charter') enlisted some diseases curable by those who had no university degree (see section 2). Actually these seem to be among the distempers mostly cured by Salvator Winter Senior. When reading his 1647 handbill, one soon notices that his forte at that time was certainly tooth-drawing: the word *TEETH* appears ten times in this bill, disappears completely in the following two and is resumed only once in each of Winter Junior's two documents.¹⁸ Very probably Salvator Winter started his job simply as a tooth-drawer, selling also – like all other mountebanks – balsams and ointments. The last paragraph in 1649b witnesses this early specialization of his: after printing the various remedies of the title, he adds, using phrases which resemble those of his 1647 handbill: "Furthermore, I pull out all maner of Hollow Teeth, stumps, or roots, with great dexterity, and ease, without almost any pain. [...] *I live at present in Bedford-street, next door unto the Sign of the Fox, over against the New Exchange.*" (p. 15). The sentence is repeated in the other version of the pamphlet (1649a: 14), but no address is given.¹⁹

From Table 1 Winter Senior's medical knowledge appears limited and rather vague: he enlists 20 different ailments, but he mentions *PAINS*, *COUGHS*, *CORNS* and *WOUNDS* in general together with more specific infirmities and terminology, the most 'erudite' of which being *Hernia carnosae*, not only a real medical term, but also given in Latin. His medical vocabulary seems to improve in his third broadsheet, whereas the second, so full of alchemical jargon although targeted at sick people, uses only a few familiar terms, while introducing some maladies not present on the previous

¹⁸ About quacks and tooth-drawing see Katritzky 2000, later reworked in 2007: 177-201.

¹⁹ In 1647 Winter lived "at the Princes Armes at *Clare Street* end over against the market place [...] *Lincolns* Inne Fields, on the back side of *Drury Lane*" (Winter 1647). At least from 1664 on he lived in "*new Kings-Street, at the sign of St. Paul between Long-Acre, and St. Giles in the fields*" (from his other bills).

handbill, such as *HARE-LIPS*, *HERNYES* (which seems to substitute the *Hernia carnosa* of the other), *WENS*, *WOLFES*, and *WRYNECKS* (the diseases mentioned are only 7 altogether).²⁰

Winter 1665[1679] enumerates a larger amount of ailments (37 word types), among which *RUNNING OF THE REINS* (three times),²¹ to signal – perhaps – the high impact of venereal diseases on contemporary English society (*FRENCH POX* – syphilis – occurs once). Such richness may be ascribed to the progress of science and medicine (William Harvey's *De motu cordis et sanguinis*, 1628, may be the reason behind the use of the noun *CIRCULATION* in this same bill). Some terms are completely new, as is evident in Table 2, and some have become more precise: the previously unspecified *POX* here is divided into *SMALL POX*, *MEASLES* and *FRENCH POX*; fits of various types are introduced, together with *FEVERS*, *GOUT*, and *GANGRENE*. What is perhaps ascribable to Mr Winter's ageing are some ailments typical of old age: *DIMNESS OF SIGHT*, *HARDNESS OF HEARING*, and *LETHARGY* (only the last term was kept by his son in his two broadsheets).

Salvator Winter Junior's own broadsheets appear as copycat reproductions of his father's last bill, as if the real operator were still the father, not the son. In his father's wake, Salvator Junior maintains the previous terminology, dismissing only a few words, some of them now perhaps old-fashioned like *SCALDING* or *RUNNING OF THE REINS* (the latter replaced by the more genteel *VENEREAL DISTEMPERS*), some others because strictly connected to old age. On the contrary a few nouns are used by him for the first time in the family: *APOPLEXIES* and *EPILEPSIES*, for example (the plurals are his way to denote, possibly, strokes and seizures in

²⁰ *OED*, s.v. *WEN*, **1.a**. A lump or protuberance on the body, a knot, bunch, wart; s.v. *WOLF*, **7.a**. A name for certain malignant or erosive diseases in men and animals.

It is noteworthy that *hernia carnosa* (the only Latin term used by the Winters, except their *elixir vite*) enters English medical literature in the last quarter of the fourteenth century and is present only in surgical treatises (see Norri 1992: 402, 420).

²¹ *OED*, s.v. *RUNNING*, 23. a. The flowing or discharge of fluid from the body (in later use esp. from the eyes or nose); an instance of this, a discharge. Also: † a sore or wound that discharges pus (*obs.*). Also in figurative context. † running of the reins **n.** *Obs.* gonorrhoea; leucorrhoea; (also) discharge of semen.

general). As a total, he names 30 disease word types in his first bill, and 32 in the second.

The anatomical knowledge recognizable in all handbills by the Winters does not show any relevant progress when passing from old Winter's to his son's production (see Table 2); what differs, though, is the frequency of some terms. For example, the father uses *TEETH* 10 times, as already seen, his son only twice; the father mentions *THE HUMANE BODY* 3 times in his 3 bills, the son 7 times in 2 bills; *SIGHT* disappears completely from Salvator Junior's broadsheets. What is noticeable is that women are taken into consideration only as sufferers from *WORMS* (together with men and children), from *SORE BREASTS* and from *FITS OF THE MOTHER* (hysteria). This can sound strange, especially because Winter Senior devotes a whole paragraph of his *Directions* to "hard Labour in Women", to be treated – obviously – with his balsam and elixir (1664: n. 16).

4. Concluding remarks

The previous analysis has shown how the medical language of the Winters did not change substantially from father to son. Times were changing, but medicine was undergoing a still slow revolution, especially among the lowest ranks of practitioners:²² Salvator Winter Junior did not show any better awareness of medical language than his father, in spite of the new entries in the professional 'family sayings'. On the contrary, Winter Senior is the one who manifests a more radical step from his 1647 handbill to the 1665[1679] one, where he states to be 98 years old. Of his 37 names of sicknesses, 20 are new in comparison with his previous production. Perhaps his long practice in London had made him more conscious about the necessity of appealing to readers (and/or listeners) who wanted to hear their own sufferings named, if not totally cured, at least in the most popular of vernacular medical

²² See French & Wear (eds) (1989), and especially Wear 1989. Quacks continued to prosper throughout the eighteenth century, attacked by the Royal College of Physicians, but still sharing with it the traditions of old medicine: "In some ways this was still the time of the *longue durée* in medicine. Although theory changed it was still expressed in such a way that it spoke to patients and so attracted their trade" (Wear 1989: 319).

literature, i.e. quacks' handbills, broadsheets and slim remedy books. Juhani Norri (1992: 33), when dealing with the way of naming illnesses in late medieval and early Tudor England, states that this sort of publications "[was] also owned by university-trained physicians", and that only the presence of prologues or dedicatory letters can let us understand who was the supposed addressee of this kind of literature.²³ No such peritextual feature is present in the Winters' bills, but there is an unnamed address "To the Reader" both in Winter Senior's *A Pretious Treasury: Or a New Dispensatory* and in his *A Nevv Dispensatory of Fourty Physicall Receipts*. The text of this address, exactly the same in the two publications, reads:

Gentle Reader,

In my manifold Travels through *Europe, Asia, and Africa*, I have observed and learned many secrets; yea, there is scarce any thing profitable for mans body, but I have knowledge thereof. Here I do freely present you many most necessary Receipts, and very usefull in every family, whereof I have oftentimes made good proof; Accept of them thankfully, and as you shall have occasion make use thereof. So Farewell,

Salvator Winter, Operator (Winter 1649b: A2r-v; 1649a: A2r)

From the two complete titles (see References) one can deduce that the booklets are targeted at house-keepers (both male and female, evidently) and are considered to be of special use for diseases occurring among family members. They are, actually, two remedy books containing various directions on how to cope with the most common symptoms, independently of the presence of a healer. The style of the address in both is that of Winter's 1647 handbill, which declared that he "having travelled through divers Countries, as well in *Europe* as in *Asia* and *Africa*, hath by the Grace of God, learned divers secrets and arts to serve mankind therewith". The booklets

²³ On the 'words of medicine' see also Mc Conchie 1997. Norri and Mc Conchie cover periods previous to the seventeenth century, but their suggestions can be useful for further research in lexicography. Especially, quacks' handbills have not been dealt with comprehensively. My paper aims at being a modest contribution in this direction.

were printed in 1649 and there is no sign of any great transformation occurred in two years' time. What is relevant, though, is that Winter also tried to reach literate people, beyond those he could speak to from his stage or could have a brief handbill read to them by somebody able to decipher printed matter.

Near the end of his life Winter Senior, as already seen, even got a gift from King Charles II and, before that, had enlarged his practice outside London (in Winter 1664 he boasts about curing people in Oxfordshire, Buckinghamshire and as far north as Newcastle upon Tyne). As for his specialty, he turned from tooth-drawer and seller of various nostrums (in the 1647 document he mentions his ointment, plaister, balsam and even an Antidote, the famous 'Orviatano'), into a quack who cured everything with just one remedy, his *elixir vitæ*. His son was, therefore, able to take over his father's practice, but it appears that he relied on the family celebrity and that he did not improve much what his old parent had achieved. If the date here hypothesized for Winter Senior's death is correct (1680), the son carried on the profession for thirteen more years; his vocabulary, though, and the very structure of whole sentences in his handbills remained more or less the same as his father's, thus showing the persistence and the long duration of their medical 'family sayings'.

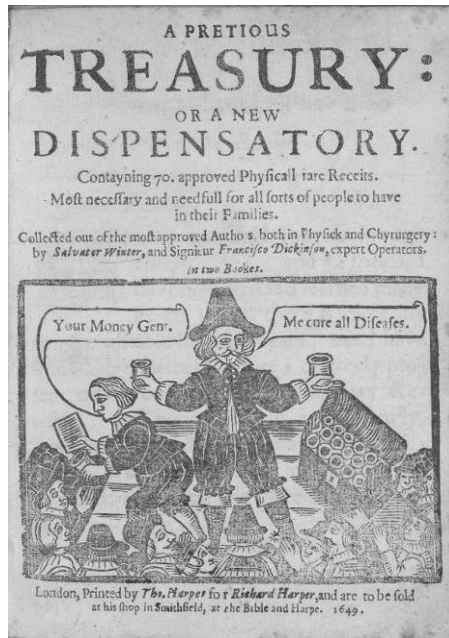


Fig. 1: Title page of Salvator Winter's *A Pretious Treasury*. By courtesy of the Wellcome Library, London.



Fig. 2: A mountebank distributing his wares on a stage. From R. Chambers, *The Book of Days*, Edinburgh, W. & R. Chambers, 1864, 2 vols, vol. 1, p. 512. By courtesy of Mike Hillman (<http://www.thebookofdays.com>).

Disease Handbill	1647	1669 [1664]	1665 [1679]	Jr. 1665 [1679]	Jr. 1665? [1680]	Tokens
1. ague				1	1	2
2. apoplexies				1	1	2
3. breath (stinking)			1			1
4. burnings	1		1			2
5. cankers		1				1
6. catarrhs			1	1	1	3
7. collick	1					1
8. consumption	1		1	1	1	4
9. convulsion			1	1	1	3
10. corns	1					1
11. coughs	1		1	1	1	4
12. dimness (of sight)			1			1
13. dropsy	1		1	1	1	4
14. epilepsies				1	1	2
15. fainting (fits)			1	1	1	3
16. falling (fits)			1	1	1	3
17. feavers			1	1	1	3
18. fits (of the mother)			1	1	1	3
19. fluxes				1	1	2
20. French (pox)	1		1			2
21. gangrene			1	1	1	3
22. gout			1	1	1	3
23. griping of the guts	1		1	1	1	4
24. hardness (of hearing)			1			1
25. hare-lips		1				1
26. <i>hernia carnosa</i>	1					1
27. hernyes		1				1
28. jaundice	1				1	2
29. lethargy			1	1	1	3
30. measles			1	1	1	3
31. noise (in the head and ears)				1	1	2
32. obstruction (of the stomach, liver and spleen)			1	1	1	3
33. oppression (of the heart)			1			1
34. pain (any; in the back, in the head)	6		2	2	2	12

Disease Handbill	1647	1669 [1664]	1665 [1679]	Jr. 1665 [1679]	Jr. 1665? [1680]	Tokens
35. palsies			1	1	1	3
36. plague	2		1			3
37. pox (alone)	1					1
38. running of the reins			3			3
39. rupture	3		1			4
40. scalding	1		1			2
41. sciatica	1		1	1	1	4
42. scurvy	1		1		1	3
43. small pox			1	1	1	3
44. stone	1	1	1	1	1	5
45. stoppage of urine			1	1	1	3
46. throat (sore)			1			1
47. tooth-ach			1			1
48. tympany			1	1	1	3
49. ulcerated (sores)			1	1	1	3
50. venereal distempers				1	1	2
51. ventosities	1					1
52. wens		1				1
53. wolfes		1				1
54. worms			1	1	1	3
55. wounds	1					1
56. wrynecks		1				1
Totals	28	7	40	31	33	139

Table 1. Symptoms and Diseases in the Winters' handbills

Anatomical term Handbill	1647	1669 [1664]	1665 [1679]	Jr. 1665 [1679]	Jr.1665? [1680]	Tokens
1. back	1		1	1	1	4
2. bladder		1	1	1	1	4
3. body	2		1	3	4	10
4. bone	2					2
5. brain	1					1
6. breasts	1					1
7. ears				1	1	2
8. eye			1	1	1	3
9. hair	1					1
10. head	1		1	3	3	8
11. hearing			1	1	1	3
12. heart		1	1			2

Anatomical term Handbill	1647	1669 [1664]	1665 [1679]	Jr. 1665 [1679]	Jr.1665? [1680]	Tokens
13. liver				1	1	2
14. mother			1	1	1	3
15. mouth	1		1			2
16. nostril	2			1	1	4
17. pannicle	1					1
18. reins			2	1	1	4
19. sight			3			3
20. sinew	2					2
21. spleen				1	1	2
22. stomach			1	1	1	3
23. teeth	10			1	1	12
24. temples				1	1	2
25. throat			1			1
Totals	25	2	16	19	20	82

Table 2. Anatomical entries in the Winters' handbills

References

- Behn, A. [1682]1922, *The Ten Pleasures of Marriage and the Confession of the New Married Couple*, privately printed for the Navarre Society, London.
- Church, J. 1682, *A Compendious Enchiridion touching most Distempers incident to the Body of Man, with the best and easiest Cures thereof Wherein the Author desires the Reader seriously to consider the particulars before censure be passed. [I]n all my Travels with Salvator Winter...*, London.
- Coryate, T. 1611, *Coryats Crudities hastily gobbled up in Five Months Travells in France, Savoy, Italy &c*, London.
- Cosmacini, G. 1998, *Ciarlataneria e medicina. Cure, maschere, ciarle*, Raffaello Cortina Editore, Milano.
- Dickinson, F. 1649, *A Precious Treasury of twenty Rare Secrets. Most Necessary, Pleasant, and Profitable for all sorts of People*, London.
- Digby, Sir K. 1668, *Choice and experimented Receipts in Physick and Chirurgery as also cordial and distilled Waters and Spirits, Perfumes and other Curiosities. Collected by Sir Kenelm Digby; translated out of several Languages by G.H.*, London.
- English Short Title Catalogue*, on line version, available at http://estc.bl.uk/F/?func=file&file_name=login-bl-estc, last consulted 23 September 2008.
- Ferguson, J. 1896, *Bibliographical Notes on Histories of Inventions and Books of Secrets*, At the University Press, Glasgow.

- French, R. & A. Wear (eds) 1989, *The Medical Revolution of the Seventeenth Century*, Cambridge University Press, Cambridge.
- Gambaccini, P. 2002, *I mercanti della salute*, Le Lettere, Firenze.
- Gentilcore, D. 1998, *Healers and Healing in Early Modern Italy*, Manchester University Press, Manchester.
- Gentilcore, D. 2006, *Medical Charlatanism in Early Modern Italy*, Oxford University Press, Oxford.
- Hardy, W.J. (ed.) 1905, *Middlesex County Records. Calendar of Sessions Books 1689-1709*, The Clerk to Middlesex Standing Joint Committee, available at <http://www.british-history.ac.uk/report.aspx?compid=66110>, last consulted 22 September 2008.
- Katritzky, M.A. 2000, "Gendering tooth-drawers on the stage", *Ludica*, 5-6, pp. 144-181.
- Katritzky, M.A. 2001, "Marketing medicine: The Image of the Early Modern Mountebank", *Renaissance Studies*, 15: 2, 121-153.
- Katritzky, M.A. 2007, *Women, Medicine and Theatre, 1550-1750: Literary Mountebanks and Performing Quacks*, Aldershot, Ashgate.
- Maple, E. 1968, *Magic, Medicine and Quackery*, Hale, London.
- Matthews, L.G. 1979, "Italians charlatans in England", *Pharmaceutical Historian*, 9, pp. 2-4.
- Mc Conchie, R.W. 1997, *Lexicography and Physicke: The Record of Sixteenth-Century English Medical Terminology*, Clarendon Press, Oxford.
- Merret, C. 1660, *A Collection of Acts of Parliament, Charters, Trials at Law, and Judges Opinion*, London.
- Mullini, R. 2009, "'With such flourishes as these': The Visual Politics of Charlatans' Handbills in Early Modern London", *Textus XXII*, n. 3, pp. 553-72.
- Mullini, R. 2010, "'Gull'd by the enchanting Tongues of Quack and Zany': The Rhetoric of Nostrum Marketing in Speech and Print in Early Modern London", in N. Brownlees, G. Del Lungo and J. Fenton (eds) 2010, *The language of public and private communication in a historical perspective*, Cambridge Scholars Publishing, Newcastle upon Tyne, pp. 359-76.
- Norri, J. 1992, *Names of Sicknesses in English, 1400-1550: An Exploration of the Lexical Field*, Suomalainen Tiedeakatemia, Helsinki.
- Oxford English Dictionary*, 3rd edn, March 2011, online version, <http://www.oed.com/view/Entry/168940>, last consulted 23 August 2008.
- Pelling, M. 1987, "Medical practice in early modern England: Trade or profession?", in W. Prest (ed.), *The Professions in Early Modern England*, Croom Helm, London, pp. 90-128.

- Pelling, M. 2003, *Medical Conflicts in Early Modern London. Patronage, Physicians and Irregular Practitioners 1550-1640*, Clarendon Press, Oxford.
- Pelling, M. (with F. White) 2004, *CPL Database: College of Physicians of London and Irregular Medical Practitioners, 1550-1640*, available at <http://histsciences.univ-paris1.fr/databases/cpl/>, last consulted 9 March 2009.
- Pomata, G. 1994, *Il patto di guarigione*, Laterza, Bari.
- Porter, R. 1989, "The early Royal Society and the spread of medical knowledge", in R. French and A. Wear (eds) 1989, pp. 272-293.
- Porter, R. 2001, *Bodies Politic. Disease, Death and Doctors in Britain, 1650-1900*, Cornell U.P., Ithaca.
- Porter, R. [1989]2003, *Quacks. Fakers and Charlatans in Medicine*, Tempus, Stroud.
- Proceedings of the Old Bailey* 1679, Ref: t16791015-13, relating to 15th October, available at http://www.hrionline.ac.uk/oldbailey/html_units/1670s/t16791015-13.html, last consulted on 23 September 2008.
- Shadwell, T. 1668, *The Sullen Lovers: or The Impertinents*, Printed for Henry Herringman, London.
- Shaw, W.A. (ed.) 1913, *Calendar of Treasury Books*, vol. 6, available at www.british-history.ac.uk/report.aspx?compid=83507, last consulted on 23 February 2009.
- Slack, P. 1979, "Mirrors of health and treasures of poor men: The uses of the vernacular medical literature of Tudor England", in C. Webster (ed.), *Health, Medicine and Mortality in the Sixteenth Century*, Cambridge University Press, Cambridge, pp. 237-273.
- Wear, A. 1989, "Medical practice in the late seventeenth- and early eighteenth-century England: Continuity and union", in R. French and A. Wear (eds) 1989, pp. 294-320.
- Wear, A. 1998, *Health and Healing in Early Modern England*, Aldershot, Ashgate.
- Winter, S. 1647, *Nothing without God*, London.
- Winter, S. 1649a, *A Pretious Treasury: Or a New Dispensatory. Contayning 70. approved Physicall Rare Receipts. Most necessary and needfull for all Sorts of People to have in their Families. Collected out of the most approved Authors, both in Physick and Chirurgery*, by Salvator Winter, and Signieur Francisco Dickinson, expert Operators. In two Bookes. London, Printed by Tho. Harper for Richard Harper, and are to be sold at his Shop in Smithfield, at the Bible and Harpe, London.
- Winter, S. 1649b, *A Nevv Dispensatory of fourty Physicall Receipts. Most necessary and profitable for all House-keepers in their Families. Besides three other pleasant Arts fit for young Gentlemen*, London.

- Winter, S. 1664, *Directions for the Use of my Elixir my Philosophical Petza or Plaister, my Balsom, and also my purging Drink /* by Salvator VWinter, an Italian of the city of Naples, London.
- Winter, S. [1665]1679, *By His Majesties Authority. Salvator Winter, an Italian of the City of Naples, aged 98 years...*, London.
- Winter, S. [1664]1669, *Nothing without God*, London.
- Winter, S. Jr. 1665[1679], *By His Majesties Authority. Salvator Winter Junior, the exact and true Operator...*, London.
- Winter, S. Jr. [1665?]1680, *Salvator Winter, Son of the late ancient and famous Physician...* London.

Exploring the humoral self: Elizabethan and early Stuart churchmen and Galenic medicine

Paola Baseotto – University of Insubria
paola.baseotto@uninsubria.it

1. Introduction

Even a cursory glance through Elizabethan and early Stuart literary, theological, moral and philosophical writings leaves the reader with a strong impression of the recurrence of medical language and topics. Suffice it here to mention such well-known works as Sir John Davies's philosophical poem *Nosce teipsum* which dramatizes the relation of body, mind and soul, William Perkins's theological treatment of the *Cases of Conscience* which offers accurate descriptions of physical and psychological disorders, or a number of Elizabethan plays such as Shakespeare's *Macbeth* where physicians appear on the stage.¹

The pervasive presence of discourses relating to the sphere of medicine in miscellaneous writings may surprise modern readers accustomed to a well-established system of single-subject areas of specialization and watertight compartments in the field of knowledge, each employing a specific "jargon of the initiated available only to the coterie of the adept" (Bailey 1992: 192). This is a product of the linguistic evolution which went hand in hand with the development of modern science. A new repertoire of words in place of long-established folk terms for animals, plants, substances and physiological processes was created over time. The establishment of modern scientific English was the result of word-creation and the adoption of Greek and Latin terms, often through

¹ On the intersection between the realms of medicine and religion, see Brooke (1991), Kocher (1953) and Pagel (1985). Regarding medicine and the early modern stage, see Moss (2004) and Pettigrew (2007).

the agency of European vernaculars such as Italian or French which first used them to enrich their scientific language.²

2. The popularization of medical knowledge by early modern physicians

2.1. Galenic medicine and laypeople

The cultural climate of Elizabethan and early Stuart England was different. As historians of science have shown, the terminology and repertoire of notions related to Galenic medicine were part of the shared knowledge of all literate persons. Miscellaneous writings abound in passing references or accurate descriptions of the complex physiological processes involving the production of the four humours – blood, phlegm, yellow bile, black bile – following various stages of digestion and their dispersion throughout the body by means of spirits.³ The view that physical, mental and spiritual health proceeds from the balance of the four humours is given special emphasis.

This shared background of varying degrees of familiarity with anatomy and physiology comes chiefly as a result of two factors: the marked propensity of influential physicians to popularize medical knowledge and the common learning path of cultured people.

Regarding the first factor, widely read authors of health manuals almost invariably indicate the desire to make medical notions available to laypeople as the motive of their writing. Philip Barrough describes his treatise as a piece of instruction for common people on how to “perceiue the declinings and alterations” of their bodies since

² Andrews (1947), Norri (1992) and Taavitsainen & Pahta (2004) offer detailed studies of the history of scientific English.

³ “A Spirit is a most subtile, aery, and lightsome substance, generated of the purest part of bloud, whereby the soule can easily performe her functions in the naturall body” (Walkington 1607: H2^v).

many haue died, and do die continually for want of helpe (the Physition being not alwaies at their elbowe) whereas in the beginning of their sicknesse, a litle knowledge might haue stopped the passage of the infirmitie (1596: “Preface to the Reader”).

Andrew Boorde declares that he has written *The Breuiary of Health* for the “common wealth”, not for learned people (1547: A2). The tract is a profitable read not only for “sycke men [who] may recuperate their health”, but also for “whole men [who] may preserue them selfe from sickenes (with goddes helpe) as well in phisicke as in Chierurgy” (1547: B1^v). The subtitle of Levinus Lemnius’s *Touchstone of Complexions* is a statement of its raison d’être: the tract is

expedient and profitable for all such, as be desirous and carefull of their bodylye health: Contayning most easie rules and ready tokens, whereby euery one may perfectly try, and throughly know, as well the exacte state, habite, disposition, and constitution, of his owne Body outwardly: as also the inclinations, affections, motions, and desires of his mynd inwardly.

2.2. The crucial role of English in the process of popularizing medical knowledge

A notable characteristic of these treatises is their authors’ awareness of the crucial function of the vernacular in the process of popularizing medical knowledge for the common good. Boorde opens the *Breuiary of Health* by assuring his “gentyll reders” that he has endeavoured to make its lessons intelligible to all:

[...] olde, auncient, and autentyke auctours or doctours of phisicke, in theyr bokes doth wryte many obscure termes, geuinge also to many and diuers infyrmites darke and hard names, diffycyl to vnderstand, some and mooste of al beynge greke wordes, some and fewe beynge Araby wordes, some beynge Latyn wordes, and some beyng Barbaruse words, Therefore I haue translated all suche obscure wordes and names in to englyshe, that euery man openly and apartyly may vnderstande them (1547: B1^v).

Philip Barrough declares that he has followed in the footsteps of English, Italian and French physicians who have used the vernacular:

I haue followed the example of many learned Phisitions both of our Englishmen and other countrymen also, who published their practises in their mother tong [...], in Italie and France you shall not find any learned Physition, that hath not written as much, (nay rather more) in his owne countrie language, then in Latine (1596: “Preface to the Reader”).

The “Epistle Dedicatorie” of Timothy Bright’s *Treatise of Melancholie* includes a sort of manifesto of the dignity of English and its aptitude as an instrument of popular instruction. The passage, which is notable for its vehement and finely provocative tone, deserves quotation in full:

I write it in our mother tong that the benefit (how small soeuer it be) might be more common, and as the practise of all auncient philosophers hath ben to write in their owne language their precepts, whether concerning nature, or touching maners of life, to the end their countrey men might reape the benefite with more ease, and seeke rather for sound iudgement of vnderstanding, then for vaine ostentation of strange tongs, [...] so I tooke it meetest to impart these fewe poyntes of philosophie, and phisicke in English to the end our people, as other nations do, might acquaint them selues with some part of this kinde, rather then with other friuolous discourses, neither profitable to vse, nor delectable to the vertuous, and well disposed minde.

These authors of health treatises benefited from the efforts of medical humanists such as Thomas Linacre, Henry VIII’s physician, who had provided accurate translations of Hippocrates and Galen from Greek into Latin, thus freeing the corpus of medical learning from the dross of incomplete and often inaccurate medieval versions. The first publication of scientific works in English was another milestone. *The Dictes and Sayings of the Philosophers* (1477), Caxton’s first publication, abounds in language and topics relating to Galenic and Hippocratic medicine. Andrews (1947: 248-50) points out that within a century the majority of seminal Greek and Latin medical works were translated into English along with the writings of German, Italian and French influential physicians. In the wake of this, English doctors started publishing their treatises in the vernacular. The long process leading to liberation of the English language “from the opinion of

rudeness and barbarism” and to assessment of its aptness to “ripen the wits” and “advance [the] knowledge” of people had started (Jonson 1816: 255).

3. Interdisciplinary learning and multiple vocations

Sir Thomas Elyot

As was suggested earlier, apart from the major role played by popularization of medical notions in the vernacular, another factor seems decisive in the establishment of the shared medical knowledge evident in miscellaneous writings of the sixteenth and seventeenth centuries: the common learning path of educated people. The ordinary learning background of scientists, moralists, divines and statesmen would include moral philosophy, theology and natural philosophy. In this regard, Sir Thomas Elyot is a typical product of early modern approaches to learning. Humanist and diplomat, translator of a large number of Greek and Latin writings, Elyot is also one of the first authors of scientific works in English. His *Castel of Helth* is a precise exposition of the medical knowledge of the time complete with very practical instruction to common people on how to report information about their health by examining the “uncertayne tokens of urynes and other excrementes” in order to obtain from physicians “medicines conuenient for the disseasis” (1541: A4).⁴ Elyot himself offers a detailed account of the genesis of his knowledge of anatomy and physiology:

I was not all ignorante in phisycke, fore before that I was xx. yeres olde, a worshipfull phisition [Thomas Linacre], and one of the moste renoued at that tyme in England, [...] rad unto me the workes of Galene of temperantes, natural faculties, [...] some of the Aphorismes of Hippocrates. And afterwarde by mine owne study, I radde ouer in order the more parte of the warkes of Hippocrates, Galen [...] (1541: A4).

⁴ Lyons (1971: 7) argues that Elyot’s *Castel of Helth* was “the most popular of all treatises on health in the sixteenth century”. The *Short Title Catalogue* registers fifteen editions between 1539 and 1610.

Elyot's case as a humanist who had received formal legal training and displayed excellent medical knowledge is not too surprising when one reflects that the absence of any compartmentalization of different areas of learning was an established tradition of western culture from classical antiquity, when it was normal for the same person to be both a philosopher and a scientist. With reference to early modern Europe, Siraisi points out that "the practice of obtaining a combined medical and theological training [was] relatively common" especially in universities such as Paris or Oxford (1990: 65).⁵ A remarkable number of authors of influential Elizabethan and early Stuart works attest to this: the physician Timothy Bright, for example, took holy orders two years after the publication of the *Treatise of Melancholie*, a work which enjoyed international reputation; the Dutch physician Levinus Lemnius, author of the popular tract *The Touchstone of Complexions*, later became a divine; William Bullein, who published four popular medical tracts, moved in the opposite direction, holding first a rectory in Suffolk, then travelling on the continent to pursue medical studies and finally acting at once as both theologian and physician. The multidisciplinary learning and dual vocations which often characterized a single person were the product not only of the composite nature of education, but also of the habit of considering humans as an indissoluble sum of body, mind and soul, a view that modern science seems largely to disregard.

4. The interaction of body, mind and soul

The general interest in and knowledge of human physiological make-up may surprise those modern readers who fail to consider them in the perspective of the view shared by Renaissance physicians, moral philosophers, poets and churchmen of the osmotic relation of body, mind and soul. Robert Burton, the early modern authority on melancholy, offers a detailed description of the effects of such interplay:

⁵ See also Pagel (1985: 11).

For as the Body workes upon the Mind, by his bad humors, disturbing the Spirits, sending grosse fumes into the Braine; and so *per consequens* disturbing the Soule, and all the faculties of it, [...] so on the other side, the Minde most effectually workes upon the Body, producing by his passions and perturbations, miraculous alterations, as Melancholy, Despaire, cruell diseases, and sometimes death it selfe (1621: 119).

The eminent physician Levinus Lemnius lays stress on the fact that “by reason of the narrow consent and union of both parts, the vices of the mind fly upon the body, and the diseases of the body are carried to the Soul” (1658: 296). Timothy Bright declares that his *Treatise* shows “howe the bodie, and corporall things affect the soule, and how the body is affected of it againe” (1586: “Epistle Dedicatorie”); he defines the osmosis of body and soul as a “true loue knot” (35). Thomas Walkington employs a simile to describe this interaction:

If a water current haue any vicinity with a putrefied and infected soyle, it is tainted with his corrupt quality: The heauenly soule of man [...], semblablewise, doth feele, as it were, by a certaine deficiency the ill affected crasis of the body (1607: C1^v).

5. Theological assimilation of medical knowledge

In the light of this common view, concern for physical health was always associated with concerns for psychological and spiritual well-being. While it is difficult in general to separate the spheres of the early modern philosopher, moralist and psychologist as concerns overlapped, even more so the spheres of divines and doctors seem concentric. Unsurprisingly, with reference to his popular work on the “passions of the mind” Thomas Wright declares: “as this Treatise affordeth great riches to the Physitian of the soule, so it importeth much the Physitian of the body” (1601: 6). Physicians published works with revealing titles such as John Jones’s *The arte and science of preseruing bodie and soule in healtie, wisdom and Catholike religion, phisically, philosophically and diuinely deuised* (1579) and theologians penned

writings where medical instruction is either the main subject, or an important complement to moral and spiritual advice.

5.1. The divine sanction of medical knowledge

It should be noticed that the Calvinist cast characterizing the theological approach of these writers enabled them to treat medicine as a dignified and appropriate subject. Unlike Luther, Calvin views scientific inquiry as a very helpful instrument of human endeavours to gain a deeper knowledge of God. In the *Institution of Christian religion* Calvin points out that “euery man is by the knowledg of himselfe, not onely pricked forward to seeke God, but also led as it were by the hand to finde him” (1599: 1, Bk I, ch. 1). With reference to “liberal studies” he declares:

As for his [God’s] woonderful wisedome, there are innumerable prooues both in heauen and in earth that witnesse it: I meane not onely that secreter sort of things, for the neerer marking whereof *Astrologie, Phisicke*, and all naturall Philosophie serueth, but euen those things that thrust themselues in sight of euery one, euen of the rudest vnlearned man, so that men cannot open their eies but they must needes be witnesses of them. But truely they that haue digested, yea or but tasted the liberall Arts, being holpen by the aide thereof, doe proceede much farther to looke into the secrets of Gods wisedome (1599: 5, Bk I, ch.5).

As regards medicine, both physicians and theologians kept reminding their readers that the Bible very clearly states that God, the creator of the human body, sends diseases as punishments or useful trials, but at the same time provides healing plants and remedies to the physician who thus functions as an instrument of divine mercy. They invariably quoted from Ecclesiasticus (Book of Sirach) 38 which opens with the exhortation “Honour the physician for the need thou hast of him: for the most High hath created him” then specifies that “all healing is from God. [...] The most High hath created medicines out of the earth, and a wise man will not abhor them”. In this light, the physician Thomas Cogan declares “no man doubteth that God hath created both Phisicke and the Phisician for the helpe, comfort, and succour of mankinde in sicknesse” (1584: 266). Indeed, “Phisicke is the ordinarie meanes

which God hath appointed for the preseruing and recouering of health, and consequently for the prolonging of life so long as his good pleasure is" (1584: 3).

Given the divine sanction of medical knowledge and practice, their expediency in an age when the poor quality of diet and housing exposed a large portion of the population to disease, the position of ministers as the persons in close contact with local communities, and the perceived importance of physiological balance for spiritual health, churchmen threw themselves wholeheartedly into the popularization of all they had learned about physiology in books and at sick-beds. The remarkable theoretical knowledge of medicine shown by Elizabethan and early Stuart divines and the assimilation of physiological language in their writings are worth close analysis in consideration of the popularity and influence of devotional works, the age's most frequently published and most widely read literature.

Perusal of popular works by Elizabethan and early Stuart churchmen shows that the analogies between health manuals and devotional writings go beyond a shared repertoire of terms or mutual exchanges of quotations. Theologians often discuss the consequences of humoral unbalance on people's daily life, on their mental, physical and spiritual well-being. They clearly view the spiritual self as connected to the psychological and physiological self. Regarding the link between spiritual welfare and humoral balance, the popular preacher and author of widely read treatises William Perkins insists on the need to acquire sound medical knowledge aimed at self-diagnosis and self-treatment in consideration of the alarming fact that "the Devill being well acquainted with the complexion and temperature of man" (1631: 47) selects his victims among people in poor physical or psychological health. The same warning that if not treated with diet a humoral unbalance leaves people unprotected against certain diseases while evil spirits gain freer access to their soul is frequently found in the writings of authoritative physicians. Lemnius emphasizes the permeability of the body: "Now, for so much as Spirits be without bodies, they slyly and secretly glyde into the body of man, euen much like as fulsome stenche, or as a noysome and ill ayre is inwardly drawne into the body" (1576: 22).

6. Churchmen and the emotional self

6.1. *Early modern views of passion*

No subject is more often treated by churchmen than passions, which are analysed in the perspective of the period's materialist view of human behaviour offering a physiological explanation for every physiological and psychological process. It should be noticed that the emphasis of religious works on the emotional aspect of human nature is not distinctive. Any reader of Elizabethan and early Stuart literary and instructional writings knows that passion is a key concern. Indeed, many popular poetic and dramatic works describe the elevating and at the same time destructive power of passion; influential moral, philosophical and medical tracts are devoted to a systematic description of the nature and operations of passions and their influence over physical, psychological and spiritual health. These works popularize the Galenic view of passions as physiological phenomena which serve as fundamental instruments of physical and mental processes. Passions, which are functions of the sensitive soul, are the product of a muscular expansion or contraction of the heart, in Wright's words, "all Passions may be distinguished by the dilation, enlargement, or diffusion of the heart: and the contraction, collection, or compression of the same" (1601: 45).

Essential as they are for their contribution to the complex functioning of body and mind, passions may also become people's main antagonists: excesses of passion are invariably denounced throughout Elizabethan and early Stuart writings as the cause of physical and mental disease and even of death. Thomas Wright argues that "there is no passion very vehement, but that it altereth extremely some of the four humors of the body; and all Physitians commonly agree, that among diuers other extrinsecall causes of diseases, one, and not the least, is the excesse of some inordinate passion" (1601: 6). Having first explained how physiological unbalance affects the mind and how the mind in turn produces passions which affect the body, Bright warns readers that all passions, even joy, may kill: "If you will call to minde histories, you may remember how some haue died of sorrow, and othersome

of ioy, and some with feare, some with ielousie, and othersome with loue". Death is caused by the "excessiue effusion of spirites, and suddaine alteration from the heartes contraction to such dilation as those affections procure" (1586: 251, 250).

General anxiety regarding unregulated passions focused not only on their harmful effect on health, but also on their inclination to supersede reason, thus stimulating vicious conduct. Thomas Wright states that passions "blind reason, [...] seduce the will, and therefore are special causes of sin" (1601: 3). Shakespeare's tragedies are highly evocative dramatizations of contemporary psychological theories: a recurrent pattern in his plays is evil's penetration of the mind in the shape of a passion which grows and finally overcomes reason.⁶

In the light of this view of passion, self-mastery is crucial for the sake of physical, mental and spiritual health. Because the essential prerequisite for self-mastery is self-knowledge, the emphasis on the medical aspect of passion is pervasive throughout all kinds of writings, including theological writings. Authors of devotional works lay stress on the problematic relation of will, reason, and conscience on the one side, and the impulses of the humoral body on the other. Minute analyses of the nature and operations of emotions are at the core of widely read works such as William Perkins's *Whole Treatise of the Cases of Conscience* and of Edward Reynolds's encyclopedic *Treatise of the Passions and Faculties of the Soule of Man*.

6.2. William Perkins's *Cases of Conscience*

William Perkins, an authority on all aspects of Christian life for Protestants throughout Europe, the author of works which were translated into six languages and were carried by the Pilgrims to the New World, scatters miniature medical tracts in his writings. Hence for example in the *Cases of Conscience* the reader is offered a convenient outline of medical views of melancholy complete with accounts of the physiological processes that produce various melancholy conditions, references to the influence of melancholy

⁶ For important discussions of Shakespearean treatments of humoral psychology, see Paster (2004) and Anderson (1964).

on one's physical, mental and spiritual health and suggestions about the best medical and spiritual treatments. Some of Perkins's descriptions of the visible manifestations of melancholy are very evocative; he warns that melancholy "workes a change and alteration in the body, as it were a burning ague, and it causeth the entralls to rise, the liuer to rowle in the bodie, and it sets a great heat in the bones, and consumes the flesh more than any sicknes can doe" (1606: 109).

6.3. Edward Reynolds's Treatise of Passions

From the large group of early modern theologians who show an acute interest in and remarkable familiarity with medical knowledge, Edward Reynolds stands out as the author of a thick volume on passions which is really a compendium of contemporary views of the physiological, psychological and spiritual components of human nature and their interaction. Bishop of Norwich and prolific author of devotional writings, Reynolds publishes his *Treatise of Passions* in 1640. Further editions in 1651, 1656 and 1658 attest to the popularity of this work. In the dedicatory epistle to Princess Elizabeth, Dutchess of Bavaria, Reynolds traces the genesis of his treatise to his desire to comply with the Delphic imperative which had become a Renaissance leitmotiv: "know thyself". He declares: "before I adventured on the endeavour of knowing other things, [I thought] I might first try whether I knew my selfe". His aim is to avoid the mistake made by those "Grammarians" who were "better acquainted with the evils of Ulysses then with their owne" (1640: "Epistle dedicatory"). Significantly, the starting-point of Reynolds's attempt at self-knowledge is an exploration of his emotional self. By defining his work as a "Glasse of the humane Soul [which] may be of some service even unto the Tabernacle" ("Preface to the Reader"), Reynolds points to the centrality of passion in all aspects of life; in this light, he signals the need for moral and natural philosophers and for churchmen to acquire an excellent knowledge of the nature and operations of passions.

A look at the table of contents of Reynolds's treatise gives an idea of the multidisciplinary quality of this great taxonomy of human passions. The forty-two chapters which compose the tract

cover such topics as “The dependance of the Soul in her operations upon the body” (ch. 1); “In what cases the dependance of the Soul on the body is lessened by faith, custome, education, occasion” (ch. 2); “Of Passions, their Nature and distribution: [...] of Passions mentall, sensitive, and ratioll” (ch. 5); “Of humane Passions in generall, their use, naturall, morall, civill: their subordination unto, or rebellion against right reason” (ch. 6); “Of the exercise of Passions: of Stoicall Apathy: of permanency, defect, excesse, with the Cure thereof” (ch. 7); “Of the effects of Passions, how they sharpen vertue: of vitious concupiscence, of their blinding, diverting, distracting; and precipitating of Reason, and of their distemping the body” (ch. 8). Twenty-three chapters (9 to 31) are devoted to meticulous analyses of specific passions: love, hatred, desire, joy, delight, sorrow, hope, fear, anger. This extensive treatment of the passions that affect physiological, mental and spiritual health is followed by a short survey in three chapters (32-34) of the nature of the reasonable soul, its creation, its immortality and the presence of the “Image of God” (ch. 33) in it. A discussion in eight chapters (35-42) “of the honour of humane bodies by Creation” (ch. 35) with special emphasis on the faculties of understanding and will, on knowledge and conscience, closes the tract.

Reynolds’s work offers plenty of material that any historian of culture in general and of the evolution of perceptions of the psychological and emotional self in particular would find interesting. The *Treatise* opens with a discussion of the osmotic relation of body and “soul”, i.e. “the Reasonable part of Man” (1640: 4). Reynolds lays stress on the “dependance of the Soule in her operations upon the Body” (1). This is no ideal situation; indeed, it is one of the unhappy consequences of the Fall:

for whereas the principall acts of mans Soule are either of Reason and Discourse, proceeding from his vnderstanding; or of Action and Moraltie, from his Will; both these in the present condition of mans estate, have their dependance on the Organs and faculties of the Body (1640: 3).

The fact that the good functioning of the “Reasonable part of Man” (1640: 4) depends on physical health is worrying, since the body has

a disturbing power, to hurt and hinder the operations of the Soule: Whence wee finde, that sundry diseases of the Body doe oftentimes weaken, yea, sometimes quite extirpate the deepest impression and most fixed habits of the minde (1640: 4).

At the close of a learned and detailed exposition of the Galenic view of passions as physiological phenomena whose quality and intensity depend on one’s humoral make-up and physical condition, Reynolds emphasizes their crucial function as instruments of the interaction of body and mind and concludes that passions are not evil in themselves:

the *Corruption* then of *Passion* in this respect, is the *independance* thereof upon its true *Principle*: when it stayeth not to looke for, but anticipates and prevents the Discourses of *Reason*; relying onely on the judgement of *Sense*, wherewith it retains an undue correspondence. [...] For as Fire (though it be of all other creatures, one of the most comfortable and usefull, while it abides in the place ordained for it); yet, when it once exceeds those limits, and gets into the house-top, it is most mercilesse and over-running; so *Passion[s]* (though of excellent service in Man, for the heating and enlivening of Vertue, for adding spirit and edge to all good undertakings) [...] yet if once they flye out beyond their bounds, and become subject onely to their owne Lawes, and encroach upon Reasons right, there is nothing more tumultuous and tyrannicall (1640: 44-45).

In this light, Reynolds concludes that passions are “the best Servants, but the worst Masters which our Nature can have” (1640: 46).

If excesses of passion disturb the mind and blind reason, their effects on physical health are no less harmful:

the corrupt effects which *Passion* worketh in the last place on the Body, are divers, according to the particular nature of the Passions; sometimes too sudden and violent, sometimes too heavie oppression of the heart; the other sudden perturbation of the spirits. Thus old *Ely* dyed with sudden grieffe; *Diodorus*, with shame; *Sophocles*, *Chilo* the *Lacedemonian* and others, with joy; Nature being not able to

bears that great and sudden immutation, which these Passions made in the Body (1640: 73).

Surprisingly, references to the effects of unregulated passion on spiritual health are not as numerous and elaborate. The emphasis in Reynolds's seminal work on passion falls on concerns for physical and psychological wholesomeness.

Despite the worrying findings of his survey, Reynolds refutes the Stoic view of passions as perturbations and diseases requiring suppression, a view he condemns because the suppression of passions would "reduce the Mind to a senselesse *Apathie*" (1640: 47). The theologian praises the "right governing" of passions by will, "since *excesse* and disorder in things otherwise of so great *use*, requireth amendment, not extirpation; and we make straight a crooked thing, we do not breake it" (48). Even Christ experienced passion: Reynolds points out that

our Saviour himselve sometimes loved, sometimes rejoiced, sometimes wept, sometimes desired, sometimes mourned and grieved; but these were not *Passions* that violently and immoderately troubled him; but he, as he saw fit, did with them *trouble himselve*. His *Reason excited, directed, moderated, repressed* them, according to the rule of perfect, cleare, and undisturbed *judgement* (1640: 48).

7. Conclusion

When they fall prey to passion like brute beasts, humans show that they belong to fallen nature; when they master the excesses of passion, they show that they partake in divine nature. In this perspective, knowledge of the physiology of the emotions as well as awareness of their spiritual, ethical and social significance, are subjects worthy of lifelong study and primary concerns of physicians of the soul and physicians of the body. Indeed, as Wright points out, all need to learn the art of "penetrating the nature and qualities of [the] affections", including the "good Christian", the "ciuil Gentleman", the "prudent Polititian" and "Magistrates" (1601: 9-10).

Wright delineates a universal need of "an Astrolabe" to navigate the high sea of one's emotional self (1601: 10): this instrument is

self-knowledge, the antagonist of the “deformed night of ignorance” which “begettes two misshapen monsters, [...] the one the dyscrasie of the body, the other the malady and distemperature of the soule” (Walkington 1607: B). This view of the importance of self-knowledge and self-control for the physical, psychological and spiritual welfare of individuals – itself a prerequisite for the welfare of the whole community – is a milestone in the long process of the development of a sense of subjectivity and personal identity. As propagators of medical knowledge of the operations of body and mind, early modern churchmen offered a crucial contribution to this watershed in the history of Western thought.

References

- Anderson, R.L. 1964, *Elizabethan Psychology and Shakespeare's Plays*, Haskell House, New York.
- Andrews, E. 1947, *A History of Scientific English: The Story of its Evolution Based on a Study of Biomedical Terminology*, Richard R. Smith, New York.
- Bailey, R.W. 1992, *Images of English: A Cultural History of the Language*, Cambridge University Press, Cambridge.
- Barrough, P. 1596, *The Method of Physick: containing the causes, signes, and cures of inward diseases in mans body, from the head to the foote*, London.
- Boorde, A. 1547, *The Breuiary of Healthe*, London.
- Bright, T. 1586, *A Treatise of Melancholie. Containing the causes thereof, & reasons of the strange effects it worketh in our minds and bodies: with the phisicke cure, and spirituall consolation for such as haue thereto adioyned an afflicted conscience*, London.
- Brooke, J.H. 1991, *Science and Religion: Some Historical Perspectives*, Cambridge History of Science Series, Cambridge University Press, Cambridge.
- Burton, R. 1621, *The Anatomy of Melancholy*, Oxford.
- Calvin, J. 1599, *The Institution of Christian Religion*, London.
- Cogan, T. 1584, *The Haven of Health. Chiefly gathered for the comfort of Students, and consequently of all those that haue a care of their health*, London.
- Davies, Sir J. 1599, *Nosce teipsum. This oracle expounded in two elegies 1. Of humane knowledge. 2. Of the soule of man, and the immortalitie thereof*, London.
- Elyot, T. 1541, *The Castel of Helth*, London.

- Jones, J. 1579, *The arte and science of preseruing bodie and soule in healtbe, wisdom, and Catholike religion phisically, philosophically, and diuinely deuised: by Iohn Iones phisition*, London.
- Jonson, B. 1816, *The English Grammar* 1640, in W. Gifford (ed.), *The Works of Ben Jonson*, G. and W. Nicol, London.
- Kocher, P.H. 1953, *Science and Religion in Elizabethan England*, The Huntington Library, San Marino, CA.
- Lemnius, L. 1576, *The Touchstone of Complexions. Generallye appliable, expedient and profitable for all such, as be desirous and carefull of their bodylye health*, London.
- Lemnius, L. 1658, *The Secret Miracles of Nature in four books: learnedly and moderately treating of generation, and the parts thereof, the soul, and its immortality, of plants and living creatures, of diseases, their symptoms and cures, and many other rarities*, London.
- Lyons, B.G. 1640, *Voices of Melancholy: Studies in Literary Treatments of Melancholy in Renaissance England*, Routledge, London.
- Moss, S. (ed.) 2004, *Disease, Diagnosis, and Cure on the Early Modern Stage*, Ashgate, Aldershot.
- Norri, J. 1992, *Names of Sicknesses in English – 1400-1550: An Exploration of the Lexical Field*, Suomalainen Tiedeakatemia, Helsinki.
- Pagel, W. 1985, *Religion and Neoplatonism in Renaissance Medicine*, Winder M. (ed.), Variorum Reprints, London.
- Paster, G.K. 2004, *Humoring the Body: Emotions and the Shakespearean Stage*, University of Chicago Press, Chicago and London.
- Perkins, W. 1606, *The Whole Treatise of the Cases of Conscience*. London.
- Pettigrew, T.H. 2007, *Shakespeare and the Practice of Physic: Medical Narratives on the Early Modern Stage*, University of Delaware Press, Newark.
- Reynolds, E. 1640, *A Treatise of the Passions and Faculties of the Soule of Man. With the severall Dignities and Corruptions therunto belonging*, London.
- Siraisi, N. 1990, *Medieval and Early Renaissance Medicine: An Introduction to Knowledge and Practice*, University of Chicag Press, Chicago.
- Taavitsainen, I. & P. Pahta (eds) 2004, *Medical and Scientific Writing in Late Medieval English*, Cambridge University Press, Cambridge.
- The Dictes and Sayings of the Philosophers* (1477), printed by William Caxton, London.
- Walkington, T. 1607, *The Optick Glasse of Humors or The touchstone of a golden temperature, or the Philosophers stone to make a golden temper*, London.
- Wright, T. 1601, *The Passions of the Minde*, London.

Medical entries in 18th-century encyclopaedias: The lexicographic construction of knowledge

Elisabetta Lonati – University of Milan
elisabetta.lonati@unimi.it

1. Background and primary sources

1.1. A new approach to real life

The aim of applying new technical and scientific discoveries to benefit mankind is typical of the Early Modern English period and is characterised by a process well established since the 17th century (cf. Jardine 1999; Hunter 1981). The experimental method based on observation, collection of data, reproducibility of phenomena, deduction and application to the world around, with a view to making progress possible, can therefore be considered representative of the principles inspiring 18th-century encyclopaedias.

Their content and form are an evident and perhaps necessary expression of a great change in the interpretation of the world: the research and discovery path has as its ultimate aim ‘utility’, exempt from any speculative attitude closed within itself. This means that concrete facts should therefore be transformed through language into written texts that everybody can take advantage of (Formigari 1974; Banks 2008; Gotti 2011).

The originality of encyclopaedic reference works, which are strictly bound to previous and contemporary lexicographic tradition (cf. Hayashi 1978; Haiman 1980; Rey 1982; Starnes & Noyes 1991; Green 1996; Béjoint 1994 and 2010; Considine 2008), lies in their effort to shape and systematize the manifold branches of human knowledge, that is to frame in a significant whole the individual entries arranged in alphabetical order (cf. Abbattista 1996; Castagneto 1996; Bradshaw 1981 and 1981a; Kafker 1994a and 1994b). This means that the single micro-texts of the entries are embedded into the encyclopaedic macro-structure and complementary

to it. Cross-referencing is what helps establish this close network of connections: that is, cross-references become the fundamental, indispensable tool for creating a 'continuum' within the whole complex organization of knowledge, made otherwise apparently disparate by the arbitrariness of alphabetical order. They also help and encourage systematic reading.

Making the correspondences plain and unambiguous between knowledge and language is the encyclopaedists' ultimate goal. Cross-referencing is thus a basic and precious tool to make the relationships between the whole and its various parts presented in dictionary form emerge. This should not contribute to the advancement of knowledge rather transmit and teach it.

1.2. British medical context

Alongside the development of the encyclopaedic genre, great changes were occurring in the medical field and in the social approach to medicine as well (French & Wear 1991; Lane 2001; Loudon 1986 and 1992; Riley 1987): new concepts, new processes and new techniques, besides the layman's interest in them, emerged with force. Medical research, which directly go back to the outstanding approaches and discoveries of the preceding century (cf. Lindemann 2010; Wear 1989 and 2000), urged experts and non-experts to develop new communicative strategies both to categorize, organize, describe and discuss advanced issues, and to apply pioneering approaches to well known or unpredictable situations. Medical writing thus became an expanding phenomenon and an essential one to record medical debate and experience, both in Early Modern English (cf. Taavitsainen & Pahta 2011a; McConchie 1997; McConchie & Curzan 2011; Dirckx 1976) and later, particularly after 1750 when the English Medical reform was definitely taking place (Bynum & Porter 1992; Fissel 2007; Warren 1951).

1.3. Sources

The present analysis focuses on the first edition of the three most relevant 18th-century 'dictionaries of arts and sciences': John Harris's *Lexicon Technicum* (LT, 1704), Ephraim Chambers's

Cyclopaedia (*Cy*, 1728), and the *Encyclopaedia Britannica* (*Br*, 1768-1771).

The percentage covered by medical terminology in the *LT*, *Cy* and *Br* (approximately between 8% and 13%) takes on notable significance, considering the high number of branches of knowledge included in the three works. In particular, in the *Cy*, an elaborate tree of knowledge is included in the preface, whereas in the *Br*, the most important branches of arts and science are organized into forty-four treatises (amongst which *MEDICINE* and *SURGERY*). Such a high percentage guarantees a variety of examples testifying to the way compilers handle medical vocabulary and structure medical entries as a whole (for a general survey on this topic, cf. Lonati 2002 and 2007).

In such a context, cross-referencing is one of the (discourse) strategies much more widely used to establish cohesion within individual works: it is almost systematic in the *Cy* and the *Br*, less common in the *LT*. Indeed, it is only via the cross-references that the compilers give all the possible correlations between the different subjects, and parts of the same topic, to create an efficient global view, since discussion of one problem interweaves and overlaps with others, opening innumerable routes for investigation. Each entry may thus be predisposed for an explosion of meanings, endlessly expanding its ramifications and possibilities.

1.4. Aims

The general aim is to investigate, exemplify and discuss medical headwords and medical entries, alongside their basic constituents, in the three works. The analysis focuses on the linguistic strategies exploited by the compilers in organizing, categorizing and communicating medical knowledge in a lexicographic framework.

1.5. Methodology

The original corpus covers about a quarter of the headwords included in each encyclopaedia, selected among letters A-H-I / J and P (cf. Lonati 2002 and 2007); whereas the examples have been chosen according to their typology among all the medical entries included in such a corpus. In other words, the entries analysed and

discussed are significantly representative of how medical contents were set and classified in a changing and developing lexicographic structure. Definitions and definitional patterns within the micro-structure of the single entry are at the core of the study. The term DEFINITION is a general one encompassing “a wide range of means for helping readers to understand and to use a term” (McConchie & Curzan 2011: 77ff., particularly symptomatological defining), such means include lexical definitions (focussing on word meaning), equivalents (translational or explanatory; cf. Zgusta 1971 and 1987; Adamska-Sałaciak 2010), cross-references, and encyclopaedic descriptions (extra-linguistic reference).

2. Definitional patterns in the three encyclopaedias: a survey

2.1. *Approaching medical knowledge: the shortest entries*

This section is completely devoted to the exemplification and discussion of the most relevant definitional strategies exploited in the three encyclopaedias. The entries under scrutiny here have been further distinguished into sub-sections: the first includes the shortest entries, variously characterised by the presence of basic definitions (the most concise, focussed on lexical meaning) and slightly expanded ones, besides equivalents and cross-references; whereas the second examines more elaborate encyclopaedic descriptions (cf. § 2.2., here the reference to the real world of medical experience is definitely substantial). Any single aspect of the discussion is treated for the three works altogether, highlighting some differences if necessary.

Basic definitions. In general terms, definitions are practically always present, they are the first set of information given on the topic of discussion, except in some cases where they are preceded or followed by equivalents and/or cross-references and, in the *Cy*, by etymology (cf. *AGONY* below). In the shortest and simplest typology, definitions usually overlap with the entry itself. However, some specific features in the three works are worth emphasizing: the *LT* is mostly characterised by minimal – even meagre – definitions, sometimes slightly expanded by expressions like

‘accompanied with, attended with’, etc. (without detracting from the extreme concision); the *Br* itself prefers condensed definitions as the main part of the medical entries (generally two or three column lines), in prevalence the approach is that of a language dictionary without giving meta-linguistic information; the *Cy* usually starts with concise and basic definitions, frequently – but not always – followed by subsequent explanations and lengthy encyclopaedic expansions. The examples below highlight the basic lexicographic treatment of medical terminology:

Group A: basic definitions

Lexicon Technicum

ACOSMY, is an ill state of Health accompanied with the Loss of the natural florid Colour of the Face.

ANTHRACOSIS OCULI, is a corrosive scaly Ulcer in the Eye, attended with a general Tumor, especially of the Parts about the Eye.

HAELOSIS, according to some, is a reflected inversion of the Eye-lid.

HAEMORRHAGIA, is a Flux of Blood from the Nostrils, Mouth, or Eyes, &c.

Cyclopaedia

AGONY, AGONIA. The Extremity of Pain, or a Disease; when Nature makes her last Effort, or Struggle, to throw off the Evil that oppresses her. See PAIN, DISEASE, and DEATH. The word is formed from the *Greek* [...] *Certamen*, Combat; this being a kind of Strife, between Life and Death.

HEMICRANIA, in Medicine, a species of *Cephalalgia*, or *Head-Ach*; wherein the Hemisphere, or half of the Head is affected. See CEPHALALGIA and HEAD-ACH.

Encyclopaedia Britannica

ACH, or **ACHE**, in medicine, a term used for any severe pain, as head-ach, tooth-ach, &c. See Medicine.

PARAPHROSYNE, a word used by medical writers to express a delirium, or an alienation of mind in fevers, or from whatever cause.

PARESIS, in medicine, is defined to be a palsy of the bladder, wherein the urine is either suppressed, or discharged involuntarily.

PAROXYSM, in medicine, the severe fit of a disease, under which it grows higher, or exasperates, as of the gout, &c.

The defining technique here implies some basic considerations: first, the headwords are generally given in Latinate form and, even when they are anglicised versions, the register is so specialized that the context is almost bilingual. This means that the strategies exploited to build up the correspondence between the headword and its lexical and/or encyclopaedic content are comparable to those of a bilingual dictionary in which a foreign headword (here the Source Language) is generally followed by an equivalent (or a series of equivalents) in the Target Language (TL, here English); whereas in monolingual dictionaries the headword is usually defined (sometimes alongside synonyms and/or hyponyms, etc.). The situation here is in-between the two approaches because of the need to find an equivalent – either translational, or explanatory – both for Latinate terms and for anglicised or English (difficult) terms, alongside the need to define the specialized lexical items in English. Obviously enough, this implies for the compilers to start from the core lexical meaning.¹

The second consideration is that the distinction between lexical definitions and explanatory equivalents is not always clear-cut (this mostly depends on the conciseness of the entry itself and the general context in which the equivalent / definitional expression is embedded), as not clear-cut is the difference between explanatory equivalents and highly-explanatory translational equivalents (Zgusta 1971 and 1987; Adamska-Sałaciak 2010). In any case, since the linguistic situation as regards medical terminology – as

¹ *Oxford English Dictionary* (<http://www.oed.com>) *acosmy* > disorder, chaos; *anthracosis* > coal, carbuncle; *haelosis* > to roll; *haemorrhagia* > to break blood; *agony* > mental struggle and physical suffering; *hemicrania* > pain in one side of the head; *paraphrosyne* > delirium; *paresis* > slackening of strength, relax; *paroxysm* > to sharpen, render acute.

well as the lexicographic techniques in compiling encyclopaedias – is so fluid at the time, it is not possible at all – not even useful, and certainly not the aim of this paper – to categorize such differences. The discussion of the examples above clarify the complex defining mechanism, besides highlighting their interchangeable nature of equivalent vs. definitional expression in similar vs. different contexts:

1. ANTHRACOSIS OCULI and HAEMORRHAGIA are followed by *Ulcer in the Eye* and *Flux of Blood* respectively. The two expressions may be considered as highly-explanatory translational equivalents glossing the original lexemes, they are actually perceived as completely lexicalized because of their specificity (they point to a specific medical event, even though with a different register);
2. ACOSMY, AGONY, ACH or ACHE, PAROXYSM are followed by too vague and general meanings (*ill state of Health, Extremity of Pain, any severe pain, the severe fit of a disease*, respectively) to be considered as efficient and actual equivalents of specific illnesses. They are indeed – or they seem to be – concise definition of the term (cf. note 1);
- 3.a third case is represented by PARAPHROSYNE, whose translational equivalent is *delirium*, then followed by its own definition *an alienation of mind in fevers*: the distinction of the two functions seems here more definite.

Equivalents. Things become clearer when the definitions expand a little, as in examples from Group B (and later in Group D) below. In the following extracts, translational equivalents are easily discernible because they are included in a larger context and defined themselves in turn. Some are preceded by a general definition (as under ILIAC, preceding *Iliac Passion* and *Miserere*), some others are directly followed by one or more equivalents and then defined (cf. ANTHRAX > *carbo, pruna, carbunculus*; ICTERUS > *jaundice*; ANOREXY > *anorexia, inappetency*):

Group B: equivalents

Lexicon Technicum

ANTHRAX, *Carbo*, *Pruna*, or *Carbunculus*, is defined to be a Tumor that arises in several Places, [...].

ICTERUS, the Jaundice, is a changing of the Skin into a Yellow Colour, from an Obstruction of the *Ductus Choleodochus*, or the Glandules of the Liver, thro' Weakness, Obstruction, or a *Schirrus* of the Liver; [...]. The *Latines* called it, *Regius Morbus*, the Kingly Disease [...].

Cyclopaedia

ANOREXY, *ANOREXIA*, in Medicine, an Inappetency, or Loss of Appetite. See APPETITE. *Anorexia* is properly a longer continuance than is natural, without a desire to eat. See FOOD, FASTENING, DISTASTE, &c. [...]

ILIAC, a Term in Physick, applied to a violent and dangerous Disease, called the *Iliac Passion*, or *Miserere*. [...]

There are not many equivalents in the *Br.* Headwords usually have one single form, which can be either Latin or English: ABIGEATUS, or ABACTUS; ALTERANTS, or ALTERNATIVE MEDICINES; HAEMORRHOIDS, or PILES; INCUBUS, or NIGHT-MARE, etc. These are among the few cases where variants are confirmed. All the others – practically the entirety – are regularly to be found in one of the two languages. Latin and/or Latinate forms are still widely used but a comparison with *LT* and *Cy* shows a more systematic usage of English forms. This fact also suggests that medical terminology in the second half of the century has acquired a high degree of acceptability, appropriateness and ‘currency’, at least from an orthographic and morphological viewpoint.

Cross-references. The widespread usage of equivalents and their different distribution in the three works is also highlighted by cross-referencing whose main function is to establish connections among the manifold entries within the single encyclopaedias. In other words, this means that the nature of cross-references may be different, at least twofold: on the one hand, cross-references may be

equivalents (or even graphic variants) whose entries expand and develop a given topic; on the other hand, cross-references are frequently complementary or even independent topics, sharing some similarities and/or differences with the original headword-topic.

Cross-referencing is not systematic in the *LT*, is widespread in the *Cy* and less frequently exploited in the *Br* (just a third of the entries include cross-references); it is widespread both in the shortest entries that simply refer one elsewhere, and in more complex ones.

Group C: cross-references

Lexicon technicum

ANCHYLOPS, the same with *Aegylops*: Which see.

PESSULUS, the same with *Pessary*. *PESSUS*. The same.

HYPOCHONDRIACA AFFECTIO. See *Hypochondriacus Affectus*.

JAUNDICE. See *Icderus*.

PANARITIUM. Vid. *Paronychia*.

ANCYLOBLEPHARUM, [...]. *Tunica Cornea* [...] *Albuginea* [...].

HAEMALOPS, [...] *Blue-Eye*. [...] *Blood-Shotten Eye*.

PASTILLS, *Tablets*, or *Trochisks* [...], *Tragacanth*.

PHLOGOSIS, [...] *Ophthalmy* [...].

In the *LT*, the headword, often in Latin, may be directly followed by a cross-reference. The definitions following equivalents, if present, are basic and clearly leave room for cross-references expanding and completing the information. There are some cases where the cross-reference is understood, in that there is no textual introductory expression explicitly inviting the reader to follow up the subject under associated topics or entries pertinent to the given headword

(such as *which see, see, vid., etc.*): for example ANCYLOBLEPHARUM, HAEMALOPS, etc. above.

In the *Cy*, cross-referencing tends to be explicit and is usually introduced by *see*: “*AERUGO Aeris*, in Medicine, &c. See *VERDEGREASE*.” The structure exemplified is the simplest in which cross-reference can appear. This quite widely used structure is more often enriched by equivalents and explanations: “*AEGILOPS*, a Tumor, or rather Ulcer, in the great Canthus or Angle of the Eye, by the Root of the Nose; either with or without an Inflammation. See *EYE, TUMOR*, and *ULCER*. [...]”

In other cases, the cross-reference is implicit, the equivalent in italics suggesting further reading: “*ACANTABOLUS*, or *ACANTHABOLUS*, a Surgeon’s Instrument; call’d also *Volsella*. [...]”; “*ISSUES*, in Physic, are small artificial Apertures in a fleshy part of the Body, [...] *Issues* are very useful in many Distempers, [...] as an *Hydrocephalus, Ophthalmia, Old Ulcers, &c.*” So the structure can expand by continual addition of elements that make the entry ever more complex and full of information, in which the cross-reference is a constant.

In the *Br*, the cascade of cross-references in *Cy* is replaced by more moderate use of this instrument for connecting the various parts of the encyclopedia. Almost all terms have one single cross-reference, a few have two: “*ABAPTISTON*, or *ANABAPTISTON* [...] See Surgery, and Trepan”; “*ANTIMONIALS*, [...] See Antimony, and Chemistry”; etc. Fewer than half refer to isolated, different entries: “*ABEVACUATION*, [...] See Evacuation”; “*ABRUPTION*, [...] See Abduction; *ACHE*, [...] See Ach”; “*AGON*, [...] See Agony; *ALBUMEN*, [...] See Egg”; “*INFECTION*, [...] See Contagion”; “*POTENTIAL*, [...] See Cautery”; etc. Most give the cross-reference “See Medicine”, sometimes alongside “Surgery”. A restricted group of examples follows: “*ACH*, or *ACHE*, [...] See Medicine”; “*AMAUROSIS*, [...] See Medicine”; “*HAEMOPTOSIS, HAEMAPTYSIS*, or *HAEMOPTOE*, [...] See Medicine”; “*PARAPLEGIA*, [...] See Medicine p. 97”; “*PERIPNEUMONY*, [...] See Medicine p. 91”; etc.

Since cross-references are not omnipresent, as they are in the *Cy*, they do not play the same part as for Chambers. Nevertheless, their presence is and contribute to the work’s cohesiveness, especially since a good proportion of the connections are via

MEDICINE (treatise). This confirms the compilers' intention to give the specific treatises the most important part of the encyclopaedic information.

Elaborate definitions. In this kind of entries, encyclopaedic information is included as a concise expansion of preceding or following lexical definitions (variously introduced by *is defined*, *a term applied to*, under *ANTHRAX* and *ANODYNE*; or nothing specific, as under *IDIOPATHY*, or *INCORPORATION*). Here external reference is definitely established and the encyclopaedic load clearly emerges

- [1] **as a concise series of symptoms** (as under *ANTHRAX* > *surrounded with, accompanied with, but without ever being*) alongside the course of the illness and its more or less direct effects (*when...it spreads, it burns, [it] throws off...when it is rotten, leaves...as if it had been burnt*);
- [2] **as a series of equivalents**, under *ANTHRAX* > *carbo, pruna, carbunculus*, (meaning coal / burning pain > tumor) or *INCORPORATION* > *impastation*;
- [3] **as a series of examples**, under *ANODYNE* > *such as the anodyne balsam made of Castile soap, opium, camphire, saffron, and spirit of wine*, and under *INCORPORATION* > *thus pills, boles, troches, and plasters are made by incorporation*;
- [4] **as a categorizing principle based on hyponymy**, under *ANODYNE* > *relaxing remedies, diluters, medicines which [...] destroy acrimony, [...] compound medicines*;
- [5] **as an organizing principle based on antonymy-oppositeness**, under *IDIOPATHY* > *idiopathy (proper to some particular Member, or Part of the Body) vs. sympathy (the Indisposition takes its Rise from a Disorder in some other Part of the Body), idiopathic (when it happens purely thro' some Fault in the Brain) vs. sympathetic (when it is preceded by some other disorder)*;

Group D: elaborate definitions

Lexicon Technicum

ANTHRAX, *Carbo*, *Pruna*, or *Carbunculus*, is defined to be a Tumor that arises in several Places, surrounded with hot, fiery, and most sharp Pimples, accompanied with acute Pains, but without ever being separated; and when it spreads it self farther, it burns the Flesh, throws off Lobes when it is rotten, and leaves an Ulcer behind it, as if it had been burnt with an Iron. *Blanchard*.

Cyclopaedia

IDIOPATHY, a Disease or Indisposition proper to some particular Member, or Part of the Body, not caused by any other Disease, or preceding Affection, nor having any thing to do with the rest of the body. It is opposed to Sympathy, which happens when the Indisposition takes its Rise from a Disorder in some other Part of the Body. Thus a Cataract in the Eye is an *Idiopathy*: an *Epilepsy* is either *Idiopathic* or *Sympathic*; *Idiopathic* when it happens purely thro' some Fault in the Brain, *Sympathic* when it is preceded by some other disorder. The word is derived from the *Greek* [...], *proper, particular*, and [...] *Passion, Affection*.

Encyclopaedia Britannica

ANODYNE, in pharmacy, a term applied to medicines which mitigate pain.

Among anodynes may be reckoned all relaxing remedies, diluters, and medicines which by any means destroy acrimony, or expel wind, together with the compound medicines of the shops, which pass under this name; such as the anodyne balsam made of Castile soap, opium, camphire, saffron, and spirit of wine.

INCORPORATION, in pharmacy, is much the same as impastation, being a reduction of dry substances to the consistence of a paste, by the admixture of some fluid; thus pills, boles, troches, and plasters are made by incorporation. Another incorporation is, when things of different consistences, are by digestion reduced to one common consistence.

As the examples show, the structure of entries is not particularly complex: complexity obviously regards more extended encyclopaedic descriptions. What is relevant here (and in Group B above) are the strategies used in expanding extra-linguistic content and in clustering details to make the discussion proceed. Lexical definitions alternate with equivalents, hyponyms and antonyms, all of which are defined in turn. This recursive pattern establishes a sort of 'definitional chain' which becomes the chief constituent of the entry itself, as well as the communicative device underpinning discourse. This typology is further expanded and developed in multi-layered constructions (cf. 2.2. below).

2.2. *Expanding medical knowledge: encyclopaedic descriptions*

This section discusses a single example of encyclopaedic description, among the many that can be found in the three works. It is taken from the *Cy*, for two main reasons: on the one hand, this work was issued in-between the *LT* and the *Br*, the *LT* representing the background of later encyclopaedic experience, the *Br* instead the outcome of previous encyclopaedic practice (particularly the *Cy*); on the other hand, it represents a milestone in 18th-century British encyclopaedic production as a whole because of both its multi-disciplinary inclusiveness and its variety in knowledge-building approaches. As a result, in the *Cy* a wide range of combined lexicographic tools and techniques to define and describe the topic-headword are exploited. This does not mean that the example below directly mirror all the entries in the three works, but that it can be representative of some compiling strategies for medical content. In more general terms, it is relevant and interesting because it highlights, within an average-length entry structure, the basic components of larger information networks which go beyond the limits of any single medical entry. The extract follows (numbering and square brackets are mine):

Cyclopaedia

[1] *AGUE*, a periodical Disease, consisting in a cold shivering Fit, succeeded by a hot one; and going off in a Diaphoresis, or Sweating. See Disease.

[2] If the Coldness and Shivering be inconsiderable, and only the hot Fit felt; the Disease is called an *Intermitting Fever*. See Fever.

According to the Periods or Returns of the Fits, the Disease is either a *Quotidian*, *Tertian*, or *Quartan Ague*, or *Fever*. See Quotidian, Tertian, Quartan, &c.

[3] The next Cause of Agues, seems to be an obstructed Perspiration, or whatever by overloading the Juices, retards their Motion, or occasions a Lentor in the Blood.—The Symptoms are Heaviness and Reaching; a weak, slow Pulse; Coldness, and Shivering, felt first in the Joints, thence creeping over the whole Body; Pain in the Loins, and an involuntary Motion of the under Jaw.

[4] A *Vernal Ague* is easily cur'd; but an *Autumnal* one is more obstinate, especially in aged and cachectical Persons; is complicated with a Dropsy, Peripneumony, &c. dangerous.—When an Ague proves fatal, it is usually in the cold Fit.

[5] The Cure is usually begun with Emetic of Ipecacuanha, an Hour before the Access; and completed with the Cortex Peruviana, administer'd in the Interval between two Fits; and continued at times, to prevent a Relapse. See Cortex.

[6] Dr. *Quincy* endeavours to account for the Effect of the Bark, from the Irregularity, asperity, and Solidity of its Particles, which fit it to break those Viscidities in the Juices whereby the Capillaries were obstructed, and to draw up the Solids into a Tension, sufficient by the vigorous Vibrations ensuing thereon, to prevent any future Accumulation thereof.—The first Intention, he observes, is answer'd, by giving the Blood a greater Momentum; and the second, by its corrugating the Nerves, and rendering the Contractions of the Vessels more brisk and forcible.—Hence also its Effects upon such as are apt to sweat immoderately.

The entry may be divided into six short sub-sections, each of them emphasizing complementary definitional patterns (cf. 1.5.):

1. **introduction** > general definition of the disease emphasizing the general course of illness, both a prestigious Latinate equivalent and a familiar English one, alongside a general cross-reference, follow;
2. **expansion** > further symptomatic categorization > further equivalents and cross-references > linguistic (hyponymy) and disciplinary narrowing;
3. **symptomatological defining pattern** (cf. 1.5.) > here, a very concise listing and/or clustering of the main disease symptoms, organized in nominal groups / nominalized expressions (*heaviness; reaching, weak and slow pulse; coldness and shivering; pain in the loins; involuntary motion of the jaw*);
4. **environmental medicine** > the course of the illness is also due to environmental conditions > the description opens to the

world outside medicine and introduces alternative and/or complementary approaches to the disease;

5. **remedy section** > the curative process is displayed (*cure is usually begun, and completed, administer'd in, and continued at times*) as in medical dictionaries and/or no-lexicographic medical works (such as compendia, observations, remedy books, etc.);

6. **quotation** > the last sub-section is devoted to further development in medical debate, a kind of 'disease discussion forum' in which physicians and medical professionals are quoted as an authority: *Dr. Quincy endeavours to account [...] he observes*. The compiler helps spreading contemporary innovative approaches and medical experience directly within 'up-to-date' encyclopaedic works, trying to make them as useful as possible.

As it can be seen, the basic constituents and definitional patterns of the previous entry are the same which may alternatively be found in shorter and less complex structures, as examined in § 2.1. The main difference stands out as the combination of such constituents. The 'definitional chain' actually exceeds the single entry to expand in different directions and (re)produce, at a higher level, the cycle of medical knowledge.

3. Concluding remarks

Medical science is shown as a greatly considered area in the three most important 18th-century English encyclopaedias: some entries are very concise, without explicit connections between the different areas of medical science, nor do the explanations go beyond the normal size for lexical dictionary entries, whereas others are expanded to include detailed information and to establish connections with complementary medical topics.

Cross-references are rare in Harris, and most often implied, making it impossible to create the solid network of relationships necessary for cohesion in dealing with medical science in all its complexity. Generally, the headword is in Latin and may be

followed by equivalents in the same language or in English; such equivalents may also act as implicit cross-references.

Chambers' choices are very different and therefore the situation shown in the *Cy*: in general, the entries are well constructed and include more or less extended explanations, cross-references, and equivalents. This demonstrates the great desire of the compiler to be exhaustive and to be so treating the medical material consistently and coherently.

The *Br* discusses instead the principles of the most important branches of science in monothematic treatises, amongst which *MEDICINE* and *SURGERY*. The dimensions of these two treatises are significant and the topics multifarious; whereas the single entries in alphabetical order basically consist of two elements: the headword and the (lexical) definition. This is generally very short, sometimes it merges with a concise explanation; at other times it is followed by more detailed expansions. Cross-referencing, when included, does not function to cohere parts with the whole as in the *Cy*: what is missing here, as in the *LT*, is circularity of possible route. The entries are only for giving essential information since everything is discussed elsewhere.

In any case, definitions (whether lexical or expanded to include encyclopaedic information), equivalents and cross-references establish an articulate structure, a kind of 'definitional chain' in which any new item is defined in turn, thus making the description or the discussion progress. They ultimately act at discourse level within the single individual entry and across entries.

References

- AAVV, (1768-)1771, *Encyclopaedia Britannica; or, a Dictionary of Arts and Sciences, compiled upon a new plan. In which the different Sciences and Arts are digested into distinct Treatises or Systems; and the various Technical Terms, &c. are explained as they occur in the order of the Alphabet [...]*, printed for A. Bell and C. Macfarquhar, Edinburgh.
- Abbattista, G. 1996, "La «folie de la raison par alphabet». Le origini settecentesche dell'*Enciclopedia Britannica* (1768-1801)", in *Studi settecenteschi*, issue on "L'enciclopedismo in Italia nel XVIII secolo", ed. by G. Abbattista, 16, pp. 397-434.

- Adamska-Sałaciak, A. 2010, "Examining Equivalence", *International Journal of Lexicography*, 23: 4, pp. 387-409.
- Banks, D. 2008, *The Development of Scientific Writing. Linguistic Features and Historical Context*, Equinox, London.
- Béjoint, H. 1994, *Tradition and Innovation in Modern English Dictionaries*, Clarendon Press, Oxford.
- Béjoint, H. 2010, *The Lexicography of English*, Oxford University Press, Oxford.
- Bradshaw, L.E. 1981, "John Harris's *Lexicon Technicum*", in F.A. Kafker (ed.) 1981, pp. 107-121.
- Bradshaw, L.E. 1981a, "Ephraim Chambers' *Cyclopaedia*" in F.A. Kafker (ed.) 1981, pp. 123-140.
- Bynum, W.F., S. Lock & Roy Porter (eds) 1992, *Medical Journals and Medical Knowledge: Historical Essays*, Routledge, London.
- Castagneto, P. 1996, "Uomo, natura e società nelle edizioni settecentesche della *Encyclopaedia Britannica*", in *Studi settecenteschi*, issue on "L'enciclopedismo in Italia nel XVIII secolo", ed. by G. Abbattista, 16, pp. 435-476.
- Chambers, E. 1728, *Cyclopaedia: or, an Universal Dictionary of Arts and Sciences; containing the Definitions of the Terms, and Accounts of the Things signifi'd thereby, in the several Arts, both Liberal and Mechanical, and the several Sciences, Human and Divine [...]*, printed for James and John Knapton, etc. London.
- Considine, J. & G. Iamartino (eds) 2007, *Words and Dictionaries from the British Isles in Historical Perspective*, Cambridge Scholars Publishing, Newcastle.
- Considine, J. 2008, *Dictionaries in Early Modern Europe*, Cambridge University Press, Cambridge.
- Cunningham, A. 1989. "Thomas Sydenham: Epidemics, experiment and the 'Good Old Cause'", in R. French and A. Wear (eds) 1989, pp. 164-190.
- Dirckx, J. 1976, *The Language of Medicine: its evolution, structure and dynamics*, Medical Department, Harper and Row Publishers, New York and London.
- Fissel, M.E. 2007, "The Marketplace of Print", in M.S.R. Jenner and P. Wallis (eds), *Medicine and the Market in England and its Colonies, c.1450-c.1850*, Palgrave Macmillan, Basingstoke, pp. 108-132.
- Formigari, L. 1974, "Language and Society in the Late Eighteenth Century", in N.S. Struever (ed.) 1995, *Language and the History of Thought*, Rochester University Press, Rochester-New York, pp. 153-170.
- French, R. & A. Wear (eds) 1989, *The Medical Revolution of the Seventeenth Century*, Cambridge, Cambridge University Press.
- French, R. & A. Wear (eds) 1991, *British Medicine in an Age of Reform*, Routledge, London and New York.

- Gotti, M. 2011, "The development of specialized discourse in the *Philosophical Transactions*", in I. Taavitsainen and Päivi Pahta (eds), *Medical Writing in Early Modern English*, Cambridge University Press, Cambridge, pp. 204-220.
- Green, J. 1996, *Chasing the Sun. Dictionary-Makers and the Dictionaries They Made*, Jonathan Cape, London.
- Greenstone, G. 2009, "The Roots of Evidence-based Medicine. Drs Lind, Louis, and Semmelweis laid the groundwork for evidence-based medicine in the 18th and 19th centuries", *BC Medical Journal*, 51: 8, pp. 342-344.
- Haiman, J. 1980, "Dictionaries and Encyclopaedias", *Lingua*, 50, pp. 329-357.
- Harris, J. 1704, *Lexicon Technicum: or, An Universal English Dictionary of Arts and Sciences explaining not only the Terms of Arts, but the Arts Themselves*, printed for Dan. Brown, etc., London.
- Hayashi, T. 1978, *The Theory of English Lexicography, 1530-1791*, Benjamins, Amsterdam.
- Hunter, M. 1981. *Science and Society in Restoration England*, Cambridge University Press, Cambridge.
- Jardine, L. 1999, *Ingenious Pursuits. Building the Scientific Revolution*, Little-Brown and Co., London.
- Kafker, F.A. (ed.) 1981, *Notable Encyclopedias of the Seventeenth and Eighteenth Centuries: Nine Predecessors of the Encyclopédie*, The Voltaire Foundation at the Taylor Institution, Oxford.
- Kafker, F.A. (ed.) 1994, *Notable Encyclopedias of the Late Eighteenth Century: Eleven Successors of the Encyclopédie*, The Voltaire Foundation at the Taylor Institution, Oxford.
- Kafker, F.A. 1994a, "William Smellie's Edition of the *Encyclopaedia Britannica*", in F.A. Kafker (ed.) 1994, pp. 145-182.
- Kafker, F.A. 1994b, "The Influence of the *Encyclopédie* on the Eighteenth-century Encyclopedic Tradition", F.A. Kafker (ed.) 1994, pp. 389-399.
- Lane, J. 2001, *A Social History of Medicine. Health, Healing and Disease in England, 1750-1950*, Routledge, London and New York.
- Lindemann, M. 2010, *Medicine and Society in Early Modern Europe*, Cambridge University Press, Cambridge.
- Lonati, E. 2007, "Blancardus' *Lexicon Medicum* in Harris's *Lexicon Technicum*: A lexicographic and lexicological study", in J. Considine and G. Iamartino (eds) 2007, pp. 91-108.
- Lonati, E. 2002, "Scienza medica e tradizione enciclopedica nell'Inghilterra del Settecento: testi a confronto", *Mots Palabras Words*, 2, pp. 29-59, available at www.ledonline.it/mpw.
- Loudon, I. 1986, *Medical Care and the General practitioner 1750-1850*, Clarendon Press, Oxford.

- Loudon, I. 1992, "Medical practitioners 1750-1850 and the period of medical reform in Britain", in A. Wear (ed.) 1992, pp. 219-249.
- McConchie, R. & A. Curzan 2011, "Defining in Early Modern English Medical Texts", in I. Taavitsainen and P. Pahta (eds) 2011, pp. 74-93.
- McConchie, R.W. 1997, *Lexicography and Physicke. The Record of Sixteenth-Century English Medical Terminology*, Clarendon Press, Oxford.
- Rey, A. 1982, *Encyclopédies et Dictionnaires*, Presse Universitaire de France, Paris.
- Starnes, D.W.T. & G.E. Noyes 1991, *The English Dictionary from Cawdrey to Johnson, 1604-1755*, John Benjamins Publishing, Amsterdam.
- Taavitsainen, I. & P. Pahta (eds) 2011, *Medical Writing in Early Modern English*, Cambridge University Press, Cambridge.
- Taavitsainen, Irma & P. Pahta. 2011a. "An Interdisciplinary Approach to Medical Writing in Early Modern English", in I. Taavitsainen and P. Pahta (eds) 2011, pp. 1-8.
- Warren, M.D. 1951, "Medical education during the eighteenth century", *Postgraduate Medical Journal*, 27: 308, pp. 304-311.
- Wear, A. (ed.) 1992, *Medicine in Society. Historical Essays*, Cambridge University Press, Cambridge.
- Wear, A. 1989, "Medical Practice in late seventeenth- and early eighteenth-century England: Continuity and union", in R. French and A. Wear (eds) 1989, pp. 294-320.
- Wear, A. 2000, *Knowledge and Practice in English Medicine. 1550-1680*, Cambridge University Press, Cambridge.
- Zgusta, L. 1971, *Manual of Lexicography*, Academia, Prague, Mouton De Gruyter, The Hague.
- Zgusta, L. 1987, "Translational equivalence in a bilingual dictionary: Bāhukośyam", *Journal of the Dictionary Society of North America*, 9, pp. 1-47. [Reprinted in L. Zgusta 2006, *Lexicography Then and Now: Selected Essays*, ed. by F.F.M. Dolezal and T.B.I. Creamer, De Gruyter, pp. 236-261].

Evidentiality and commitment: An example from sports medical writing

Marianna Lya Zummo - Università degli Studi di Palermo
mariannalya.zummo@unipa.it

1. Introduction

Sports science is becoming increasingly popular with many universities offering both undergraduate and postgraduate degrees in the discipline. It is a field of study that investigates the application of scientific principles, approaches and procedures with the aim of improving sporting performance. Under the term ‘sports science’ goes the entire spectrum of disciplines that range from psychology to orthopedics, and physiology to biomechanics. Among these disciplines, Sports medicine has generally been taken to define a health field that applies medical and scientific knowledge to prevent, recognize, manage, and rehabilitate sports-related or recreational activities injuries. It therefore follows that sports medical language relates to the injuries and disorders occurring amongst professional and non-professional athletes.

In the present study, corpus linguistics methods are used to analyze modal expressions in relation to the disciplinary context of sports medical texts. The aim is to discover how evidential expressions reflect the acquisition of knowledge and praxis of sports medicine.

1.1. The linguistic focus

Linguistically, sports medicine essentially adopts medical language. Like medical communication, sports science communication upholds the scientific tradition of objectivity, drawn from the Galilean process, which coaches the observation and evaluation of data and involves the making of hypotheses and experimenting and reasoning in order to reach conclusions. This process is stylistically expressed through linguistic objectivity, impartiality and the absence of authorial input, such as judgements or biased opinions.

On the other hand, linguistic studies on rhetorical styles reveal that stances are often characterized by tentativeness and as such:

Sentences are expressions of a state of knowledge that is still under discussion so writers adapt the expression of certainty according to the amount of reliable data backing their statement (Vázquez & Giner 2008: 174).

Over the last few decades, there has been a growing interest in the speculative aspect of scientific writing, especially within cross-cultural studies. Linguists have been involved in the study of hedging (Myers 1989; Ventola & Mauranen 1990; Salager-Meyer 1998, 1994, 1991; Lewin 1998), lexical aspects (Reimerick 2006), moves (Swales 1990; Nwogu 1997; in particular: moves in introduction see Hyland 2000; Lorés 2004; moves in methods sections see Berkenkotter & Huckin 1999; moves in discussion section see Skelton & Edwards 2000; Peacock 2002). The general opinion is that writers construct specific frameworks of credibility using linguistic devices, including agent-less constructions, passive voices and markers of evidentiality that are used to support their conclusions. As suggested by Grossmann & Tutin (2010), academic sources of knowledge have to be defined and the differences between assumption and empirical evidence must be linguistically clear.

To my knowledge, sports medicine research articles have not been thoroughly studied. Zeng (2009) studied the CARS¹ (Create a Research Space) model in introductions of sports science and medicine Research Articles (RAs). It could be interesting to study sports medical papers in order to establish not only the level of commitment expressed by the author toward his / her subject but also the evidential pattern displayed in these studies.

The source of information is linguistically expressed through the evidential system. As Mushin (2001:18) notes

¹ The acronym 'CARS' stands for 'Create a Research Space', and is used as a linguistic model proposed by Swales in his study on science research articles and based on three-move schema structure: 'establishing the field', 'establishing the niche' and 'occupying the niche' (Swales 1990).

the term ‘evidentiality’ literally evokes the notion of evidence: the sources from which a speaker comes to know something that they want to express in language (Mushin 2001: 18).

Similarly Bybee (1985: 184; in Mushin 2001) describes evidentials as “markers that indicate something about source of the information in the proposition”, while Willett (1988: 55) states that evidentiality is “the linguistic means of indicating how the speaker obtained the information on which s / he bases an assertion”.

It is supposed that, in sports science writing, the evidential system should be based on direct perceptual sources (since facts are based on observation), and thus the estimation of reality should indicate a high degree of probability (since observation alone cannot provide certainty of reality as it is perceived).

1.2. Theoretical background

The close relationship between epistemic modality and evidentiality results in a terminological and conceptual confusion (Nuyts 1992: 91; Hidalgo 2006: 125). The two domains are in fact intertwined because, as Mushin (2001: 58) suggests, speakers adopt a particular epistemological stance on the basis of their source of knowledge, their rhetorical intentions, and the ways in which they want their utterance responded to at the moment of interaction. The domain of evidentiality involves the specification of the source of information. According to Chafe (1986), the evidential system includes both the study on the reliability of information, forms of knowledge (belief, induction, hearsay and deduction) and the various sources of information (language, evidence, hypothesis). Plungian (2001) combines four parameters proposed by Willett (1988) (direct vs. indirect evidence; personal vs. mediated evidence) resulting in a further sub-distinction of evidence (direct personal evidence, reflected evidence and mediated evidence). Marín (2004) studies the expression of evidentiality using two criteria: speaker-oriented reliability judgment and assessment of the information. This method maintains the distinction between speaker-oriented reliability judgments expressed by modal markers and assessments of the validity of the information coded by evidential markers. According to Marín, epistemic modals implicitly indicate the

author's subjective estimations of the reliability of the information, indicating different degrees of certainty (must>will>may). Direct perceptual markers code the writer's subjective 'evidentiary justification' for the information proffered (I firmly believe>I think> I suppose), which would be accepted and unchallenged by the reader to a higher or lesser degree (Marín 2007: 84).

In addition, a distinction has emerged between perceptual and cognitive approach to information, in addition to direct and indirect access to the same information. Another subdivision is provided by De Haan (2001), who puts forward the classifications of direct / indirect and first hand / second hand evidence, where indirect evidence incorporates that which is quoted, while inferential refers to the personal but indirect access to information. Undoubtedly, those stances expressed by personal and perceptual markers ('see, look like, sound'...) suggest a higher degree of confidence and certainty in the information.

Epistemic modality accounts for the speaker's commitment in utterances. Nuyts (2001: 2) defines it as the evaluation of the chances that a state of affairs will occur, thus involving the writer in a marked commitment to the truth of the proposition (Bybee, Perkins & Pagliuca 1994: 179). This evaluation contains a scale that runs from "the absolute certainty that a state of affairs is real to absolute certainty that it is not real" (Cornillie 2009: 46). Probability and possibility are included within these extremes.

The domain of epistemic modality has been deeply studied, especially with respect to the differences within deontic modality (Renzhi 2004) or regarding its rhetorical use, as Kranich studied (2009: 30), arguing that modalisation is a hedging device used by speakers for non-threatening interventions. Van der Auwera & Plungian (1998) distinguish two sub-domains within the domain of epistemic modality. Epistemic necessity ('must, cannot') expresses a higher degree of certainty (there is one possible conclusion to be drawn from the facts), and epistemic possibility ('may, might') that expresses a low degree of certainty (facts that lead to speculation). It may be considered a third subgroup; that of epistemic probability, expressed by 'will, would, should'. Their status is controversial in that it is sometimes difficult to differentiate between epistemic 'will' (reasonable to expect) and the marker 'will' for future

actions. This perplexity extends to the other markers of epistemic possibilities as well.

The expression of evidentiality and modality has already been studied with regard to the patterning and distribution in newspaper articles, with the aim of establishing the expression of writer stance (Hidalgo 2006; Marín 2006, among others). In newspaper articles and in technical research articles, the subject has been studied by Sancho Guinda (2003), who explores the role of modality as convergence strategy throughout the inferential and evidentiality-based structure of aeronautical engineering RAs. Reimerink (2006) analyses the conceptual organization of RA sections, studying the use of verbs within each section of the medical papers.

1.3. Aims of this paper

The first aim of this paper is to illustrate the frequency and patterning of the evidential system, expressed through verbal markers in sports medicine journals. It is hypothesized that there will be a higher presence of perceptual verbal markers (both direct and indirect), since sports medicine papers are based on the observation of experimental scenarios.

In the second place, this paper aims to establish what degrees of certainty is expressed in the authors' stance, categorizing epistemic modality as it is portrayed in sports medical writing. It is hypothesized that the degree of reliability takes into account the conventional use of distancing and tentativeness, already used in medical papers, as the same conceptual structure could be present in this writing domain.

The analysis of evidentiality and modality is based on Marín Arrese (2004) and takes into consideration the classifications proposed in the literature (Chafe 1986; Willett 1988; Van der Auwera & Plungian 1998; Plungian 2001; Marín Arrese 2002, 2004).

2. Data and methodology

The data for this study are research articles taken from three international Sport medicine journals: the *British Journal of Sports*

Medicine (“BJSM”, 16 papers; 57,501 words), *Journal of Sports Science and Medicine* (“JSSM”, 16 papers; 63,710 words) and *Journal of Athletic Training* (“JAT”, 16 papers; 68,140 words). There is a total of 48 articles and 189,351 words. All the papers deal with medicine applied either in sports or in sports related fields and have each been published in relevant international journals between 2001 and 2010. The journals were selected according to their impact factor, and the papers were chosen from their appearances on PubMed, a free database which accesses the Medline database of citations, abstracts and some full-text articles on life sciences and biomedical topics. Starting from the most cited and publicly available issue and going backwards, I selected the first 16 articles from each journal. In the selection process I excluded any articles labelled as Case studies, Masterclass, Professional issues or Case reports, since some of these genres are not comparable. As such, only the original articles were chosen. I selected the *British Journal of Sports Medicine*, the *Journal of Sports Science and Medicine* and the *Journal of Athletic Training* because they appeared to be leading journals in the field of sports medicine, as derived by their impact factor which ranges from 1,65 and 2,2. This makes them safely comparable and therefore appropriate for this analysis.

The approach taken in this study has been shaped by the consideration that modality and evidentiality are defined as being both the expression of the addresser’s estimation of reality and the source through which the addresser can prove the reality of the same utterance. References that deal with the study and patterning of evidentiality and modality can be found in Chafe (1986), Willett (1988), Van der Auwera & Plungian (1998), Plungian (2001), Marín Arrese (2002, 2004, 2007).

Following Marín (2007), verbal markers of modalization were grouped into three subdomains, each in relation to the degree of the speaker’s commitment: epistemic necessity (deductive ‘must’, ‘cannot’), epistemic probability (assumptive ‘will’, ‘would’, ‘should’) and epistemic possibility (speculative ‘may’, ‘could’). In addition, verbal markers of evidentiality were grouped maintaining the distinction between direct accessed / indirect inferred information and perceptual / cognitive source. Marín Arrese

suggests that personal evidence is expressed by the interaction of four parameters: “directly accessed vs. indirectly inferred information” and “perceptual vs. cognitive sources” (2004: 165). Epistemic modality and evidentiality are intertwined in several aspects (Palmer 1986; Dendale & Tasmowski 2001: 342-343) and, consequently, any occurrences of the epistemic dimension have been studied accordingly.

The corpus was analyzed and tagged manually in order to select verbal linguistic markers used to express epistemic modality and evidentiality. Having once analyzed and classified items in accordance with the classification proposed in literature, the analysis was carried out using MonoConc Pro 2.2 to calculate the number of times each item occurred. Each instance was double-checked manually to eliminate misleading occurrences.

I analyzed the reliability and the qualification of source-of-information through direct evidence (perceptual markers and beliefs) and indirect evidence (inference and reasoning). In addition to this I analyzed the writer’s attitude toward the information through epistemic modality.

The main objective of the study is to explore the frequency of verbal linguistic markers (modal auxiliaries, modal verbs, lexical verbs) in order to observe the presence and patterning of evidentiality and epistemic modality in sports medicine discourse.

3. Results

3.1. Evidentiality

Within the domain of evidentiality, following Marín (2004), I distinguish lexical verbal markers indicating a strong connection between evidence and claim, and lexical verbal markers that suggest a weak connection between evidence and claim. The first group is expressed mostly by markers of direct personal evidence, which results in a high degree of confidence and, consequently, commitment, whereas the second group is expressed by verbs indicating reasoning and inference resulting in a low degree of commitment. The quotative evidentiality is not considered in this

analysis as this study focuses on the way writers report and comment on evidences. The following have therefore been considered:

1. Direct Perceptual markers: markers determined by a direct sensory access to the evidence;
 - ❑ We observed similar results in Spanish adolescents from the AVENA study, yet in that case, PA was self-reported (BJSM-1)
 - ❑ There did not appear to be any residual carryover effects in the 2 weeks after the cessation of Difflam use, which [...] (BJSM-15)
2. Indirect Perceptual markers: markers showing an inferential process based on observable results;
 - ❑ Demographic factor did not seem to affect the degree of ACI role strain (JAT-2)
 - ❑ With the aforementioned limitation in mind, this study revealed no measurable effect of one or two previous concussions on athletes' preseason neurological test performance or symptom reporting (BJSM-8)
3. Direct Cognitive markers: markers of belief or general knowledge;
 - ❑ Type 3 collagen is also believed to play an important role in healing (JAT-5)
 - ❑ Because African American ethnicity is known to present substantially elevated risk for development of type 2 diabetes [...] (JAT-12)
4. Indirect cognitive markers: markers of evidence resulted by mental processes, deduction;
 - ❑ Given the lack of evidence for a clear relationship between patellofemoral joint alignment and symptoms, it could be speculated that surgical correction may not be the optimal approach to alleviate symptoms of AKP (BJSM-5)
 - ❑ [...] which can be explained by the short half-life of BH after topical administration. (BJSM-15).

The following table shows results found in the corpus:

		<i>Journal of Sports and Science Medicine</i> (16 RAs - 63,710)	<i>British Journal of Sports Medicine</i> (16 RAs - 57,501)	<i>Journal of Athletic Training</i> (16 RAs - 68,140)
Direct perceptual	Mean	20,12	14,25	11,31
	Total ‰	5,05 44,9%	3,97 43,3%	2,66 36,7%
Indirect perceptual	Mean	5,37	3,19	3,87
	Total ‰	1,35 12%	0,89 9,7%	0,91 12,6%
Direct cognitive	Mean	11,37	9	8,81
	Total ‰	2,86 25,5%	2,5 27,3%	2,07 28,6%
Indirect cognitive	Mean	7,87	6,5	6,81
	Total ‰	1,98 17,6%	1,81 19,7%	1,6 22,1%

Table 1. Dimension of evidentiality in the three journals of sports medicine. Number and frequency per thousand words.

As can be seen from Table 1 above, the dimension of evidentiality maintains the same pattern in the three subcorpora studied. Markers are grouped in terms of the dimension explored. Values are expressed in a thousand words in order to be compared. Ratio of evidential qualification is given per journal.

In terms of percentage, direct perceptual markers can be considered the most used verbal markers whereas indirect perceptual markers show the lowest values for each journal. It seems that writers tend to use an equivalent proportion of both subtypes of evidential markers.

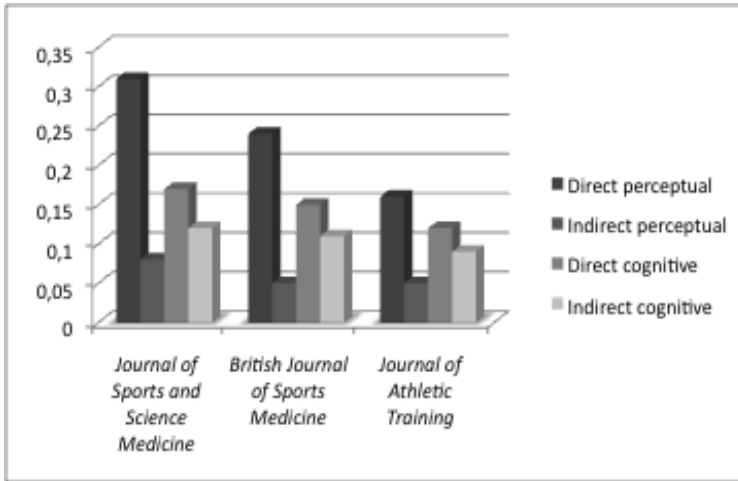


Figure 1. Frequency per 1,000 words of direct perceptual verbal markers (pd), indirect perceptual verbal markers (pid), direct cognitive markers (cd), indirect cognitive markers (cid) in three academic journals of sports medicine.

Figure 1 shows the frequency per 1,000 words of the markers of evidentiality in the *British Journal of Sports Medicine*, *Journal of Sports Science and Medicine* and *Journal of Athletic Training* corpus respectively. A comparison of the frequency and distribution reveals that the three journals maintain the same use of evidential markers. However, some minor differences are found in the percentage of the *Journal of Athletic Training* where proportion of evidential qualification appears better distributed. Direct access to information is privileged since both perceptual and cognitive direct markers show higher ratios. Therefore qualifications implying stronger forms of evidence seem to be preferred.

3.2. Epistemic Modality

With regard to the expression of commitment expressed by the author, modal auxiliaries have been first selected and successively analysed according to the literature (Marín 2006; Van der Auwera & Plungian 1998). A distinction has been made in order to analyse the different degrees of commitment to the truth of the utterance,

and consequently the occurrences have been sub-grouped into epistemic necessity, epistemic probability and epistemic possibility.

1. Epistemic necessity: Must, cannot.

- Therefore, these two elements must be found together to define instability [...] (BJSM-16)

2. Epistemic probability: Will, would, should.

- [...], and that an increase in trunk flexion and rotation angular velocity improve the performance in team-handball jump throw that should result in an increase of ball release speed. (JSSM-2)
- The trend for improved performance for upper classmen, at least on tests of information processing, attention, and motor abilities, would suggest the need for retesting [...] (JAT-15)

3. Epistemic possibility: May, might, could.

- [...] of the CO response to exercise was empirical; there may be other methods with which to express this response (JSSM-15)
- For example, we could not control the temperature of the respective locker rooms, and, although not statistically significant, the [...] temperature could have affected the data (JAT-10).

The following table shows results found in the corpus:

		<i>Journal of Sports and Science Medicine</i> (16 RAs - 63,710)	<i>British Journal of Sports Medicine</i> (16 RAs - 57,501)	<i>Journal of Athletic Training</i> (16 RAs - 68,140)
Epistemic necessity	Mean	0,31	0,31	0,06
	Total %	0,08 2,1%	0,09 2,4%	0,01 0,2%

		<i>Journal of Sports and Science Medicine</i> (16 RAs - 63,710)	<i>British Journal of Sports Medicine</i> (16 RAs - 57,501)	<i>Journal of Athletic Training</i> (16 RAs - 68,140)
Epistemic probability	Mean	2,62	2,69	2,12
	Total %	0,67 17,7%	0,75 20,2%	0,5 9,9%
Epistemic possibility	Mean	12,06	10,31	19,31
	Total %	3,03 80,2%	2,87 77,4%	4,53 89,9%

Table 2. Dimension of Epistemic Modality in the three journals of sports medicine. Number and Frequency per thousand words.

Results for epistemic modality found in the corpus appear parallel among the journals, although a difference is found in the dimension of epistemic possibility that shows, proportionally, higher occurrences in the *Journal of Athletic Training*. In each journal epistemic possibility is the modal qualification, which shows higher values, followed by epistemic possibility. There is almost no evidence of epistemic necessity.

4. Discussion of results

Results for evidentiality show that the presence and patterning of the dimension of evidentiality is parallel across journals, thus indicating that there is an actual general pattern being repeated, suggesting the presence of a stylistic model. Results also show a difference in the use of strong and weak evidence, since direct personal evidence shows a higher degree of usage (69,2% is the average of direct personal evidence, both cognitive and perceptual, found in the corpus).

Strong evidence is marked by lexical verbs such as: find, notice, determine, result, observe, see, confirm, demonstrate, indicate, prove, reveal, show.

Weak evidence is expressed by verbal markers such as: appear, seem, expect, suppose, suggest, understand, imply, speculate.

As it has been noted by Hidalgo (2006: 135), some uses of the evidential markers analysed are used in concurrence with modal verbs (see examples in (5) and (6)).

With regard to epistemic modality, results show no significant differences. It appears that writers favour utterances involving epistemic possibility, which determines a high degree of tentativeness in utterances. Epistemic necessity, which marks a confidence in utterance, is almost absent.

Since results show a higher percentage of strong evidentiality, a marked commitment would be expected. However, it has been demonstrated (Myers 1988; Ventola & Mauranen 1990) that writers tend to favour linguistic strategies that preserve the author's face. Although evidence is derived from data and from information to which there is a direct access, writers know that observation cannot provide the certainty of the reality. Moreover, evaluation of data might be affected by personal opinions or there may be limitations that prevent the reaching of true generalizations. Epistemic possibility markers seem to leave space for a Bakhtinian dialogue between the article and its readership, contributing to the ongoing negotiation, interchange and upgrading of information.

5. Conclusion

Sport science can be defined as a discipline that studies the application of scientific principles and technical resources with the aim of improving sporting and movement performances. In general, science is a systematic and logical process based on the observation of facts that are consequently interpreted and placed into coherent frameworks. Facts and ideas are analysed using both inductive and deductive reasoning that relies on careful, logical consideration of evidences. Ideas are expressed tentatively because they are subject to changes or disagreements or even conflicts with past or ongoing views.

The present study has explored the expression of writer stance by means of markers of evidentiality and epistemic modality in a corpus of Research Articles (RAs) in sports medicine. The

examination of the patterning of evidential qualifications suggests a common writer preference for strong forms of evidence (since direct access to information, both perceptual and cognitive, shows higher values) which seems to indicate a high commitment in the proposition. However, the patterning of epistemic modality suggests a tentativeness in utterances, making epistemic possibility the most frequent modal dimension used in the corpora. In sports science writing, the evidential system seems to be based on direct perceptual sources since facts are based on observation, and thus the estimation of reality indicates a high degree of probability since observation alone cannot provide certainty of reality as it is perceived. In spite of the objectivity, which is usually attributed to specialized scientific discourse, subjectivity emerges when using modality since authors take a stance on what is being argued revealing their commitment to the statements. In their RAs, authors seem to use markers of possibility in order to convince their readership about the validity of their claims without imposing their views. Consequently, possibility may be considered as a strategy to imply an interpersonal communicative function. Markers are thus thought to be used in order to develop an argumentation, to hedge a tentative conclusion and to indicate politeness toward previous or forthcoming research.

In particular, results seem to confirm the first hypothesis of this study: that direct perceptual sources are preferred. The presence and dimension of evidentiality is almost parallel in a corpus composed by three journals dealing with the same scientific field, thus suggesting an actual general pattern. This pattern takes into account that scientific methodology implies observation and evaluation of data. Strong evidence is consequently necessary to form theories. A higher ratio of indirect perceptual markers would have been expected, since these are indicators of inference based on observable results. On the contrary, their value indicates that writers tend not to speculate without firm evidence.

With regard to the second hypothesis of this paper concerning the conventional use of distancing and tentativeness used as the same conceptual structure in sports-science domain as in medical papers, results show that the writer's commitment is not expressed in terms of epistemic certainty, thus confirming the initial

hypothesis of this paper. The results might be a reflection of an old scientific tradition: that the practice of scientific writing involves the analysis and evaluation of data drawn from experimental processes, but that authors tend to be cautious since their observation cannot provide the certainty of the reality as it is perceived. Certainly, it could be argued that this result may also be explained in terms of mitigation with hedging, which serves a double function: that of preserving writer's face (Martín-Martín 2008; Myers 1989) and that of contributing to the scientific discourse using common politeness strategies (Brown & Levinson 1987) and favouring negotiation of information (Guinda 2003).

In these terms, results also suggest that sports medicine research articles follow the same approach and style of other scientific fields (Hyland 1998, 1996, 1994; Holmes 1997; Markannen & Schroder, 1997; Myers 1989; Gotti 2006).

These results contribute to the study of medical discourse by exploring the degree of commitment towards the information and the writer's attitude toward knowledge through a (relatively) new and specific academic field: sports medicine. I have attempted to gauge what evidence is used and how certain the writers of sports medical texts are about phenomena they discuss.

This is, however, a study of an exploratory nature only, and more research must be carried out to support the results of this study.

References

- Berkenkotter, C. & T. Huckin 1999, *Genre Knowledge in Disciplinary Communities*, Lawrence Erlbaum Associates, Mahwah, New Jersey.
- Brown, P. & S. Levinson 1987, *Politeness: Some Universals in Language Usage*, Cambridge University Press, Cambridge.
- Bybee, J.L., R. Perkins & W. Pagliuca 1994, *The Evolution of Grammar: Tense, Aspect, and Modality in the Languages of the World*, The University of Chicago Press, Chicago & London.
- Chafe, W. 1986, "Evidentiality in English conversation and academic writing", in W. Chafe and J. Nichols (eds), *Evidentiality: The Linguistic Coding of Epistemology*, Ablex Publishing, Norwood, New Jersey, pp. 261-272.

- Cornillie, B. 2009, "Evidentiality and epistemic modality: on the close relationship of two different categories", *Functions of Language*, 16: 1, pp. 44-32.
- Dendale, P. & L. Tasmowski 2001, "Introduction: evidentiality and related notions", *Journal of Pragmatics*, 33, pp. 339-348.
- Gotti, M. & F. Salager-Meyer 2006, *Advances in Medical Discourse Analysis: Written and Oral Contexts*, Peter Lang, Bern.
- Grossmann, F. & A. Tutin 2010, "Evidential markers in French scientific writing: the case of the French verb *voir*", in G. Diewald and E. Smirnova, *Linguistic Realization of Evidentiality in European Languages (Empirical Approaches to Language Typology)*, De Gruyter Mouton, Berlin & New York, pp. 279-307, available at <http://www.gabrielediewald.de/evidential-abstracts.html>; http://w3.ugrenoble3.fr/lidilem/labo/file/evidentiality_grossmann_tutin_2008.pdf.
- Hann de, F. 1999, "Evidentiality and epistemic modality: setting boundaries", *Southwest Journal of Linguistics*, 18, pp. 83-101.
- Hidalgo, L. 2006, "The expression of writer Stance by modal adjectives and adverbs", in A.M. Hornero, M.J. Luzón and S. Murillo (eds), *Corpus Linguistics*, Peter Lang, Bern, pp. 125-140.
- Hyland, K. 1994, "Hedging in academic textbooks and EAP", *English for Specific Purposes*, 13, pp. 239-256.
- Hyland, K. 1996, "Talking to the academy: forms of hedging in science research articles", *Written Communication*, 13: 2, pp. 251-281.
- Hyland, K. 1998, *Hedging in Scientific Research Articles*, John Benjamins, Amsterdam.
- Hyland, K. 2000, *Disciplinary Discourses: Social Interactions in Academic Writing*, Longman, London.
- Holmes, R. 1997, "Genre analysis, and the social sciences: an investigation of the structure of research article discussion sections in three disciplines", *English for Specific Purposes*, 26: 4, pp. 321-337.
- Kranich, S. 2009 "Epistemic modality in English popular scientific texts and their German translations", *Trans-kom*, 2: 1, pp. 26-41.
- Lewin, B. 1998, "Hedging: form and function in scientific research texts", in I. Fortanet Gómez et. al. (eds), *Genre Studies in English for Academic Purposes*, 9, 1998, Universitat Jaume I, Col·lecció Summa, Castellón de la Plana, pp. 89-108.
- Lorés, R. 2004. "On RA abstracts from rhetorical structure to thematic organization", *English for Specific Purposes*, 23, pp. 280-302.
- Marín Arrese, J. 2002, *Conceptualization of Events in Newspaper Discourse: Mystification of Agency and Degree of Implication in News Reports*, Universidad Complutense de Madrid, Proyectos Complutense 2000, PR52/00-8888, Madrid.

- Marín Arrese, J. 2004, "Evidential and epistemic qualifications in the discourse of fact and opinion: a comparable corpus study", in J. Marín Arrese, *Perspectives on Evidentiality and Modality*, Editorial Complutense, Madrid, pp. 153-184.
- Marín Arrese, J. 2006, "Epistemic stance and commitment in the discourse of fact and opinion in English and Spanish: a comparable study", in A.M. Hornero, M.J. Luzón & S. Murrillo, *Corpus Linguistics: Applications for the study of English*, Peter Lang, Bern, pp. 141-157.
- Marín Arrese J. 2007, "Commitment and subjectivity in the discourse of opinion columns and leading articles. A corpus study", in I.A. Belmonte (ed.), *Different Approaches to Newspaper Opinion Discourse*, Revista Electronica de Linguística Aplicada, 1, pp. 82-98.
- Markannen, R. & H. Shroder 1997, "Hedging: a challenge for pragmatics and discourse analysis", in R. Markannen and H. Shroder (eds), *Hedging and Discourse. Approaches to the Analysis of a Pragmatic in Academic Text*, Walter de Gruyter, Berlin, pp. 3-18.
- Martín-Martín, P. 2008, "The mitigation of scientific claims in research papers: a comparative study", *International Journal of English Studies*, 8: 2, pp. 133-152.
- Mushin, I. 2001, *Evidentiality and Epistemological Stance. Narrative Retelling*, John Benjamin, Amsterdam.
- Myers, G. 1989, "The pragmatic of politeness in scientific articles", *Applied Linguistics*, 10, pp. 1-35.
- Nuyts, J. 1992, *Aspects of a Cognitive-Pragmatic Theory of Language*, John Benjamins, Amsterdam.
- Nuyts, J. 2001, *Epistemic Modality, Language, and Conceptualization: A Cognitive-pragmatic Perspective*, John Benjamins, Amsterdam.
- Nwogu, K.N. 1997, "The medical research paper: structure and functions", *English for Specific Purposes*, 16: 2, pp. 119-138.
- Palmer, F.R. 1986, *Mood and Modality*, Cambridge University Press, Cambridge.
- Peacock, M. 2002. "Communicative moves in the discussion section of research articles", *System*, 30, pp. 479-497.
- Plungian, V. 2001, "The place of evidentiality within the universal grammatical space", *Journal of Pragmatics*, 33, pp. 349-357.
- Reimerink, A. 2006, "The use of the verbs in research articles: corpus analysis for scientific writing and translation", *New Voices in Translation Studies*, 2, pp. 9-27.
- Renzhi, L. 2004, "Modality, subjectivity and logic", *South Asian Language Review*, 24: 1&2, pp. 82-93.
- Salager-Meyer, F. 1991, "A genre-based and text-type analysis of hedging in written medical English discourse (1980 – 1990)", *Interface*, 6, pp. 33-54.

- Salager-Meyer, F. 1994, "Hedges and textual communicative function in medical English written discourse", *English for Specific Purposes*, 13, pp. 149-170.
- Salager-Meyer, F. 1998, "Language is not a physical object", *English for Specific Purposes*, 17, pp. 295-303.
- Sancho Guinda, C. 2003, "Contractual role of modality as convergence strategy in technical research articles", *Resla*, 16, pp. 219-233.
- Skelton, J. 1997, "How to tell the truth in *The British Medical Journal*: Patterns of judgement in the 19th and 20th centuries", in R. Markannen and H. Shroder (eds), *Hedging and Discourse. Approaches to the Analysis of a Pragmatic in Academic Text*, Walter de Gruyter, Berlin, pp. 42-63.
- Skelton, J.R. & S.J.L. Edwards 2000, "The function of the discussion section in academic medical writing", *British Medical Journal*, 320, pp. 1269-1270.
- Swales, J.M. 1990, *Genre Analysis. English in Academic and Research Settings*, Cambridge University Press, Cambridge.
- Van der Auwera, J. & V. Plungian 1998, "Modality's semantic map", *Linguistic Typology*, 2, pp. 79-124.'
- Vázquez, I. & D. Giner 2008 "Beyond mood and modality: epistemic modality markers as hedges in research articles. A cross-disciplinary study", *Revista Alicantina de Estudios Ingleses*, 21, pp. 171-190.
- Ventola, E. & A. Mauranen 1990, *Researchers and Writing in English*, Helsinki University Press, Helsinki.
- Willett, T. 1988, "A Cross-linguistic survey of the grammaticalization of evidentiality", *Studies in Language*, 12, pp. 51-97.
- Zeng, Y. 2009, "CARS model in analyzing the introduction of research articles: an example from the field of sports science and medicine", *US – China Foreign Language*, 7: 3, pp. 61-65.

Metaphors they heal by?

Tatiana Canziani – University of Palermo
tatiana.canziani@unipa.it

1. Introduction

The purpose of this paper is to analyze the role of figurative speech in Medical English paying special attention to the use of metaphors in medical discourse. After briefly introducing the recent approaches to the study of metaphors based on psycholinguistic and neurolinguistic theories, we propose a qualitative analysis of selected medical texts with three aims: (1) at a lexical level, to find out how commonly doctors use metaphors to name pathologies, and to classify such metaphors in relation to their linguistic type; (2) at a psycholinguistic level, to investigate if metaphors, when used to denominate an illness, use metaphoric mappings; (3) at a communicative level, to establish if doctors' naming pathologies are doctor- or patient-oriented.

In a certain way, this study's aims are alluded to in the title, modeled on that of Lakoff and Johnson's famous 1980 book (Lakoff & Johnson 1980a).

2. Background

2.1. Metaphor interpretation

Metaphorical language has long been considered as a fundamental part of poetical discourse and its interpretation linked to the linguistic analysis of literary genres. In the past few decades, the empirical work in cognitive science has shown that a metaphor is not merely a linguistic, rhetorical figure, but constitutes a fundamental part of a person's ordinary thought and imagination (Lakoff & Johnson 1980b; Gibbs, Lenz Costa Lima & Francozo 2004; Gibbs 2008).

In fact, semanticists even suggest that metaphor understanding is a process entailing the interaction of a human being and his \ her environment and that

Metaphor is a major and indispensable part of our ordinary, conventional way of conceptualizing the world and our everyday behavior reflects our metaphorical understating of experience. The locus of metaphor is not in language at all, but in the way we conceptualize one mental domain in terms of another (Lakoff 1993: 204).

Thus, metaphors assume a conceptual value and their generalized format is X is Y where 'X' is taken from a domain and transferred into another one 'Y'. The essence of metaphor therefore lies in cross-domain transfer or mapping: understanding and experiencing one kind of thing / event 'X' in terms of another 'Y' (Lakoff & Johnson 1980a). For example, the metaphorical expression *LOVE IS A JOURNEY* can be understood as cross-domain mapping (Lakoff 1993) composed by a set of ontological correspondences (lovers correspond to travellers with common goals and destinations), with processes of comparison, similarity and analogy (Glucksberg, McGlone & Manfredi 1997; Gentner & Bowdle 2008), or activating specific mental spaces (Fauconnier & Turner 1998) from a source domain (X) to a target one (Y).

Classic thought suggests that the earliest source domains come from bodily experience (Feldman 2006; Fernandez-Duque & Johnson 1999, Gibbs 2008), since human beings comprehend abstract ideas in terms of bodily experience. These several visions of metaphor comprehension have offered new insights, in neurolinguistic studies, on metaphor comprehension¹ suggesting that its neural substrate is strictly linked to our sensorimotor activity (Gallese & Lakoff 2005) and depends on the particular source and target domains of the metaphor (Damasio *et al.* 1996). Thus, research on metaphor is now multidisciplinary since metaphor emerges from the interaction of brain, language, culture and bodily experience.

2.2. Metaphors: written medical literature

Historically, the medical literature has always used environmental, cultural and technological models: Galen, for example, adopted images taken from the kitchen and winepresses in order to explain

¹ For an overview on this topic see Coulson 2008 and Canziani 2010.

the human organism; Virchow, the founder of human pathology, explained the coexistence of cells on the basis of the coexistence of people with equal rights in a democratic society (Unschuld 1998: 23). More recently, the use of metaphorical language in genetics has been essential in order to explain protein synthesis. The term *GENETIC CODE*, introduced by Schrödinger in 1944, is a metaphor created in order to describe and ‘give a specific name’ to

those chromosomes that contain a sort of code-script involving the entire pattern of the individual’s future development [...]. Every complete set of chromosomes contains the full code (Schrödinger 1944: 22).

In the mid-1950s Gamow suggested that the mechanism of genetic code was, in fact, metaphorically argued to be a *TRANSLATION PROCESS*. As Gamow affirmed, the nucleic acids of the DNA (the code) “can be translated into a long word formed by about twenty different letters” (Gamow 1955: 1). In this way, Gamow created a correspondence between 20 letters and the 20 amino acids forming the protein and composing the code to decipher.

The terminology of genetics also exemplifies what often happens in medical language, i.e. the adoption of already existing metaphorical expressions in everyday language (e.g. *BOTTLENECK*); these expressions, of course, assume a new meaning in a medical context as in the following example

genetic variances for eight morphometric traits generally increased as a result of the *BOTTLENECK* (Bryant, McCommas & Combs 1986: 1191).

BOTTLENECK describes a genetic effect that determines a drastic reduction in the number of individuals belonging to a population and produces a parallel decrease in the number of alleles in a population.

In the past few decades over 450 metaphors have accumulated in the medical literature (Wynia 1995; Pena & Andrade-Filho 2010). In radiology and gastroenterology (Terry & Hanchard 1979; Roche 2002), for example, certain pathologic conditions are described through culinary terms (e.g. spinach-stools, honeycomb lung). According to several authors (Pena & Andrade-Filho 2010;

Masukume 2012; Masukume & Zumbala 2012) metaphors taken from real life serve as teaching aids for doctors, nurses and medical students' comprehension and memory retention, and are useful in everyday clinical practice.

2.3. Metaphors in a medical context: doctor-patient communication

In recent years, many scholars have studied the use of metaphorical language in a clinical context (Witzum, Van Der Hart & Friedman 1988; Carter 1989; Sontag 1990; Sims 2003; Reisfield & Wilson 2004). The language of metaphor can serve as the basis for a shared understanding of clinical reality, helping patients to understand their condition. Just to make an example: Arroliga *et al.* (2002), conducting a study on the communication between patients with a pulmonary disease and physicians, point out how physicians often use metaphors in order to describe or explain a pulmonary illness to their patients. They classified the physicians' metaphors in relation to the types of images they produce. In their study, they classify metaphors as 'container images', 'somatic images', 'natural images' and 'mechanical images'. A metaphor often used by physicians when describing emphysema was, for example, "your lungs are similar to a Swiss cheese" (Arroliga *et al.* 2002: 377). Thus, for the physician, metaphors can be efficient tools for helping their patients to understand their clinical condition (e.g. Reisfield & Wilson 2004; Vyjeyanthi & Periyakoil 2008). For patients, metaphors can help them to communicate and thus symbolically control their illness. Ortony & Fainsilber (1989) and Solomon (2001), referring to the role of metaphors in the description of emotions, have demonstrated that metaphors are often used to express a subjective experience and a particular emotional state.

Recent studies on the use of metaphors in the discourse of human diseases such as SARS, AIDS and cancer, have demonstrated that war is a dominant metaphor (Osborn 1993; Wallis & Nerlich 2005; Vyjeyanthi & Periyakoil 2008). In the discourse of cancer, military metaphors (Reinsfield & Wilson 2004) seem to have a 'therapeutic' role for both physicians and patients who are allied and fight together through formidable nuclear weapons (chemotherapy) against a common enemy (cancer). As

already mentioned by various scholars (Fernandez 1977; Witzum, Van Der Hart & Friedman 1988), metaphoric statements represent metaphoric images and offer cross-domain mappings. Thus, metaphorical language in doctor-patient communication serves specific functions such as: (1) providing clarification, interpretation and motivation for the patient; (2) allowing for discussion of goals, directions and plan of actions in terms of treatment; (3) connecting doctors empathically with their patients, thus creating a positive therapeutic relationship.

3. Methods

In order to explore the metaphorical element in English medical nomenclature, an analysis of metaphors linked to the concept of pathology was carried out: this concentrated on all those entries in the 26th edition of *Stedman's Medical Dictionary* (Spraycar *et al.* 1995) that are linked to two common nouns or hypernyms expressing the concept of illness: DISEASE and SYNDROME. These terms have similar definitions and are sometimes interchangeably used even if they have a different medical meaning. According to *Stedman's Medical Dictionary* a DISEASE is

a morbid entity characterized usually by at least two of these criteria: recognized etiologic agent(s), identifiable group of signs and symptoms or consistent anatomical alterations.

and a SYNDROME is

the aggregate of signs and symptoms associated with any morbid process and constituting together the picture of the disease.

Thus, a syndrome can be defined as a disease, the cause of which (i.e. its etiology) is unknown.

In order to assess the extent of metaphor-based terminology, all the names of diseases and syndromes have been grouped into two different classes, one comprising eponymic terms (949 terms) and the other non-eponymic ones (643 terms). The names of diseases and syndromes affecting animals – e.g. HARDWARE DISEASE or FLIP-OVER DISEASE – and such general terms as COMMUNICABLE

DISEASES or SEXUALLY TRANSMITTED DISEASES have been excluded since this study concentrates on specific and not generic pathologies.

Eponyms have been organized according to Brunt's (1998) classification of medical eponyms based on the relation between the determinant (a proper noun) and the *determinatum* (in this study, either DISEASE or SYNDROME). Non-eponymic disease and syndrome terms have been organized according to Dirckx's (1987) taxonomy based on the motivation of their naming (a list of the first 100 entries from *Stedman's Medical Dictionary* is given in the appendix at the end of this paper).

Finally, in order to investigate the role of metaphors in medical discourse, some metaphors found in the terminological data examined have been analyzed according to Lakoff's (1993) theory of conceptual metaphors.

4. Results & discussion

4.1. *Metaphors and medical nomenclature*

In medicine, metaphors are generally employed in order to denominate particular syndromes or pathologies. A large number of these pathologies are formed from words of nonmedical origin. The medical term *CANCER*, for example, was originally named after the crab (Greek *carcinus*) by Hippocrates (400 BC). The Greek word *carcinus* was translated into the Latin word *CANCER* by Celsus (28 BC). A more detailed definition of this disease was given by Galen (130-200 AD): in his opinion, the name *CANCER* derived its origin from the resemblance of the swollen veins surrounding the sore to the legs of a crab (Polackova & Dzuganova 2000: 523).

Many diseases are described in terms of the reality around us with which they bear some resemblance either in shape (*CLOVERLEAF SKULL SYNDROME* or *BERRY ANEURISM*), or in some other aspects (*LUPUS-LIKE SYNDROME* or *CINDERELLA DERMATOSIS*). Pathologies can also be named in relation to the physician who first discovered or accurately described a disease (as in the case of the eponym *ALZHEIMER'S DISEASE*), or in relation to symptoms (e.g. *SALAAM'S TIC*), or by metaphorically referring to mythological and

biblical (*MEDEA'S COMPLEX*, *CAIN'S COMPLEX*), literary (*OTHELLO'S SYNDROME*) or historical characters (*JOAN OF ARC'S EPILEPSY*).

A disease or syndrome can also be named by using an already existing metaphor taken from informal, everyday language (e.g. *BURNOUT SYNDROME*), or in relation to a dramatic, well-known event (*11TH SEPTEMBER SYNDROME*, *STOCKHOLM SYNDROME*).

These few examples may suffice to show that metaphors play an important role in medical nomenclature. As Divasson & Leon affirm: "scientific, medical and technical lexis would certainly be poorer without the use of some metaphorical expressions" (2006: 62). The metaphor-based word in medical nomenclature, as well as in other scientific domains, serves as a cognitive mechanism to understand abstract concepts through common notions.

According to doctors, metaphors have an important role in patient-doctor communication because they decrease the gap between the physical and social sciences, between domain-specific and everyday language through the reproduction of easily understandable images. According to linguists, metaphors play an important role in medical nomenclature (Divasson & Leòn 2006). Linguistic research on medical metaphors has so far focused on three areas: (1) the philological study of the metaphorical creation of anatomical and pathological terminology in ancient Greek (Skoda 1988); (2) the contrastive analysis of English, French and Spanish medical metaphors (Salager-Meyer 1990; Divasson & Leòn 2006); and (3) the quantitative and qualitative analysis of metaphors among titles of medical publications (Mungra 2007), in clinical practice (Coulehan 2003) and in the discourse of specific diseases such as cancer (Sontag 1978; Gibbs & Franks 2002; Reisfield & Wilson 2004; Vyjeyanthi & Periyakoil 2008; Casarett *et al.* 2010), SARS (Wallis & Nerlich 2005) and AIDS (Sontag 1990).

4.2. Eponymic disease terms

The data examined show a high percentage of eponyms (73%). Brunt (1998) divides eponyms into three categories: (1) eponyms, when a generic medical term (disease, syndrome etc.) is preceded by the name of the scientist who first described the disease; (2) toponyms, when a generic medical term is preceded by the name of

the place where the disease was first reported; (3) autoeponyms, when a generic medical term is preceded by the name of the patient who was first observed to be affected by the disease.²

According to this classification, the medical eponyms found in *Stedman's Medical Dictionary* are distributed as follows:

1. eponyms proper (69%): here the hypernym DISEASE can be preceded by a single proper noun (ALZHEIMER'S DISEASE), by two (BLOUNT-BARBER DISEASE), and only rarely by three or more proper nouns (FAVRE-DURAND-NICHOLAS DISEASE). Even though in the user's guide *Spraycar et al.* (1995) affirm that the possessive form (the -s morpheme, either preceded by an apostrophe or not) is used only for the single proper name of a scientist, this rule is not always applied (see e.g. BATTEN DISEASE or ERB DISEASE).³ More importantly, in the case of eponymic disease terms, synonymy is quite frequent: e.g., BASEDOW'S DISEASE is a synonym of GRAVE'S DISEASE;
2. toponyms (3%): here the hypernym DISEASE can be preceded by the name of a town (CHICAGO DISEASE), an island (BORNHOLM DISEASE), a country (ENGLISH DISEASE) or even a continent (AUSTRALIAN DISEASE).⁴ As these few examples show, toponyms do not adopt the possessive form and have a tendency to use the adjectival forms for place-names of countries and continents; in addition, toponymic disease names are sometimes open to synonymy;⁵

² Sometimes, the patient can be the doctor or doctors who studied their own pathology (e.g. *HUNTINGTON'S DISEASE* or *CARRION'S DISEASE*).

³ In some cases the omission of the -s morpheme is probably due to the gradual decline of possessive form in print and electronic medical scientific communication. There has been a long-standing debate in the scientific community over whether or not to add the possessive form to eponymic terms (see Jana, Barik & Arora 2009).

⁴ A very peculiar case is represented by the *PORTUGUESE-AZOREAN DISEASE*: the place-name elements here refer to a nation (Portugal) and its archipelago (Azores).

⁵ For example, *MURRAY VALLEY ENCEPHALITIS* is a synonym of *AUSTRALIAN DISEASE*. In this case, the hypernym is substituted by a more specific medical term (encephalitis) and the name of the continent is substituted by a more specific place-name (Murray Valley).

3. autoeponyms (1%): the hypernym DISEASE can be preceded by the proper names of a single patient (CARRION'S DISEASE), a single family (HARTNUP SYNDROME) or two different families (MACHADO-JOSEPH DISEASE). Generally speaking, the possessive form is not used except for the autoeponym LOU GEHRIG'S DISEASE, which is named after an American football player affected by a particular form of sclerosis. As regards the autoeponym MACHADO-JOSEPH DISEASE, this is a synonym of the toponymic term PORTUGUESE-AZOREAN DISEASE.

4.3. Non-eponymic and metaphor-based disease terms

Only a rather low percentage of the data from my corpus is represented by non-eponymic disease terms (27%): among these, the presence of metaphors is restricted to a very low percentage (3%). As far as non-eponymic diseases are concerned, Dirckx's (1987) taxonomy has been referred to, who classifies pathologies into 4 categories: (1) the cause or causative agent(s); (2) the anatomical site affected; (3) the appearance of the affected part; and (4) the pathological features. Accordingly, the names of the medical diseases found in this study can be distributed as follows:

1. the cause or causative agent(s)⁶ (18%): the terms in this category often derive from Latin or Greek (ANARTHROTIC RHEUMATOID DISEASE, RHEUMATIC DISEASE); sometimes everyday language or experience forms the basis of medical terminology (ALTITUDE DISEASE, CAT-SCRATCH DISEASE);
2. the anatomical site affected (16%): here again most terms derive from Latin or Greek roots (PELVIC INFLAMMATORY DISEASE, SALIVARY GLAND DISEASE); only rarely are they dependent on everyday language (HAND-FOOT-MOUTH DISEASE);

⁶ This category also includes a number of diseases linked to a particular job such as, for example, PAPER-MILL WORKER DISEASE, FLAX-DRESSER'S DISEASE or AVIATOR'S DISEASE.

3. the appearance of the affected part (0.5%): this is exemplified by such terms as *BIG LIVER DISEASE* or *SENILE HIP DISEASE*;
4. the pathological features (4.6%): once again, the terms in this category almost always derive their name – or, at least, the most distinctive element in them – from Latin or Greek (*CYSTIC DISEASE OF THE BREAST*, *GRANULOMATOUS DISEASE*, *POLYCYSTIC LIVER DISEASE*).

Among non-eponymic disease names, a restricted number (0.2%) of metaphor-based terms can be found: these may display zoomorphic metaphors – such as *FISH EYE DISEASE*, *CRI DU CHAT DISEASE*,⁷ or *ELEPHANT MAN'S DISEASE*⁸ (the latter being a synonym of *PROTEUS SYNDROME*) – and metaphors of a different origin such as *MARBLE BONE DISEASE*. These metaphors can be identified as belonging to Lakoff's category of image-metaphors. According to him

the image-metaphors, which map only one image onto one other image works in the same way as all other metaphoric mappings but in this case the domains are conventional mental images. The metaphor is not in the word itself but in the mental image it reproduces (Lakoff 1993: 229).

The *CRI DU CHAT DISEASE*, for example, is an image-metaphor. It reproduces an acoustic image (i.e. a cat's meowing). The acoustic image, cat's cry (source domain), leads the parents whose child is affected by this disease to recognize an analogy between the sound produced by the cry of a cat and the sound produced by their child when crying. The association with an already known domain (cat - source domain) helps parents comprehend the disease that affects their child by recognizing one of the symptoms. But in the case of a

⁷ This is not the only direct French borrowing in English medical terminology: *CAISSON DISEASE* (also known as decompression sickness) is another. *CAISSON* in engineering was a boxlike structure commonly used in construction work underwater. Doctor A. Smith was the first who utilized the term *CAISSON DISEASE* describing 110 cases of decompression sickness in Brooklyn bridge construction workers (Butler 2004). Among English disease words, a few borrowings are taken from Japanese: *TSUTSUGAMASHI* or *AKAMUSHI DISEASE*, *ITAI-ITAI DISEASE*.

⁸ This comes Joseph Merrick, "who earned a living by exhibiting himself as the 'elephant man'. He suffered from a form of neurofibromatosis which affected most of his body" (Tribbles & Cohen 1986: 683).

disease, zoomorphic medical metaphors cannot produce all the above-mentioned mapping introduced by Lakoff.

The terms *CRI DU CHAT DISEASE* and *FISH EYE DISEASE*⁹ reproduce the image of a single symptom (respectively, a cat's cry and an eye similar to that of a fish because of its corneal opacity). The metaphorical mapping cannot be extended to what we know about a cat or a fish. The set of ontological correspondences cannot be activated because the image is limited to a single feature of the source domain (in this case, cats and fish).

4.4. *Eponymic syndrome terms*

As in the case of disease terms the data on syndrome words show a high percentage of eponyms (63%), which can be classified as follows:

1. Eponyms proper (58%): here the hyperonym SYNDROME can be preceded by a single proper name (ASHERMAN'S SYNDROME), by two (BAMBERGER-MARIE SYNDROME) and rarely by three (LOWE-TERREY-MACLACHLAN SYNDROME). As in the case of disease words, these proper names refer to the scientist or scientists who first described the disease; again, the possessive form is not always used (ALDRICH SYNDROME, ADIE SYNDROME, WAARDENBURG SYNDROME) and the adjectival form of the proper name is only rarely recorded (ADDISONIAN SYNDROME).
2. Toponyms (1%): the hyperonym SYNDROME can be preceded by the name of a town (AMSTERDAM SYNDROME) or a river (KUSKOKWIM DISEASE). Although including a place-name, the motivation behind two terms – *STOCKHOLM SYNDROME* and *PERSIAN GULF* or *GULF WAR SYNDROME* – is not related to the toponym itself but to a particular event that happened there or,

⁹ It is to be noted that *FISH EYE* is an already existing metaphoric lexical usage taken from everyday language: as a noun, it refers to a variety of moonstone and an imitation diamond; as an adjective, it qualifies a type of curved lens.

to be more precise, to a peculiar pathological state determined by the event.¹⁰

3. Autoeponyms have not been found in the corpus.

English eponymic syndrome terms do not only refer to doctors and scientists, but also – in a low but significant percentage (4%) – to literary characters. Examples include mythological (*PROTEUS SYNDROME*) or biblical eponyms (*JOB SYNDROME*), and literary characters taken from classical and modern literatures: Greek (*ULYSSES SYNDROME*), German (*MUNCHAUSEN SYNDROME* and *MUNCHAUSEN SYNDROME BY PROXY*) and, of course, English literature (*OTHELLO SYNDROME*, from the well-known Shakespearian character; *PICKWICK* or *PICKWICKIAN SYNDROME*,¹¹ from Charles Dickens's novel; *ALICE IN WONDERLAND SYNDROME* and *THE MAD HATTER SYNDROME*, from Lewis Carrol's novels). Literary eponyms are included in the category of literary metaphors.

4.5. Non-eponymic and metaphor-based syndrome terms

As regards non-eponymic syndromes, the available data can be classified as follows:

1. The cause or causative agent(s) (18%): in this category most terms are named by means of very specific technical terminology (*FRAGILE X SYNDROME*, *CELLULAR IMMUNITY DEFICIENCY SYNDROME*).
2. The anatomical part affected (16%): here most terms derive from Latin or Greek and are the result of word-formation

¹⁰ *STOCKHOLM SYNDROME* is, in fact, a form of bonding between a captive and a captor in which the former begins to identify him or herself with the latter. This psychological response is named after the *Norrmlalmstorg* robbery in Stockholm, in which the bank robbers held a hostage who became emotionally attached to her victimizer. *PERSIAN GULF OR GULF WAR SYNDROME* is a term applied to various health problems (fatigue, headaches, memory loss etc.) experienced by US military personnel after serving in the 1991 Persian Gulf conflict.

¹¹ The alternate use of the adjectival and the nominal, non-possessive form is documented. This syndrome derives its name from one of the characters in Dickens's *Pickwick Papers* known as Joe, a bulimic and somnolent boy (Kryger 1985: 556).

- processes (AURICULOTEMPORAL NERVE SYNDROME, ANTERIOR TIBIAL COMPARTMENT SYNDROME).
3. The appearance of the affected part (0.5%): here terms are either named through everyday language (BLUE TOE SYNDROME, PRUNE BELLY SYNDROME) or learned roots and affixes (SPLENOMEGALY SYNDROME).
 4. The pathological features (1.3%): learned roots and affixes are most often at work in this category as well (MEGACISTIC SYNDROME, POLYCYSTIC OVARY SYNDROME).

A few syndrome terms (1.2%) are preceded by an acronym or initialism: examples include CHILD, AIDS, LAMB, LEOPARD, POEMS, SARS etc. There seems to be no semantic connection at all between the apparent meaning of the acronyms and their real meaning, i.e. the words they stand for: compare, for example, CHILD syndrome and the corresponding expression CONGENITAL HEMIDYSPLASIA WITH ICTHYOSIFORM ERYTHRODERMA AND LIMB DEFECTS. Most of them may be defined as elliptic acronyms because not all the words contained in the acronym are graphically represented. The omission can involve prepositions or conjunctions and full lexical words (as in the case of CHILD above, or of POEMS that stands for POLYNEUROPATHY ORGANOMEGALY ENDOCRINOPATHY MONOCLONAL GAMMOPATHY AND SKIN CHANGES).

Among non-eponymic syndrome terminology we can find a small number of metaphor-based words. According to the data analyzed, the metaphors found in *Stedman's Medical Dictionary* include: (a) zoomorphic metaphors¹² (*LUPUS-LIKE SYNDROME*, *CAUDA EQUINA SYNDROME*); (b) phytomorphic metaphors (*CLOVERLEAF SKULL SYNDROME*, *MORNING GLORY SYNDROME*); (c) architectural metaphors (*SICK BUILDING SYNDROME*); (d) others are linked to food (*CHINESE RESTAURANT SYNDROME*) or toys (*HAPPY PUPPET SYNDROME*, *HEAD-BOBBING DOLL SYNDROME*); (e) finally, a few terms take their metaphoric content from everyday language expressions (*CROCODILE'S TEARS SYNDROME*, *PUNCH-DRUNK*

¹² The first three categories – zoomorphic, phytomorphic and architectural – correspond to the taxonomic domains of Divasson & Leon (2006: 61).

SYNDROME) or everyday experiences (*HOLIDAY SYNDROME*, *HOLIDAY HEART SYNDROME*, *FLASHING PAIN SYNDROME*).

As in the case of ‘metaphorical diseases’ the metaphors linked to proper noun syndromes can be defined as image-metaphors. Cross-domain mappings are determined by the number of features relating the symptomatology to the common source domains (*MORNING GLORY*, *CLOVERLEAF* etc.). Generally speaking, in medical nomenclature, the source domain, the common image or domain simply have one aspect in common with the target domain, thus limiting the set analogies.

An exception is represented by literary eponyms. In fact, literary metaphors can activate metaphorical cross-mappings because most literary characters used in the definition of pathologies show a pattern of analogies with the pathologies they denominate. It is to be emphasized, however, that in the case of literary eponyms the source domain is fundamentally linked to the general knowledge of the receiver, which will determine his or her level of understanding: a non-British patient affected by *PICKWICK SYNDROME*, for example, may not know who Dickens was and who Mr. Pickwick is. But even though the patient does not know anything about the source domain (i.e. the literary character), the metaphorical function can always be fulfilled by the distinguishing features of the character. Metaphorical mappings can be suggested by doctors telling their patients about the literary characters and the analogies between them and the symptoms manifested by the patients. With the help of their doctors, then, patients can recreate their mappings and can be led to comprehend their pathologies. In short, eponyms of this kind help patients to conceptualize pathologies in a non-technical guise.

5. Conclusions

In conclusion, the qualitative analyses conducted in this study have demonstrated that, as far as medical terminology is concerned, doctors do not use many metaphors in order to name pathologies. What emerges from the data is a considerable difference in the use of metaphors with the noun *DISEASE* or the noun *SYNDROME*: metaphors for naming pathologies are, generally speaking, more

often used when the causes of pathologies are still unknown (i.e., when syndromes are involved). This is interesting because a disease is the clinically recognized illness, whereas a syndrome is generally regarded as a cluster of clinical manifestations, which may not exclusively be attributed to one illness.

At a psycholinguistic level, medical metaphors used to name pathologies can be included in Lakoff's category of image-metaphor. Cross-domain mappings are influenced by the quantity of analogies linking the source domain (common everyday term) to the target domain (pathology). In general, it is quite difficult to recreate a set of ontological correspondences because most metaphors are related to pathologies through a restricted number of symptoms. An exception is represented by literary metaphors where the source domain (literary character) and the pathology (target domain) are linked by a more complex or complete pattern of analogies. In this case, the activation of cross-mappings is determined by the general (literary) knowledge of the receiver (patient).

At a communication level, the data analyzed show:

1. a frequent tendency to use eponymic constructions in order to name pathologies;
2. an extensive use of terminology based on Latin and Greek, in particular when pathologies are named in relation to the anatomical parts affected or pathological features;
3. the propensity to use easier words when naming pathologies in relation to the appearance of the affected part or to the causative agent (i.e., when the agent is not an anatomical, genetic or physical one);
4. the tendency to use metaphors and literary eponyms in relation to syndromes but rarely in relation to diseases.

In addition, these data point out that, from a communication point of view, the term DISEASE is generally used by doctors when communicating with their peers, whereas the term SYNDROME is generally used when communicating with patients.

References

- Arroliga, A.C. *et al.* 2002, "Metaphorical medicine: Using metaphors to enhance communication with patients who have a pulmonary disease", *Annals of Internal Medicine*, 137: 5, pp. 376-380.
- Brunt, R. 1998, "Medical eponyms revisited", *English Today*, 14, pp. 51-56.
- Bryant, E.H., S.A. McCommas & L. Combs 1986, "The effect of an experimental bottleneck upon quantitative genetic variation in the housefly", *Genetics*, 114, pp. 1191-1211.
- Butler, W.P. 2004, "Caisson disease during the construction of the Eads and Brooklyn bridges: A review", *Undersea and Hyperbaric Medical Journal*, 31: 4, pp. 445-459.
- Canziani, T. 2010, "Metaphor and brain: a neuropragmatic overview", *Textus*, XXIII, pp. 737-762.
- Carter, A.H. 1989, "Metaphors in the physician-patient relationship", *Soundings*, 72, pp. 153-164.
- Casarett, D. *et al.* 2010, "Can metaphors and analogies improve communication with serious ill patients?", *Journal of Palliative Medicine*, 13: 3, pp. 255-260.
- Coulehan, J. 2003, "Metaphor and medicine: narrative in clinical practice", *Yale Journal of Biology and Medicine*, 76, pp. 87-95.
- Coulson, S. 2008, "Metaphor comprehension and the brain", in R.W. Gibbs (ed.), *Metaphor and Thought*, 3rd edition, Cambridge University Press, Cambridge, pp. 177-194.
- Damasio *et al.* 1996, "A neural basis for lexical retrieval", *Nature*, 380, pp. 499-505.
- Dirckx, J.H. 1987, *A Non-Physician's Guide to the Medical History and Physical Examination*, Health Professions Institute, Modesto.
- Divasson, L. & I.K. Leòn 2006, "Metaphors in English, French, and Spanish medical written discourse", in K. Brown (ed.), *Encyclopedia of Language and Linguistics*, 2nd edition, Elsevier, Oxford, vol. 7, pp. 58-63.
- Fauconnier, G. & M. Turner 1998, "Conceptual integration networks", *Cognitive Science*, 22: 2, pp. 137-187.
- Feldman, J.A. 2006, *From Molecule to Metaphor*, The Massachusetts Institute of Technology Press, Cambridge.
- Fernandez-Duque, D. & M.L. Johnson 1999, "Attention metaphor": how metaphor guide the cognitive psychology of attention", *Cognitive Science*, 23: 1, pp. 83-116.
- Fernandez, J.V. 1977, "The performance of ritual metaphors", in J.D. Sapir and I.C. Crocker (eds), *The Social Use of Metaphors: Essays on the Anthropology of the Rhetoric*, University of Pennsylvania Press, Philadelphia, pp. 100-131.

- Gallese, V. & G. Lakoff 2005, "The brain's concepts: the role of the sensory-motor system in reason and language", *Cognitive Neuropsychology*, 22, pp. 455-479.
- Gamow, G. 1955, "On information transfer from nucleid acids to proteins", *Biologiske Meddelelser*, 2, pp. 1-7.
- Gentner, D. & B. Bowdle 2008, "Metaphor as structure-mapping", in R. Gibbs (ed.) *Metaphor and Thought*, Cambridge University Press, Cambridge, pp. 109-128.
- Gibbs, R.W. (ed.) 2008, *The Cambridge Handbook of Metaphor and Thought*, Cambridge University Press, Cambridge.
- Gibbs, R.W. & H. Franks 2002, "Embodied metaphor in women's narratives about their experiences with cancer", *Health Communication*, 14, pp. 139-166.
- Gibbs, R.W., P. Lenz Costa Lima & E. Francozo 2004, "Metaphor is grounded in embodied experience", *Journal of Pragmatics*, 36, pp. 1189-1210.
- Glucksberg S., M.S. McGlone & D. Manfredi 1997, "Property attribution in metaphor comprehension", *Journal of Memory and Language*, 36, pp. 50-67.
- Jana, N., S. Barik & N. Arora 2009, "Current use of medical eponyms – a need for global uniformity in scientific publications", *BMC Medical Research Methodology*, 9, pp. 18-22.
- Kryger, M.H. 1985, "Fat, sleep, and Charles Dickens: literary and medical contributions to the understanding of sleep apnea", *Clinics in Chest Medicine*, 6: 4, pp. 555-562.
- Lakoff, G. & M. Johnson 1980a, *Metaphors We Live By*, University of Chicago Press, Chicago.
- Lakoff, G. & M. Johnson 1980b, "The metaphorical structure of the human conceptual system", *Cognitive Science*, 4, pp. 195-208.
- Lakoff, G. 1993, "The contemporary theory of metaphor", in A. Ortony (ed.), *Metaphor and Thought*, Cambridge University Press, Cambridge, pp. 202-251.
- Masukume, G. 2012, "Food for thought", *Croatian Medical Journal*, 53: 1, pp. 77-79.
- Masukume, G. & A. Zumbala 2012, "Analogies and metaphors in clinical practice", *Clinical Medicine*, 12: 1, pp. 55-6.
- Mungra, P. 2007, "Metaphors among titles of medical publications: an observational study", *Iberica*, 14, pp. 99-122.
- Ortony, A. & L. Fainsilber 1989, "The role of metaphors in descriptions of emotions", in Y. Wilks (ed.), *Theoretical Issues in Natural Language Processing*, Erlbaum, Hillsdale, pp. 181-184.
- Osborn, J.E. 1993, "AIDS-science, medicine and metaphor", *The Western Journal of Medicine*, 158: 3, pp. 304-307.

- Pena, G.P. & Jde. S. Andrade-Filho 2010, "Analogies in medicine: valuable for learning, reasoning, remembering and naming", *Advances in Health Sciences Education*, 15, pp. 609-619.
- Polackova, G. & B. Dzuganova 2000, "Confrontational analysis of motivation in medical terminology", *Bratislava Medical Journal*, 101: 9, pp. 522-525.
- Reisfield, G.M. & G.R. Wilson 2004, "Use of metaphor in the discourse of cancer", *Journal of Clinical Oncology*, 22: 19, pp. 4024-4027.
- Roche, C.J. et al. 2002, "Selections from the buffet of food signs in Radiology", *RadioGraphics*, 22, pp. 1369-1384.
- Salager-Meyer, F. 1990, "Metaphors in medical English prose: a comparative study with French and Spanish", *English for specific purposes*, 9, pp. 145-159.
- Schrödinger, E. 1944, *What Is Life*, Cambridge University Press, Cambridge.
- Skoda, F. 1988, *Médecine Ancienne et Métaphore. Le Vocabulaire de l'Anatomie et de la Pathologie en Grec Ancien*, Peeters / Selaif, Paris.
- Sims, P.A. 2003, "Working with metaphor", *American Journal of Psychotherapy*, 57, pp. 528-536.
- Solomon, A. 2001, *The Noonday Demon: An Atlas of Depression*, Scribner, New York.
- Sontag, S. 1978, *Illness as Metaphor*, Farrar, Straus & Giroux, New York.
- Sontag, S. 1990, *Illness as Metaphor and AIDS and its Metaphors*, Picador, New York.
- Spraycar, M. et al. (eds) 1995, *Stedman's Medical Dictionary*, 26th edn, William & Wilkins, Baltimore.
- Terry, S.I. & B. Hanchard 1979, "Gastrology: the use of culinary terms in medicine" *British Medical Journal*, 2: 6205, pp. 1636-1639.
- Tribbles, J.A.R. & M.M. Cohen 1986, "The Proteus syndrome: the elephant man diagnosed", *British Medical Journal*, 293, pp. 683-685.
- Unschuld, P.U. 1998, *Forgotten Traditions of Ancient Chinese Medicine*, Paradigm Publications, Brookline.
- Vyjeyanthi, S. & M.D. Periyakoil 2008, "Using metaphors in medicine", *Journal of Palliative Medicine*, 11: 6, pp. 842-844.
- Wallis, P. & B. Nerlich 2005, "Disease metaphors in new epidemics: the UK media framing for the 2003 SARS epidemic", *Social Science & Medicine*, 60, pp. 2629-2639.
- Witztum, E., O. Van Der Hart & B. Friedman 1988, "The use of metaphors in psychotherapy", *Journal of Contemporary Psychotherapy*, 18: 4, pp. 270-290.
- Wynia, M.K. 1995, "Culinary metaphors in medicine", *Infectious Diseases in Clinical Practice* 4: 6, pp. 437-440.

Appendix

Disease and syndrome terms: a list of the first 100 entries from *Stedman's Medical Dictionary*

DISEASE TERMS	SYNDROME TERMS
Eponyms Proper	
Acosta's disease	Aarskog-Scott syndrome
Adam-Stroke disease	Achard syndrome
Addison-Biermer disease	Achard-Thiers syndrome
Addison's disease	Achenbach syndrome
Albers-Schönberg disease	Adam-Stokes syndrome
Albert's disease	Addisonian syndrome
Albright's disease	Adie syndrome
Alexander's disease	Ahumada-Del Castillo syndrome
Almeida's disease	Aicardi's syndrome
Alpers disease	Alagille syndrome
Alzheimer's disease	Albright's syndrome
Anders' disease	Aldrich syndrome
Andersen's disease	Alezzandrini's syndrome
Aran-Duchenne disease	Allen-Masters syndrome
Aujeszkzy's disease	Alport's syndrome
Ayerza's disease	Alström's syndrome
Baelz's disease	Angelman syndrome
Balò's disease	Angelucci's syndrome
Bamberger-Marie disease	Anton's syndrome
Bamberger's disease	Apert's syndrome
Bang's disease	Argonz-Del Castillo syndrome
Bannister's disease	Arndt-Gottron syndrome
Banti's disease	Arnold-Chiari syndrome
Barclay-Baron disease	Ascher's syndrome
Barlow's disease	Asherman's syndrome
Barraquer's disease	Avelli's syndrome
Basedow's disease	Ayerza's syndrome
Batten disease	Babinski's syndrome
Batten-Mayou disease	Balint's syndrome

Bayle's disease	Bamberger-Marie syndrome
Bazin's disease	Bannwarth's syndrome
Bechterew's disease	Banti's syndrome
Becker's disease	Bardet-Biedl syndrome
Begbie's disease	Barlow syndrome
Béguez-César disease	Barrett's syndrome
Behçet's disease	Bart's syndrome
Behr's disease	Barter's syndrome
Berger's disease	Basan's syndrome
Bernard-Soulier	Bassen-Kornzweig Syndrome
Bernhardt's disease	Bauer's syndrome
Besnier-Boeck-Schaumann disease	Bazex's syndrome
Best's disease	Beckwith-Wiedemann Syndrome
Bielschowsky's disease	Behçet's syndrome
Biermer's disease	Behr's syndrome
Binswanger's disease	Benedikt's syndrome
Bloch-Sulzberger disease	Beradinelli's syndrome
Blocq's disease	Bernard-Horner syndrome
Blount-Barber disease	Bernard-Sergent syndrome
Blount's disease	Bernard-Soulier syndrome
Boeck's disease	Bernhardt-Roth syndrome
Bosin's disease	Bernheim's syndrome
Bouchard's disease	Besnier-Boeck-Schaumann syndrome
Bouillaud's disease	Beuren syndrome
Bourneville-Pringle disease	Biamond syndrome
Bourneville's disease	Bjornstad's syndrome
Bowen's disease	Blatin syndrome
Brailsford-Morquio disease	Bloch-Sulzberger syndrome
Breda's disease	Bloom's syndrome
Bright's disease	Boerhaave's syndrome
Brill's disease	Bonnier's syndrome
Brill-Symmers disease	Böök syndrome
Brill-Zinsser disease	Börjeson-Forssman-Lehmann syndrome

Briquet's disease	Briquet's syndrome
Brissaud's disease	Brissaud-Marie syndrome
Brocq's disease	Brock's syndrome
Brodie's disease	Brown's syndrome
Brooke's disease	Brown-Séguard's syndrome
Bruck's disease	Brugsch's syndrome
Brushfield-Wyatt disease	Budd-Chiari syndrome
Buerger's disease	Budd's syndrome
Bürger-Grütz disease	
Bury's disease	
Buschke's disease	
Busquet's disease	
Buss disease	
Busse-Buschke disease	
Caffey's disease	
Calvé-Perthes disease	
Canavan's disease	
Canavan-van Bogaert-Bertrand disease	
Caroli's disease	
AUTOEPONYMS	
Byler disease	
TOPONYMS	
Akureyri disease	Amsterdam syndrome
Australian disease	
Azorean disease	
Baltic myoclonus disease	
Bornholm disease	
LITERARY EPONYMS	
	Alice in wonderland Syndrome
NON-EPONYMIC TERMS: CAUSE OR CAUSATIVE AGENTS(S)	
Accumulation disease	Abdominal muscle deficiency syndrome
Adaptation disease	Acquired immunodeficiency syndrome
Altitude disease	Acute organic brain syndrome

Anarthritic rheumatoid disease	Acute radiation syndrome
Antibody deficiency disease	Adherence syndrome
Aortiliac occlusive disease	Adult respiratory distress syndrome
Aviator's disease	Afferent loop syndrome
	Aglossia-adactylia syndrome
Brancher glycogen storage disease	Alcohol amnestic syndrome
Broad beta disease	Amenorrhea-galactorrhea syndrome
Caisson disease	Amniotic fluid syndrome
Calcium pyrophosphatase deposition disease	Asplenia syndrome
	Autoerythrocyte sensitization syndrome
	Baby bottle syndrome
	Battered child syndrome
	Battered spouse syndrome
	Bowel bypass syndrome
	Bradytachycardia syndrome
NON-EPONYMIC TERMS: ANATOMICAL SITE AFFECTED	
	Acrofacial syndrome
	Adiposogenital syndrome
	Adrenal cortical syndrome
	Angio-osteohypertrophy syndrome
	Anorectal syndrome
	Anterior-tibial compartment syndrome
	Aortic arch syndrome
	Arterial thoracic outlet syndrome
	Auriculotemporal nerve syndrome
	Basal cell nevus syndrome
NON-EPONYMIC TERMS: MENTION OF THE AFFECTED PART	
Big liver disease	Blue toe syndrome
Bulging eye	

Part II

Studying and teaching Medical English: Teaching practice and tools

Reflections on a syllabus review: Teaching practice and research in language teaching at Rome Medical School

Philippa Mungra – La Sapienza University of Rome’s Medical School
philippa.mungra@tiscali.it

1. Introduction

In 2001, a new syllabus for medicine was introduced in the Italian Medical Schools and was preceded by much debate by language Instructors and by the Deans of Medicine. In order to define the syllabus, a Working Group¹ (WG) of Deans and Instructors met to agree on a mission statement and the skills deemed necessary. This concerned the 1st and 2nd Medical schools at Rome’s *La Sapienza* University and the Universities of Bologna and Messina. The mission statement identified language teaching as facilitating continuing medical education and the skills required were subdivided into cognitive, operational and relational skills, in keeping with guidelines of the Bologna Statement. This statement was published in the journal of the College of Deans of Italian Medical Schools by the Working Group (WG). The WG, headed by Gallo (2001) recommended a common core curriculum spread over at least one semester for each of the five years of English in Medical School. This paper will review the experience of language teaching at the Medical school of the University of Rome, following the introduction of this new syllabus. We will attempt to identify syllabus changes consonant with the recommendations of the Bologna Process as articulated by the WG.

¹ The Working Group consisted of Pietro Gallo, Pauline Webber, Philippa Mungra, Huon Snelgrove (Roma La Sapienza, I Facoltà), Holly Ferriter (Roma La Sapienza, II Facoltà), Giuliana Gardellini (Bologna), Maria Concetta Tripoli (Messina), Giuseppe Familiari (Roma La Sapienza, II Facoltà), Antonio Gaddi (Bologna) and Alberto Calatroni (Messina).

2. Structure of English course and its varied applications at Rome's Medical school

2.1. Upon entry into medical school

Because of the varied preparation of the student population entering Medical School, we set up an entry test using the self-evaluation questionnaire of the DIALANG Project. DIALANG, co-ordinated by the Freie Universität Berlin, has developed diagnostic language tests in 14 European languages and uses the same assessment criteria throughout, based on the six Council of Europe levels of the Common European Framework of Reference. The test itself consists not only the self-questionnaire but also a verification test for students, done online. Reading, writing, listening and communication abilities were considered on the questionnaire at the end of which we had an overall linguistic picture of the freshman class. Although it is possible that students were not truthful about their abilities, we decided it would give us some idea of students' perceptions of their language abilities. Unfortunately, it was not possible for us to verify the levels reported by the students, but using a standardized verification test such as the DIALANG, we attempted to validate the levels reached.

2.2. The core course

According to Dudley-Evans (2001), English for specific purposes or ESP is a special variety of foreign language teaching and requires an accurate identification of learners' needs and deficiencies. Because overall levels in reading and listening comprehension and writing as determined in DIALANG hovered around the B2-C1 level (Mungra 2004) we decided to concentrate on these skills and designed a course based on different text-types (Swales 1989) giving priority to critical reading and analysis of the medical literature. In defining our strategies, outlined briefly below, we wanted to emphasise the teaching of Medical English within a professional context. As defined by Zethen & Askehave (2006)

Medical language is traditionally regarded as the language used by medical experts when communicating in an expert-to-expert context. It is the language of the 'specialist', often defined as opposed to

general language used by the general public in everyday situations (2006: 645).

2.3. Strategies

Explicit teaching of text structure and of meta-cognitive strategies in recognizing text organisation were applied in keeping with ideas of Swales (1990), Bhatia (1993, 1997) regarding a professional setting. Text organisation and especially paragraph structure and identifying the main idea were also explicitly taught, (Oxford & Crookall 1989) text moves (Dudley-Evans 1995; Nwogu 1997) as well as other semantic features such as signalling devices (Flowerdew 2003).

We decided to use only authentic texts (Coffey 1984) concentrating on specific items such as lexical verbs of reporting in the research article or RA (Williams 1996), lexical groups and collocation in RAs, hedging devices (Hyland 1996) claims (Samraj 2004) and other features such as identifying rhetorical moves, speech acts, frames, discourse markers and other lexicogrammatical patterns specific to the genre (Johns 1997; Flowerdew 1993). We also used a discourse analysis approach which forced us to develop materials using text-types commonly read in medicine and based on functions such as definitions, generalizations, inductive and deductive statements, descriptions of processes, proposals, of sequences of events, and of medico-technical devices and procedures. This required pragmatic teaching of genre structure and the contextual use of different parts of speech such as connectors and adjuncts and longer strings of text to identify formulaic language.

Use of mother-tongue language (L1) during the lesson (Kavaliauskiene 2009) is an oft-disputed topic and we decided that because of the presence of beginners and false-beginners (A1 & 2 B1 & 2 levels), it would be appropriate to use Italian for assigning exercises and for explaining points of grammar and pragmatic use, but spoken English was used in every class. Students were encouraged to reply in Italian but the instructor used mostly English. For every lesson, mini-lectures on the disease or condition referred to in the reading were presented to the class in spoken formal academic English as pre-reading exercises, with PowerPoint

slides to summarize the salient points of the pathology and its treatment under discussion. This furnished a frame or script (Bednarek 2005) for the language lesson that followed in that the diseases or pathologies chosen were those that students were currently studying.

Overlap with the subject material was further exploited in the III year onwards, such that the credit for English formed part of the total of credits available for different Integrated Courses, such as Methodology. Courses such as Methodology use an Evidence-Based Medicine setting (Gray 1997; Sackett *et al.* 1996,) and English covered not only lexicogrammar and pragmato-semantics but also furnished a first approach to the medical literature by setting exercises of searching different databases such as PubMed, Medline and the Cochrane Collaboration. Alongside explicitly taught search techniques exploring these databases, students were required to create a portfolio of readings and written analyses of publications retrieved from the University e-library. Critical analysis of different genres (Brumfit 2005) such as case histories, research articles, letters to the editor, editorials and review articles were studied in formal lectures and students were required to analyse three of these text types in their personal portfolio.

2.4. Variations between different courses

Instructors in our faculty have different strengths and interests and can thus offer variations in the course to strengthen different skills such as academic writing, oral presentations and communication skills. Many of the exercises produced in the years beyond year III are generally included in the obligatory student portfolio.

The writing component consists of five modules spread over a single semester. Teaching these modules is carried out using a mixed format in the sense that the different exercises are delivered on-line via Blackboard, an electronic platform, but correction and evaluation of student exercises, returned via the interactive forum, are done in frontal lessons (Mungra 2009). Many of the exercises revolve around expressing doubt and uncertainty (Hyland 2007) hedging (Hyland 1996; Varttala 1999) especially of research abstracts (Salager-Meyer 1994; Yang & Allison 2004) with special attention to the academic register. One application of the use of

research abstracts for both teaching the genre and for creating examination questions is detailed in Mungra (2010). Such a writing course may activate the information studied passively in prior years, thus conforming to the guidelines of activating and relational skills. Exercises dealing with intertextuality issues of peer communication such as letter writing and hospital dismissal notes were also included in these modules.

In oral presentations, students listen to medical conference sessions, on CD-ROM in group sessions or on Internet accessing sites such as MEDSCAPE (www.medscape.com). They thus prepare to give a short presentation in English based on the contents of their portfolio. Advance information on the evaluation criteria for the presentation helps the students prepare for it (Webber 2004).

Finally, in collaboration with colleagues in Internal Medicine, we also offered an optional course on doctor-patient communication in which instructors make use of audiovisual courses showing basic strategies on what to do and what not to do when interviewing a patient, including very simple things such as where to sit, eye-contact, question types and how to react to patients' questions and fears. These optional modules, aimed at improving anamnestic skills, also activated operational and relational skills, suggested by the guidelines outlined in the new syllabus by the Working Group.

2.5. Evaluation & Testing

Different instructors use different ways for student evaluation. Some instructors use a summative assessment in two steps: a partial pass / fail assessment at the end of two semesters followed by a final written global test on an unknown text. Other instructors use a series of modular tests, then calculate the total mark achieved. Such multiple approaches to assessment have advantages and drawbacks, but active agreement with improved skills was seen in a questionnaire returned by 50% of students from a small class of 34 false beginners (A2 / B1 level) at the end of two semesters of English. They were asked to show their agreement with a series of questions using a Likert scale of 1-5 shown in the Table 1 below. The responses were grouped as 1-3 and 4-5 to show marginal or active agreement respectively.

	Likert scale grouping	
Indicate your agreement using a Likert scale of 1 to 5 1= do not agree ... 5= Indeed I agree	1-3	4-5
I understood what the authors were trying to say	1	15
I verified some important information	8	9
I plan to discuss this information with others	5	12
I plan to see more information of this topic	3	14
This information is likely to be integrated in to my studies	3	14
Autonomous on-line study has helped my reading accuracy	4	13
My reading speed has improved	5	12
I am able to interpret all the data / graphs correctly	4	13
I feel more confident in reading and interpreting the scientific literature	2	15

Table 1. showing student opinion about their own improvement (after Mungra 2009).

The pass / fail test of the II year tests mainly lexis, meaning and appropriate use of parts of speech. The rationale for a test at about the middle of the course lay in giving students a diagnostic test such that students were able to identify where their own weaknesses lay, early enough in their medical course with enough time to work at improving skills before the final summative examination and assignment of final grades.

Evaluation of the portfolio was based on five parameters: content, organisation of the written exercises, sentence construction, vocabulary used and presentation of the finished form. A rating scale of insufficient / sufficient, discrete, good and excellent was applied initially, but we later decided that marks out of 10 would make the value of the portfolio greater and that the portfolio mark could be summed with the mark earned in the written final summative test.

The final summative evaluation tested comprehension of an unknown text and questions ranged from multiple choice, short single answers, brief written notes in answer to questions about the

content, author stance, and function or meaning of different grammatical features and constructions. A comprehensive 10-item cloze test was also given as a check item to see whether the comprehension mark roughly matched the mark of the cloze test.

2.6. Usefulness of the portfolio

As indicated above, student portfolios are an integral part of the III year onwards. There were two reasons for this option. First, timetable constraints previously described induced us to allow students greater freedom from formal lessons. The second reason for this option is that we felt that such freedom from formal classes should come at a price, namely proper use of study time for the application of the system of credits advocated by the new medical syllabus. We felt that assembling a personal portfolio would document integration of English reading skills with clinical topics of the students' own choice, inclination or interest. We have been told informally by many teachers of clinical subjects of their surprise at how widely read students now are as a result of the English requirement of creating a reading portfolio. We also believe that the creation of the portfolio favours the habit of lifelong learning, advocated by the Bologna Process.

The downside of student freedom from class is that we have not developed tools for verifying that the portfolio is that of the student's own work. Such verification is time-consuming and again falls back on the question of contractual obligations of staff and slim staff resources. Another issue, which should be dealt with, is a uniform objective assessment grid for marking the portfolio.

2.7. Measuring effectiveness of teaching

Developing assessment grids has been attempted (Snelgrove 2004) but the actual application is left to the individual instructor. In the latest version of the syllabus, English has been allotted 10 credits (*professionalizzanti*) so it is clear that this means students should allot more time to language study. However, the basic problem of what to include in course design, exercises to be created, assigned and corrected, the large numbers of students to be monitored and helped within the time constraints of staff availability and student

commitment and obligations to other subjects are all issues that must be addressed.

3. Problem areas

There were basically four problem areas to consider in the running and organisation of this course. The first problem consisted of management of very large classes. Ever since English was made obligatory in the medical syllabus known as *Tabella XVIII*, modified in 1992 and successive years, there have been large numbers of students. This has created some problems insofar as student production, for example, is difficult to monitor, whereas teaching small homogeneous groups results in a clearer outcome. Although it may be argued that small group teaching favours teacher-centred rather than learner-centred instruction, the effectiveness of a frontal lecture to 200 students is difficult to measure because the initial outcome measure was not defined, whereas, in a smaller group, not only is the outcome measurable, but no student is left behind (Johns 1997). However desirable small-group teaching may be, it inevitably conflicts with the valid issue of lack of resources.

A second problem consisted of the issue of staff resources. The lack of trained language teachers for the medical disciplines is a chronic problem. In our faculty, up until 2010, there was a single associate professor, two *lettori or* Readers, and one yearly-contracted teacher for instruction of a total of approximately 1200 students. The contractual hours of the different staff make for a heavy workload and thus makes it difficult to teach, grade and verify progress for the entire medical school. There are two other organisational issues related to this unsatisfactory situation.

One organisational problem is the lack of funds allotted for didactics, since *lettori* are considered administrative not academic staff and are thus not entitled to teaching funds according to the university administration, despite the fact that the Reader / Lector is an accepted academic figure in most European and British universities. This means that the usual channels for staff improvement, research and updating are not available for lecturers,

though functioning informally as academic staff. Such tension does not make for a productive working atmosphere.

Finally, the other organisational issue rests in the considerable timetable pressure such that English is squeezed into the timetable where possible between clinical rounds or other classes so there is so little time for language class that skills are difficult to achieve hence the subject is held in low esteem or even resented since it is perceived as taking time away from the more 'noble' clinical subjects. Thus students make little effort to improve language skills or to experiment with life-long learning strategies. The attendant prognosis for improved language skills is poor, especially for those who start at an A1 or A2 level.

4. Future Directions and Conclusion

The Bologna process aims at completing the transformation of national systems of Higher Education to that of a unified European system to facilitate transportability and cross-comparison of higher degrees. This agreement signed initially in 1999, is generally applied to all degree structures in European higher education and favours many of the elements, which we apply in our English course such as lifelong learning skills. In terms of linguistic competence, there has been an agreement on 13/04/2007 between Italian University Rectors and the Italian Ministry of Education for the Qualification Framework for language competence.²

These two documents should drive teaching and learning of language at the tertiary level to ensure continuous advancement of undergraduates in language skills and competencies. One means of verifying such progression might be a pilot project using DIALANG or PASSWORD for external verification of students at the end of their undergraduate degree.

Such verification might be logistically difficult in terms of time but may be necessary for compliance with European Standards and Guidelines for Quality Assurance (<http://www.eqar.eu/publications>

² Qualification Framework for language competence, available at <http://www.cruis.it/internazionalizzazione/HomePage.aspx?ref=1204#>.

.html) if we aim to comply with the objectives set by the Bologna Process.³

References

- Bednarek, M.A. 2005, "Frames revisited-the coherence inducing function of frames", *Journal of Pragmatics*, 37, pp. 685-705.
- Bhatia, V.K. 1993, *Analysing Genre - Language Use in Professional Settings, Applied Linguistics and Language Study Series*, Longman, London.
- Bhatia, V.K. 1997, "Genre-mixing in academic introductions", *English for Specific Purposes*, 16: 3, pp. 181-196.
- Brumfit, C. et al. 2005, "Language study in higher education and the development of criticality", *International Journal of Applied Linguistics* 15: 2, pp. 145-168.
- Coffey, B. 1984, "State of the art: English for specific purposes", *Language Teaching* 17: 1, pp. 2-16.
- DIALANG, available at <http://www.dialang.org/english/index.htm>, last consulted on 25 April 2013.
- Dudley-Evans, T. 1995, "Common-core and specific approaches to the teaching of academic English", in D. Belcher and G. Braine (eds.), *Academic Writing in a Second Language: Essays on Research and Pedagogy*, Ablex, Norwood, New Jersey, pp. 293-312.
- Dudley-Evans, T. 2001, "English for specific purposes" in R. Carter and D. Nunan (eds), *Teaching English to Speakers of Other Languages*, Cambridge University Press, Cambridge, pp. 131-136.
- Flowerdew, J. 1993, "An educational, or process, approach to the teaching of professional genres", *English Language Teaching Journal*, 47: 4, pp. 305-16.
- Flowerdew, J. 2003, "Signalling nouns in discourse", *English for Specific Purposes*, 22, pp. 329-346.
- Gallo P. et al., 2002, "To be or not to be: Il corso di inglese medico alla ricerca di una propria identità tra missioni, obiettivi e realtà diverse", *Medicina & Chirurgia*, 17, pp. 616-619.
- Hyland, K. 1996, "Talking to the academy: forms of hedging in science research articles", *Written Communication* 13: 2, pp. 251-281.
- Hyland, K. 2007, "Genre pedagogy: language, literacy and L2 writing instruction", *Journal of Second Language Writing*, 16, pp. 148-164.

³ Thanks must be expressed to Prof. Pauline Webber for critical reading of the manuscript and for information about oral presentations and communication skills.

- Johns, A.M. 1997, *Text, Role and Context. Developing Academic Literacies*, Cambridge University Press, Cambridge.
- Kavaliauskienė, G. 2009, "Role of mother tongue in learning English for specific purposes", *English for Specific Purposes World*, 1: 22, vol. 8, available at <http://www.esp-world.info>, last consulted on 25 April 2013.
- Muir Gray, J.A., 1997, *Evidence-Based Healthcare*, Churchill Livingstone, Edinburgh.
- Mungra, P. 2004, "A feasibility study: needs analysis and reflections on language competencies in a medical school in Italy", in R. Wilkinson (ed.), *Integrating Content and Language: Meeting the Challenge of a Multilingual Higher Education*, Maastricht University Press, Maastricht, pp. 178-189.
- Mungra, P. 2009, "On-line delivery of a writing course: description of a blended language course integrated into medicine", in I. González-Pueyo *et al.* (eds), *Teaching Academic and Professional English Online*, Peter Lang, Bern, pp. 181-208.
- Mungra, P. 2010, "Teaching writing of scientific abstracts in English: CLIL methodology in an integrated English and Medicine course", *Ibérica*, 20, pp. 151-165, available at http://www.aelfe.org/documents/07_20Mungra.pdf, last consulted on 25 April 2014.
- Nwogu, K.N. 1997, "The medical research paper: structure and functions", *English for Specific Purposes*, 16, pp. 119-138.
- Oxford, R. & D. Crookall 1989, "Research on language learning strategies: methods, findings, and instructional issues", *The Modern Language Journal*, 73: 4, pp. 404-419.
- PASSWORD, available at <http://www.englishlanguagetesting.co.uk/render>, last consulted on 25 April 2013.
- Sackett D.L. *et al.* 1996, "Evidence-based medicine: what it is and what it isn't", *British Medical Journal*, 312, pp. 71-72.
- Salager-Meyer, F. 1994, "Hedges and textual communicative function in medical English written discourse", *English for Specific Purposes*, 13, pp. 149-70.
- Samraj, B. 2004, "Discourse features of the student-produced academic research paper: variations across disciplinary courses", *Journal of English for Academic Purposes*, 3, pp. 5-22.
- Snelgrove, H. 2004, "Developing assessment grids for language and content in a multidisciplinary medical course", in R. Wilkinson (ed.), *Meeting the Challenge of a Multilingual Higher Education*, Maastricht University Press, Maastricht, pp. 429-442.
- Swales, J. 1989, "Service English programme design and opportunity cost", in R. Johnson (ed.), *The Second Language Curriculum*, Cambridge University Press, Cambridge, pp.79-80.
- Swales, J. 1990, *Genre Analysis*, Cambridge University Press, Cambridge.

- The Bologna Process. Council of Europe Education Portal, available at http://www.coe.int/t/dg4/linguistic/CADRE_EN.asp, last consulted on 28 April 2014.
- Varttala, T. 1999, "Remarks on the communicative functions of hedging in popular scientific and specialist research articles on medicine", *English for Specific Purposes*, 18: 2, pp. 177-200.
- Zethen, K.K & I. Askehave 2006, "Medical communication: professional- lay", in K. Brown (ed.), *Encyclopedia of Language and Linguistics*, 2nd edition, Elsevier, New York, pp. 644-649.
- Webber, P. 2004, "From spoken science to published research article: a comparative case study", in D. Banks (ed.), *Text and Texture*, L'Harmattan, Paris, pp. 571-596.
- Williams, I. 1996, "A contextual study of lexical verbs in two types of research articles: clinical and experimental", *English for Special Purposes*, 15: 3, pp. 175-197.
- Yang, R. & D. Allison 2004, "Research articles in applied linguistics- structures from a functional perspective", *English for Specific Purposes*, 23, pp. 264-279.

Medical English in Italian university courses in sports sciences: Some issues in focus

Barbara Cappuzzo – University of Palermo
barbara.cappuzzo@unipa.it

1. Background

Over the last few decades, the increasingly rapid progress of medical science and technology, together with the growing importance of English as the language of international communication, has made the study of medical English a crucial segment in the curriculum of medical undergraduates. In Italy, medical topics are studied not only in medical degree courses but also in those of sports sciences.

This paper focuses attention on some medical English-related issues in sports sciences degree courses in Italian universities. More precisely, the work is divided into four main parts. The first part raises the terminological question concerning the denomination of the discipline “lingua inglese” / “lingua straniera” in sports sciences courses, which is discussed in relation to the ministerial objectives about specialized language teaching in university education. The second part draws attention to the important role that medical English plays in Italian sports sciences degree courses, the curriculum of which is outlined on the basis of its main subjects. In this respect, emphasis is given to English in the domain of sports medicine, one of the fields of knowledge which characterises the sports sciences degree course. Moreover, the importance of the acquisition of the lexicon of sports medicine is highlighted, also through a short account of the main eponyms belonging to the specific domain in question. The third part deals with the issue concerning credits, attendance at classes, and syllabuses in sports sciences courses. Finally, the fourth and last part discusses questions common to all medical English courses like students’ initial linguistic competences, comprehension difficulties in dealing

with medical English communication, including subtechnical vocabulary acquisition, and the importance of genre-based and content and language integrated learning (CLIL) approaches to medical English teaching. The main purpose of the work is to draw attention to the importance that medical English syllabuses in sports sciences courses be well-designed in terms of effective methodologies and curriculum dominant subject-oriented contents in order to develop students' linguistic competences within their chosen professional field. The paper also aims at highlighting the importance of uniformizing the time devoted to medical English teaching in sports sciences courses, also on account of the fact that the same learning-related difficulties in facing the language of medicine in English are essentially shared by all Italian undergraduates.¹

Before going into the core of the work, the definition of EMP will be given and its importance discussed.

1.1. Research on medical communication and English for medical purposes (EMP)

Within linguistic studies on specialized discourse medical communication has been an object of deep interest parallel to the rapid advances in both medical sciences and information technology. The latter, in particular, has led to a dramatic increase in worldwide interaction, not only between specialists but also between specialists and the lay public. The dissemination of medical literature is testified by the ever-increasing number of journals addressing medical, paramedical and related topics. Several works on medical communication have been produced up to now, with numerous theoretical frameworks and orientations being representative of the linguistic community's interest in medical discourse, its analysis potentials and didactic implications at university level. Linguistic research on medical discourse has

¹ The paper is mainly based (a) on my medical English teaching experiences in the university courses in sports sciences in Palermo (where I work as a researcher in English language and translation); 8b) on my teaching experience in the three-year degree courses in Obstetrics and Nursing Sciences of the University of Palermo, and Physiotherapy and Nursing Sciences of the University of Milan.

largely focused on the doctor-patient interaction (Adolphs *et al.* 2004, Gotti & Salager-Meyer 2006, Menz & Al-Roubaie 2008), which has been analysed from many perspectives (ethical, gender, social, etc.) and methodologies (conversation analysis, corpus linguistics, discourse analysis, etc.). Medical discourse has also been investigated from a lexical point of view (Salager-Meyer 1983, Baker 1988, Ramos 2001, 2006), syntactical (Salager-Meyer 1985, 1986), and textual (Salager-Meyer 1991, 1992, 1994, Nwogu 1997, Vihla 1999, Webber *et al.* 2001, Mungra 2006). Within the field of discourse and communication studies, several scholars have focused attention on genres in medical English (Salager-Meyer *et al.* 1989, Swales 1990, McDonald 2002, Piqué & Posteguillo 2006a, b, Giannoni 2008, Gotti 2011, Kunt-Akbaş 2013) and their pedagogical applications (Fryer 2007, 2012, Mungra 2010, Garzone 2011).

Research in medical communication has also focused much attention on medical English language teaching and learning, an area of study known as English for medical purposes (EMP). The main studies on EMP have given detailed accounts of courses available and teaching materials (Ferguson 2013), and have highlighted the importance of needs analysis in curriculum design (Antic 2007, Bosher & Smalkoski 2002, Hwang & Lin 2010, Hwang 2011).

1.2. English for Medical Purposes (EMP): a definition

What is usually referred to as “English for Medical Purposes (EMP)” is a specialized area of study within “English for Specific Purposes (ESP)”, “the teaching and learning of English as a second or foreign language where the goal of the learners is to use English in a particular domain” (Paltridge & Starfield 2013: 2).

A detailed definition of the term “EMP” is given by Maher (1986: 112), who describes it as

the teaching of English for doctors, nurses, and other personnel in the medical professions. It involves the teaching / learning of English for utilitarian purpose, an identifiable goal – typically, the successful performance of work or the optimum effectiveness of medical training. In general terms, EMP (*a*) is designed to meet the specific English language needs of the medical learner (e.g. nurse, GP,

dentist, etc.); (b) focuses on themes and topics specific to the medical field; (c) focuses on a restricted range of skills which may be required by the medical learner (e.g. for writing a medical paper, preparing a talk for a medical meeting, etc.).

EMP can be further divided into various subgroups according to the specific area of knowledge of the medical field of reference. English for doctors, English for nurses, English for healthcare assistants and English for dentists are some examples of medical English, each having its own contents and terminologies. Hence the question arises, which will be discussed in more detail later, of whether EMP courses can be considered effective if held by only an English language teacher or rather by two professionals, a linguist and an expert in the specific medical area where English is required.

2. ‘Lingua straniera’, ‘lingua inglese’: the terminological question of the denomination of the discipline in sports sciences courses

Similarly to what happens in most medical and other scientific university courses throughout Italy, no specialized English is provided for by the educational offer of sports sciences courses, at least from the point of view of the denomination of the discipline. The name of the discipline is not, as one would expect it to be, “scientific (or medical) English”, but simply “lingua inglese” or “lingua straniera”. This is in contrast with the educational objectives set by the Italian Ministry of Education, University and Research (*MIUR - Ministero dell’Istruzione, dell’Università e della Ricerca*, Ministry of Education, University and Research), according to which university students of sports sciences are also required “to be able to use at least one language of the European Union - besides Italian - for international communication in their own specific professional field.”² Consequently, if sports sciences

² The instruction in the source language is “essere in grado di utilizzare almeno una lingua dell’Unione Europea, oltre l’italiano, allo scopo di consentire la comunicazione internazionale nell’ambito specifico di competenza.”

students are expected to communicate in a foreign language of the EU and in their specific specialized domain, then why has specialized language teaching, which in the case of Italian scientific courses is almost always English, not been included in the curriculum of those in sports sciences?³ The most obvious consequence of this problem is that teaching medical English in sports sciences (as well as in medical) degree courses only depends on the individual initiative of each lecturer, who can decide whether or not to include medical English in their own syllabus.

3. The importance of medical English in the Italian sports sciences courses curriculum

Italian sports sciences university courses stand out for their multidisciplinary nature, since their curriculum encompasses different specialized domains – medicine, psychology, pedagogy and law being the most important. The first year of the (three-year) degree course in sports sciences focuses on the acquisition of anatomical, biochemical and human movement-related notions in order to understand how the human body works, as well as on the psychological, historical and social aspects that are involved in the bent of human beings for sports activities. The second year is centred on such subjects as physiology, physiopathology, developmental psychology, theories and techniques of sports activities, to mention just some of them. The subjects of the third year are mainly represented by the theoretical aspects of training as well as by those related to its practice, by athletes' relationship with food, and by the environmental quality and safety of sports facilities. Moreover, special emphasis is put on neurology and traumatology, on preventive and compensative theories and practices of sports activities, as well as on the legal and economic foundations of how sports organizations work.

The purpose of the three-year degree course is to develop suitable knowledge and skills to allow students to organize, lead

³ In the degree course in sports sciences of the University of Milan, students can choose between English and Spanish.

and manage sports and recreational activities in order to promote fitness activities and preserve psycho-physical wellness.⁴

Within the framework outlined above, specialized English teaching plays a very important role in sports sciences degree courses, as it requires encompassing several fields of human knowledge and corresponding terminology. However, the subjects of the medical domain play a very important role in the curriculum of sports sciences courses and, consequently, they are given very large space, especially as far as anatomy and sports medicine are concerned. The most obvious implication at the teaching level is that in planning its syllabus English teaching should take into consideration the above-mentioned fields of knowledge and exploit them as a ground on which to develop students' communicative skills.

With regard to sports medicine in particular – this discipline being concerned with both the effects of exercise on the human body, and with the diagnosis, treatment and prevention of athletic injuries – students approaching its language must cope with the vocabulary of anatomy, sports, orthopaedics, traumatology, and preventive medicine. The terminology of all these domains is particularly rich in eponyms.

3.1. Eponyms in sports medicine language: a sample terminological issue

Sports medicine eponyms are used to refer to musculoskeletal injuries owing to the practice of sports and recreational activities, or of specific occupations. *DANCER'S FRACTURE*, *BASEBALL FINGER*, *TENNIS ELBOW*, *JUMPER'S KNEE*, *GOLFER'S ELBOW*, *BOXER'S FRACTURE* (also called *BRAWLER'S FRACTURE*), *GAMEKEEPER'S THUMB*, *COAL MINER'S KNEE*, *LORRY DRIVER'S FRACTURE* and *HOUSEMAID'S KNEE* are only some among the very numerous examples. Eponyms are widely used in medical language, not only in spoken communication contexts but in scientific literature as well. The title of an article from one of the foremost orthopaedics

⁴ The curriculum and the purposes of the Italian degree courses in sports sciences were taken from the websites of the Universities of Bologna, Milan (Statale), Naples (Parthenope), Palermo, Rome (Foro Italico), Udine, Urbino, and Verona.

journals, namely *International Orthopaedics*, is an example: “Use of platelet-rich plasma for the treatment of refractory jumper’s knee” (Filardo *et al.* 2010: 909). The acquisition of the most frequently used eponyms in sports medical language represents an important part of medical English teaching in sports sciences courses, all the more so because there are expressions which do not have an equivalent descriptive term.⁵ *BOXER’S FRACTURE* (or *BRAWLER’S FRACTURE*), for instance, which refers to “fracture of the metacarpal neck with volar displacement of the metacarpal head caused by striking a hard object with the closed fist” (Newman Dorland’s *Illustrated Medical Dictionary* 2011), does not seem to have a corresponding scientific denomination.

Eponyms have been an object of long-standing controversy among linguists and physicians themselves. Even though they are generally considered barriers to effective international communication, eponyms are still largely used in medical discourse, as they convey a great deal of information in a very concise way. As a consequence, learning at least the main eponyms in each medical speciality should be part of any medical English syllabus.

4. Credits, attendance at courses, and syllabuses in sports sciences study courses

English courses within the sports sciences curriculum vary according to the specific university. For example, at the University of Palermo, English is taught in the first and third years, for a total number of six credits (two in the first year and four in the third year), corresponding to a total of 48 hours (*Università degli Studi di Palermo, Scienze Motorie, Piano di Studi, Anno Accademico 2012-2013*, University of Palermo, Sports Sciences, Study Plan, 2012-2013 Academic Year). Attendance is not compulsory (mainly because most students are also workers) and the focus of syllabuses is on the acquisition of medical terminology – especially that concerning the musculoskeletal system and corresponding diseases

⁵ For the question of medical eponyms and their descriptive equivalent terms, see Cappuzzo (2008). A classification of medical eponyms is given by Canziani (2011).

– through extensive reading and analysis of medical material (mostly abstracts, articles, case reports, and reviews). In Milan, English is taught only in the first year, three credits are awarded, corresponding to 21 hours (*Università degli Studi di Milano, Scienze Motorie, Piano di Studio, Anno Accademico 2012-2013*, University of Milan, Sports Sciences, Study Plan, 2012-2013 Academic Year), and 70% attendance is required (*Università degli Studi di Milano, Scienze Motorie, Manifesto degli Studi, Anno Accademico 2012-2013*, University of Milan, Sports Sciences, Manifesto Studiorum, 2012 - 2013 Academic Year). The focus of the syllabus is on the acquisition of an intermediate level of knowledge of general English language, whereas specialized English teaching is essentially centred on the sports domain. In Urbino, English is taught in the third year (*Università degli Studi di Urbino 'Carlo Bo', Scienze Motorie, Sportive e della Salute, Piano di Studi, Anno Accademico 2012-2013*, University of Urbino 'Carlo Bo', Sports and Health Sciences, Study Plan, 2012-2013 Academic Year), and the syllabus, which includes some elements of anatomical terminology, mainly focuses on general language teaching. Classes are held at the CLA (*Università degli Studi di Urbino 'Carlo Bo', Centro Linguistico d'Ateneo*, University of Urbino 'Carlo Bo', University Language Centre), two credits, 40 hours, and 80% attendance is required.

Lack of homogeneity in credits and hours, the question of attendance at courses and of basically different syllabuses are aspects which do not characterise sports sciences courses as the phenomena in question also concerns medical faculties at the national level. To give only two examples, from a more recent study carried out by Taylor (2011) on the situation of medical teaching in the medical curriculum, it emerges that the University of Rome La Sapienza devotes twelve credits to medical English teaching, whereas at the University of Trieste English credits are ten. At La Sapienza, medical syllabuses are on reading, assignments, which are kept in a personal portfolio, and genre analysis; in Trieste, the accent is mainly on the analysis of medical articles.

5. Some medical English teaching-related issues in sports sciences study courses

Medical English teaching in Italian sports sciences faculties shows aspects and problems which are common to all degree courses where medical English is taught.

5.1. Students' initial linguistic competences

One of the major problems English language teachers must cope with in Italian universities concerns the students' different levels of knowledge of the English language, school training and study methods. This heterogeneous situation causes not a few problems, especially when classes are overcrowded. Students are expected to leave secondary school and enter university with at least a basic knowledge of English (A2), so that at the end of their degree course their linguistic proficiency can reach intermediate level, i.e. be between the B1 and B2 levels, in accordance with what is provided for by the *Common European Framework of Reference for Languages*. Instead, many students have very little knowledge of English or have never even studied it at all (mainly because they learnt another foreign language at school, usually French). Hence the problem of harmonizing the students' initial abilities with the objectives set up by English syllabuses, also considering what is required by MIUR with regard to the educational objectives which were referred to in section 2.

Moreover, if on the one hand it is true that no specific reference is made by MIUR to the necessity of choosing English as the language to be taught in university courses, on the other hand English is, in fact, the language of international communication as well as of most scientific literature, and as such the foreign language chosen in most (if not all) courses.

5.2. Subtechnical vocabulary, pre-modification and nominalization in medical discourse

The difficulties that students come across when approaching English medical language may both concern its terminology and its syntactic features. As far as the former is concerned, if on the one

hand English medical communication does not generally prove particularly obscure for Italian students at least as for specialized terminology, this being largely represented by words of classical origin, on the other hand difficulties with understanding scientific texts lie in the area of vocabulary generally referred to as “subtechnical”. “Subtechnical” vocabulary, also variously labelled as “non-technical” or “semitechnical” vocabulary, concerns

items which are neither highly technical and specific to a certain field of knowledge nor obviously general in the sense of being everyday words which are not used in a distinctive way in specialized texts (Baker 1988: 91).

In other words, subtechnical vocabulary is represented by those items which have the same meaning as in general language but “operating under different restrictions”. An example cited by Baker (1988: 104) is “report”, which is used, in medical journal articles, in such patterns as “we report on (+ noun phrase)” and “we report (+ noun phrase)”. On the contrary, “report” is unlikely to be used in patterns like “we report that” or “this paper reports”.

Other examples include such expressions as “*others have said*”, “one *explanation* is”, and “it has been *pointed out* by”, “items which are used in specialized texts to perform specific rhetorical functions. These are items which signal the writer’s intentions or his evaluation of the material presented” (Baker 1988: 92). Subtechnical vocabulary plays a crucial role in L2 acquisition in scientific study courses as it is used to perform specific rhetorical / organizational functions and to structure the writers’ argument. Hence Baker’s conclusion that

learners should be given a great deal of exposure to these items in order to appreciate and make use of the information in a text. The other obvious implication is that these items should not be taught in isolation but in context and as central elements in typical collocations (Baker 1988: 103).

As for the second issue mentioned above, that is the syntactic structure of English medical discourse, this is likely to create comprehension difficulties because it is different from the Italian one. For example, pre-modification – a common feature of the

English language – is particularly marked in medical discourse, and students often have trouble understanding the correct sequential order of pre-modifiers, both when translating from English and even more so, obviously, when producing English. Nominalization, too, “an essential resource for constructing scientific discourse” (Halliday & Martin 1993: 61) is another common sentence-style aspect of medical communication which, together with pre-modification, often makes textual decoding hard work for non-specialist / non-native English users. The use of nominalization entails “increased lexical density, i.e. a high percentage of content words within a text” (Gotti 2003: 81).

Wenyan (2012: 87) highlights that

texts in which there is a great deal of nominalization can be very dense because information can be compacted and it may be hard to process. Nominalization can also lead to the meaning relationships between parts of the information being implicit or potentially ambiguous. This can be a problem when the reader does not have the knowledge needed to unpack a particular noun group.

Moreover,

the decoding of long nominal groups poses a major interpretative challenge for the addressee, who is forced to identify the semantic-syntactic links between different groups. [...] Linguistic competence alone is not sufficient and has to be integrated by specialist knowledge of the topic and of other factors such as context and co-text (Gotti 2003: 74-75).

Undoubtedly, the students’ command of a given specialized field of knowledge increases gradually, parallel to the development of their professional competences. For this reason, it is important for medical English courses to consider the general curriculum of the degree course that is being followed, so that the English course can involve the same topics as those in the other subjects.

5.3. Genre-centred syllabuses and content and language integrated learning (CLIL)

The aim of any medical English course is to supply students with the necessary linguistic means to communicate effectively in

English in the specific domain required by their degree course. In the case of medicine, this means guiding students in the process of learning medical English linguistic features – from lexical to syntactic and textual peculiarities related to both spoken and written communication. In this respect, almost unanimously scholars do agree about the crucial role that genre analysis plays in second language education. In most medical English courses, students are generally trained to become familiar with different text genres, i.e. research papers, journal abstracts, case reports, editorials, clinical studies, and so on, because “today, genre is one of the most important and influential concepts in language education” (Hyland 2004: 5). Genre-based courses usually aim at developing all language skills. Focusing on listening, Hirvela (2013: 87) highlights that students must be “repeatedly exposed to texts exemplifying the genres they must learn to understand and reproduce as they seek to gain membership in their chosen disciplinary communities.” Mungra (2010) proposes a genre-centred teaching model to write scientific abstracts in English. Her methodology uses a content and language integrated learning (CLIL) approach – within the Italian university medical curriculum – to train students to write journal abstracts for medical experimental research articles. More specifically, the model proposed is represented by the integration between language and content with lessons being held by subject teachers focusing on different medical areas, and English language teachers concentrating on lexis, form, structure and academic register of research articles (Mungra 2010: 155). This methodology draws attention to two major issues, that is the crucial role that genre-centred and content-centred teaching plays in EMP (and ESP more in general) as it basically takes into account students’ effective communicative needs, and the importance of cooperation between two distinct professional figures, the specialist in the subject concerned and the linguist. With regard to the latter aspect, a survey carried out by McCarthy (2007: 74) reports that in the medical course of Rome La Sapienza clinical teachers are involved in lessons and in assessment procedures, on the basis of a

multidisciplinary approach where “English overlaps into other teaching areas.”⁶

6. Concluding remarks

Students who wish to work in a sports and health-related environment are expected to achieve adequate linguistic competences in order to be able to communicate effectively and accurately in English in the chosen professional field. In the Italian courses in sports sciences, it would first be necessary to acknowledge the importance of Medical English teaching and draw more attention to the contribution it can make to the development of students’ professional competences. Syllabuses are expected to give much emphasis to materials concerning the sports medicine domain as the main subject where acquiring and reinforcing vocabulary, with eponyms occupying a prominent place. Methodologies should take into consideration the function that genre-based and CLIL approaches serve in developing students’ linguistic skills and communicative competence within EMP.

Moreover, an important goal for the future of medical English teaching in sports sciences courses could be the standardization of syllabuses at the national level, as well as of the number of credits and the amount of hours devoted to classes, all factors currently varying according to the specific university. Finally, more value should be attributed to the crucial role that the CLA can play in the improvement of students’ linguistic skills, in both general and specialized English, also to keep up with European levels of proficiency.

⁶ The survey carried out by McCarthy (2007) also extended to the situation of medical scientific-based courses at several European Universities, among which that of the Parisian Pitié-Salpêtrière University, which has its own department of medical English, and the University of Bourgogne where English classes are made up of 125 hours along the five years of the degree course, with exams - at the end of the fourth and fifth years - aimed at reaching a high level of competence on spoken and written medical communication (McCarthy 2007: 75).

References

- Adolphs, S. *et al.* 2004, "Applying Corpus Linguistics in a health care context", *Journal of Applied Linguistics* 1: 1, pp. 9-28.
- Antic, Z. 2007, "Forward in teaching English for Medical Purposes", *FACTA UNIVERSITATIS, Medicine and Biology*, 14: 3, pp. 141-147.
- Baker, M. 1988, "Sub-technical vocabulary and the ESP teacher: An analysis of some rhetorical items in medical journal articles", *Reading in a Foreign Language*, 4: 2, pp. 91-105.
- Bosher, S. & K. Smalkoski 2002, "From needs analysis to curriculum development: Designing a course in health-care communication for immigrant students in the USA", *English for Specific Purposes*, 21: 1, pp. 59-79.
- Canziani, T. 2011, "The status of medical eponyms: Advantages and disadvantages", in A. Loiacono, G. Iamartino and K. Grego (eds), *Teaching Medical English: Methods and Models*, Polimetrica International Scientific Publisher, Monza, pp. 221-234.
- Cappuzzo, B. 2008, "Eponyms or descriptive equivalent terms? The question of scientific accuracy in medical discourse", in L. Auteri (ed.), *Esercizi. Miscellanea del Dipartimento di Scienze Filologiche e Linguistiche*, 2, pp. 25-35.
- Dorland, N.W. 2011, *Dorland's Illustrated Medical Dictionary*, W.B. Saunders-Elsevier, Philadelphia, 32nd edn.
- Ferguson, G. 2013, "English for Medical Purposes", in B. Paltridge and S. Starfield (eds), *The Handbook of English for Specific Purposes*, Wiley-Blackwell, UK, pp. 243-261.
- Filardo, G. *et al.* 2010, "Platelet-rich plasma therapy for knee joint problems: Review of the literature, current practice and legal perspectives in Korea", *International Orthopaedics*, 34: 6, pp. 909-915.
- Fryer, D. L. 2007, *Multidimensional Genre-Based Discourse Analysis of a Corpus of English-Language Medical Research Articles*, available at <https://www.duo.uio.no/bitstream/handle/10852/25523/DanielxFryerxMasterxThesis.pdf?sequence=2>.
- Fryer, D.L. 2012, "Analysis of the generic discourse features of the English-language medical research article: A systemic-functional approach", *Functions of Language*, 19: 1, pp. 5-37.
- Garzone, G. 2011, "Rethinking genres in medical communication: Theoretical issues and pedagogical implications", in A. Loiacono, G. Iamartino and K. Grego (eds), *Teaching Medical English. Methods and Models*, Polimetrica International Scientific Publisher, Monza, pp. 105-131.
- Giannoni, D. 2008, "Disciplinary and linguistic identities in the journal editorial genre", in G. Di Martino, V. Polese and M. Solly (eds), *Identity and Culture in*

- English Domain-Specific Discourse*, Edizioni Scientifiche Italiane, Napoli, pp. 325-348.
- Gotti, M. & F. Salager-Meyer (eds) 2006, *Advances in Medical Discourse Analysis: Oral and Written Contexts*, Peter Lang, Bern.
- Gotti, M. 2003, *Specialized Discourse. Linguistic Features and Changing Conventions*, Peter Lang, Bern.
- Gotti, M. 2011, "Insights into medical discourse in oral and written contexts", in A. Loiacono, G. Iamartino and K. Grego (eds), *Teaching Medical English. Methods and Models*, Polimetrica International Scientific Publisher, Monza, pp. 29-55.
- Halliday, M.A.K. & J.R. Martin 1993, *Writing Science. Literacy and Discursive Power*, The Falmer Press, London.
- Hirvela, A. 2013, "ESP and Reading", in B. Paltridge and S. Starfield (eds), *The Handbook of English for Specific Purposes*, Wiley-Blackwell, Malden, pp. 77-94.
- Hwang, Y. & S. Lin 2010, "A study of medical students' linguistic needs in Taiwan", *The Asian ESP Journal*, 6: 1, pp. 35-58.
- Hwang, Y. 2011, "Pedagogical implications on medical students' linguistic needs", *English Language Teaching*, 4: 4, pp. 138-145.
- Hyland, K. 2004, *Genre and Second Language Writing*, University of Michigan Press, Ann Arbor.
- Kunt-Akbas, S. 2013, *A Genre Analysis of Medical Case Reports*, available at http://www.academia.edu/2452076/A_Genre_Analysis_of_MedicalCase_Reports.
- Maher, J. 1986, "English for Medical Purposes", *Language Teaching*, 19: 2, pp. 112-145.
- McCarthy, N. 2007, "Why English is fundamental in an increasingly interconnected world", *ACTA BIO MEDICA*, 78: 1, pp. 71-76, available at http://www.actabiomedica.it/data/2007/1_2007/mcarthy.pdf.
- McDonald, M.N. 2002, "Pedagogy, pathology and ideology: the production, transmission and reproduction of medical discourse", *Discourse and Society*, 13: 4, pp. 447-467.
- Menz, F. & A. Al-Roubaie 2008, "Interruptions, status and gender in medical interviews: The harder you brake, the longer it takes", *Discourse & Society*, 19: 5, pp. 645-666.
- MIUR, Decreto Ministeriale, 2007, available at http://www.miur.it/Miur/UserFiles/Notizie/2007/DMCdL_triennale.pdf.
- Mungra, P. 2006, "Macrostructure and rhetorical moves in secondary research articles: The meta-analysis and the systematic analysis", in M. Gotti and F. Salager-Meyer (eds), *Advances in Medical Discourse Analysis: Oral and Written Contexts*, Peter Lang, Bern, pp. 331-356.

- Mungra, P. 2010, "Teaching writing of scientific abstracts in English: CLIL methodology in an integrated English and medicine course", *Ibérica*, 20, pp. 151-165.
- Nwogu, K.N. 1997, "The medical research paper: structure and functions", *English for Specific Purposes*, 16: 2, pp. 119-138.
- Paltridge, B. & S. Starfield (eds) 2013, *The Handbook of English for Specific Purposes*, Wiley-Blackwell, Malden.
- Piqué-Angordans, J. & S. Posteguillo 2006, "Medical discourse and academic genres", *Encyclopedia of Language and Linguistics*, pp. 649-657.
- Piqué-Angordans, J. & S. Posteguillo 2006, "Peer positive and negative assessment in medical English written genres", in M. Gotti and F. Salager-Meyer (eds), *Advances in Medical Discourse Analysis: Oral and Written Contexts*, Peter Lang, Bern, pp. 383-406.
- Ramos, M.J.E. 2001, "New perspectives in LSP: Diachronic evidence on medical lexicon", in J.C. Palmer and S. Posteguillo (eds), *Discourse Analysis and Terminology in Languages for Specific Purposes*, Publicacions de la Jaume I, Castelló, pp. 25-32.
- Ramos, M.J.E. 2006, "Medical terminology across the centuries: Distinctive features of a chronological study in the field of ophthalmology", *Ibérica*, 12, pp. 111-126.
- Salager-Meyer, F. 1983, "The lexis of fundamental medical English: Classificatory framework and rhetorical function (A statistical approach)", *Reading in A Foreign Language*, 1: 1, pp. 54-64.
- Salager-Meyer, F. 1985, "Syntax and semantics of compound nominal phrases in medical English literature: A comparative study with Spanish", *English for Specific Purposes*, 95, pp. 6-12.
- Salager-Meyer, F. 1986, "Infinitive clauses in Medical English literature: A rhetorical-grammatical approach", *Estudios de Lingüística Aplicada* 5, UNAM, México, pp. 66-87.
- Salager-Meyer, F. 1991, "Medical English abstracts: How well are they structured?", *Journal of the American Society for Information Science and Technology*, 42: 7, pp. 528-531.
- Salager-Meyer, F. 1992, "A text-type and move analysis study of verb tense and modality distribution in Medical English abstracts", *English for Specific Purposes*, 11, pp. 93-113.
- Salager-Meyer, F. 1994, "Hedges and textual communicative function in Medical English discourse", *English for Specific Purposes*, 13, pp. 149-170.
- Salager-Meyer, F. et al. 1989, "Principal component analysis and Medical English discourse: An investigation into Genre Analysis", *System*, 17: 1, pp. 21-34.
- Swales, J.M. 1990, *Genre Analysis. English in Academic and Research Settings*, Cambridge University Press, Cambridge.

- Taylor, C. 2011, "Medical English: Some reflections at national level", in A. Loiacono, G. Iamartino and K. Grego (eds), *Teaching Medical English: Methods and Models*, Polimetrica, Monza, pp. 313-329.
- Università degli Studi di Milano, Scienze Motorie, Corso di Laurea in Scienze Motorie, Sport e Salute (Classe L-22), available at http://www.scienzemotorie.unimi.it/CorsiDiLaurea/2013/Z05/index_ITA_HTML.html.
- Università degli Studi di Milano, Scienze Motorie, Manifesto degli Studi, Anno Accademico 2012-2013, available at http://www.scienzemotorie.unimi.it/CorsiDiLaurea/2013/Z05/manifesto_ITA_HTML.html.
- Università degli Studi di Milano, Scienze Motorie, Piano di Studio Scienze Motorie, Sport e Salute (Classe L-22), Anno Accademico 2012-2013, available at http://www.scienzemotorie.unimi.it/CorsiDiLaurea/2013/Z05/pianoStudi/index_ITA_HTML.html#annodicorso1.
- Università degli Studi di Napoli 'Parthenope', Dipartimento di Scienze Motorie e del Benessere, Corso di Laurea di I livello in Scienze Motorie (Classe L-22), available at <http://www.uniparthenope.it/index.php/it/component/content/article/4252>.
- Università degli Studi di Palermo, Corso di Studi in Scienze delle Attività Motorie e Sportive (Classe L-22), available at <http://offweb.unipa.it/offweb/public/corso/visualizzaCurriculum.seam?oidCurriculum=13863&cid=1314>.
- Università degli Studi di Palermo, Piano di Studi in Scienze delle Attività Motorie e Sportive (Classe L-22), available at <http://offweb.unipa.it/offweb/public/corso/visualizzaCurriculum.seam?oidCurriculum=13863&cid=16449>.
- Università degli Studi di Roma 'Foro Italico', Corso di Laurea in Scienze Motorie e Sportive (Classe L-22), available at <http://www.uniroma4.it/?q=node/207>.
- Università degli Studi di Udine, Corso di Laurea in Scienze delle Attività Motorie e Sportive (Classe L-22), available at http://www.uniud.it/didattica/facolta/medicina/scienze-motorie/info_amm/regolamento_didattico.htm/regolamento-didattico-a-a-2010-2011/1-22-scienze-motorie-rad-1272522.pdf.
- Università degli Studi di Urbino 'Carlo Bo', CLA, Centro Linguistico d'Ateneo, available at <http://www.uniurb.it/cla/>.
- Università degli Studi di Urbino 'Carlo Bo', Corso di Laurea in Scienze delle Attività Motorie e Sportive (Classe L-22), available at http://www.uniurb.it/it/portale/accessibile.php?mist_id=30&lang=IT&tipo=IST&page=178&aa=2011/2012&id=138.
- Università degli Studi di Urbino 'Carlo Bo', Scienze Motorie, Sportive e della Salute (Classe L-22), Piano di Studi, Anno Accademico 2012-2013, available at http://www.uniurb.it/it/off/bandi/piano-degli-studi_1380084.pdf.
- Università degli Studi di Verona, Corso di Laurea in Scienze delle Attività Motorie e Sportive (Classe L-22), available at <http://www.univr.it/main?ent=offerta&aa=2013%2F2014&cs=341>.

Università di Bologna, Corso di Laurea in Scienze delle Attività Motorie e Sportive (Classe L-22), available at <http://corsi.unibo.it/Laurea/ScienzeMotorieSportive/Pagine/default.aspx>.

Vihla, M. 1999, *Medical Writing: Modality in Focus*, Rodopi, Amsterdam.

Webber, P., Snelgrove, H. & P. Mungra 2001, "The use of modality in different medical text genres", in M. Gotti & M. Dossena (eds), *Modality in Specialized Texts. Selected Papers of the 1st CERLIS Conference*, Peter Lang, London, pp. 399- 416.

Wenyan, G. 2012, "Nominalization in medical papers: A comparative study", *Studies in Literature and Language*, 4: 1, pp. 86-93.

Multimodal syllabus construction for students of medical sciences. Do you still need a course in English when the entire degree in Medicine and Surgery is taught in English?

Anthony Baldry – University of Messina
anthony.baldry@gmail.com

Deirdre Kantz – University of Pavia
dkantz@unipv.it

Fabrizio Maggi – University of Pavia
maggifa@alice.it

1. Introduction

Suppose, just suppose that in the next decade changes in degree course design throughout the Italian Higher Education System were increasingly to promote the use of English as the language of instruction in lieu of Italian. What would happen to English as an *insegnamento*? Would it simply disappear, as suggested in our subtitle and, if not, what changes, if any, in syllabus design would need to be made and why? What consequences would this scenario have for English in general in the tertiary sector in Italy and more specifically for a Medical Department and the degrees they offer? This paper explores these questions, the last in particular, in the light of our experience of teaching English in medical degree courses through multimodal Content and Language Integrated Learning (hereafter: CLIL) syllabuses (Baldry 2012, Coccetta 2012, Kantz 2012, Loiacono 2012, Maggi 2012).¹ CLIL is one of the most

¹ Although the authors have collaborated at every stage in the production of this paper, Sections 1-5 were written by Anthony Baldry, Fabrizio Maggi wrote Section 6, while Deirdre Kantz wrote Sections 7-10. We discuss this scenario mainly in relation to experiences within the degree course in Medicine and Surgery, University of Pavia. As we make clear in the article, our vision of the

promising approaches to foreign language teaching and learning that has emerged in the last 20 years as it attempts to take into consideration the needs and interests of students in our changing society. Internet and new technologies have changed contemporary society's interaction and meaning-making practices so much so that the interplay between cultural and linguistic diversity has now become a central part of our working, social, and private lives. According to Wolff,

It should be noted that in almost all the countries in which CLIL exists it is seen not simply as an approach to foreign language teaching but as an integrated form of teaching content and language. Not only does the content subject provide content for the language learning process; moreover, the fact that content is analysed from different cultural perspectives offers opportunities for intercultural learning and thus gives a new quality to classroom work. The experience available shows that both linguistic and content subject competence can be promoted within this integrated concept more effectively than when content and language are taught in isolation (Wolff 2002a: 47).

While exposure to a foreign language in real-life contexts as well as the use of authentic subject-specific materials can often be more effective than using non-CLIL foreign language textbooks (Wolff 2003b) good syllabus design is still needed.

In this paper, our concern will be with an approach to intercultural awareness that stems from CLIL-oriented multimodal text analysis but which, as and when appropriate, 'borrows' from the insights provided by other models. All this is in keeping with the interdisciplinary nature of CLIL and, of course, multimodality:

The term *multimodality* does not designate a pre-given entity or text-type [...but] covers a diversity of perspectives, ways of thinking and possible approaches. It is not a single principle or approach. [...] Multimodal text and discourse analysis currently informs and is shaping work in Critical Discourse Analysis, Ethnographically-based

teaching of English in medical faculties is not a prescription for what should be done. We are simply constructing and exemplifying a long-term scenario of what may happen in general vis-à-vis English in medical degree courses in Italy in the next decade or so in the light of our many years of experience in this field.

Discourse Analysis, Genre Analysis, Mediated Discourse Analysis, Systemic-functional Discourse Analysis, among others (Baldry, Thibault 2006a: Preface).

We are thus not making any adverse assessment of these approaches which have rightly criticised ‘pure’ functional models of language teaching by pointing out their lack of any ideological or intercultural content. We are simply stating that multimodality and CLIL are jointly well placed to support intercultural aspects of texts and to experiment findings in applicative contexts such as undergraduate medical degree courses that are entirely in English.

We are thus suggesting that a combined intercultural-multimodal-CLIL approach is appropriate for the specific circumstances we are addressing. This is implicitly recognised, for example, by the fact that intercultural awareness, in our opinion, need not necessarily pass through translation as has sometimes been the case in the past, though we are, in particular, sympathetic to the views put forward, for example, by Katan (2004), Scollon (2001), Ulrych (2008, 2009), Cucchi and Ulrych (2008), Ulrych and Murphy (2008). Thus, we believe that many constructs, such as the Logical Levels Model (Katan 2004; 2009) proposed as a step towards ‘clarifying the factors (linguistic and non-linguistic) involved in the cultural background’ (Katan 2004: 101) that were initially developed in relation to translation courses, will increasingly underpin the type of approach we envisage, however unlikely it is that translation will play a role in a degree course in medicine that is taught entirely in English. For every genre, accepted communicative strategies are formed through cultural filters (House 2003; Katan 2004, 2009), a matter especially relevant in the study of the new intercultural communities that are emerging from the Web 2.0 revolution, such as social networking sites and, of course, blogs (Marenzi 2012). Multimodal Discourse Analysis theorists have explored multimodality as an applicative outlet for their theories (Scollon 2004) and the application of MGA (Multimodal Genre Analysis), in particular, mini-genre analysis (Baldry 2011) seems to be well suited to the integrated CLIL-intercultural awareness-multimodal text and genre analysis proposed below.

2. Background

First of all, however, we need to ask whether the hypothesis mentioned in the title is plausible. Our answer is that where Italian universities pursue a policy of internationalisation of degree courses, designed to attract English-speaking as well as Italian-speaking students, some degree courses will inevitably be entirely in English. In such circumstances, rather than plausible, the hypothesis actually becomes central to the fortunes of English in Higher Education in Italy. Nor is this something new. Universities with 'private' administrations such as the Bocconi University in Milan (www.unibocconi.it) and the Università Carlo Cattaneo (www.liuc.it) in Castellanza have offered degree courses in English for many years, while others are planning to experiment 'hybrid' solutions with some subjects taught in English, others in Italian. Indeed, the entire Erasmus-Socrates project, where some courses / exams are taken in a language other than one's own, may be seen as experimenting a hybrid approach, with all the beneficial knock-on effects that this has brought including, *inter alia*, the increasing number of Ph.D. programmes, e.g. in Engineering, which are in English.

What, on the other hand, is new is the application of these principles to medical degree courses in Italian State Universities in recent years. Thus, as part of the plan for greater internationalisation, medical degree courses in English have now been activated in the following universities: Bari, Milan, Pavia, La Sapienza (Rome), Tor Vergata (Rome) and the Seconda Università in Naples. Since Erasmus / Socrates exchanges are virtually unknown in these degree courses, as compared with other degree courses and, indeed, other biomedical degree courses such as nursing, this comes as a cultural shock, however welcome, for both students and teaching and administrative staff alike and questions about the degree of preparedness for implementation of such degrees need to be raised, in particular whether they can and should be merely carbon copies of degree courses in medicine in Italian.

3. Goals

At this point, given these new circumstances, we need to pose our initial question once more: does this mean that English will disappear as an *insegnamento* from the medical degree in English? The answer actually given so far appears to be ‘no’, since the credits given to English have actually increased (e.g. in Pavia from 2 to 8). How do teachers (the authors included) react to this? The short answer appears to be ‘positively’ but, as food for thought, in at least three ways as explained in the following three subsections.

3.1. Incremental exposure to a wide range of medical genres

The new medical degrees in English may be seen as a golden opportunity to strengthen the role played by instruction in English in both Italian-language and English-language medical degree courses, albeit to different extents and in different ways. As part of this process, and as a consequence of students’ growing command of English and the ever more pronounced multicultural context in which our students live and work, the courses in English we have organised in the last 10 years within the Faculty of Medicine in Pavia have focused increasingly on multimodal and intercultural text analysis (Baldry 2005, Baldry and Thibault 2006a; Baldry and Maggi forthcoming, Baldry and Kantz 2009) in the context of a CLIL approach (see Maggi et al. 2002 and Section 6 below). Thus, we believe that, while still making reference to the cultural, administrative and communicative traditions of the host country, the switch to an English-language medical degree needs to have the effect of accelerating the process of foregrounding communication and discussion skills in English and backgrounding the more traditional focus on grammar, translation and comprehension skills such as reading and listening to specialised texts, in particular where the latter involves translation of specialist vocabulary and comparison between Italian and English models of scientific discourse. Whether this will really happen or whether such an approach will be stifled by a desire to hang on to old models is still an open issue.

A word of caution is, however, in order. In the past, English was usually confined to the first semester of the first year, so that most syllabuses for teaching English in medical degree courses in Italy reflected this. Now, as English is considered a more-than-one-year discipline, an incremental year-by-year syllabus needs to be designed that reflects and incorporates students' growing medical knowledge and sociolinguistic / mediational skills. In other words, as students progress through the course and acquire knowledge of the Italian medical system, e.g. in hospitals and as ambulance volunteers, there is a need to build up a dynamic, incrementally-organised syllabus that explores increasingly specialised medical genres and explicitly incorporates Italian-English intercultural comparisons. Here, too, there is a problem, since there will inevitably be pressures in some quarters to revert to the first-term, first-semester model thereby stifling the process of upgrading the syllabus to the requirements of the LM41 degree in medicine, its English-language implementation of it in particular.

3.2. Text linguistics syllabus through improved levels of English

Whatever destiny will bring, our experience is that, with improving levels of English, a CLIL course in which the basic subject matter, as well as medical content, is also text linguistics, in particular multimodal text linguistics, is both possible and appropriate. Below in Section 6 we suggest that fluency in scientific English can be stimulated by courses that systematically explore meaning-making relationships between linguistic, visual and spatial resources. Students' constantly growing command of English, as shown by the unpublished data we have gathered in the last 10 years, means they can follow lectures, take notes, undertake assignments and provide a mini-lecture in the final exam, all in English.² The current exam in Pavia consists of a presentation that demonstrates a capacity to grasp text theory and integrate written, spoken and multimodal

² Almost all the students enrolling in the current degree course in medicine in Pavia, have at least a B2 standard in English on the *Council of Europe's Framework of Reference* scale [hereafter CEFR]; approximately half of enrolling students possess a B2 level International Certification, with a small but rapidly increasing contingent boasting certification at C1 level. This is likely to be matched in many medical degree courses in Italy.

aspects of medical content and communication in a fluent and accurate way (Baldry 2008a, 2008b; Baldry and Kantz 2009). The exam focus is thus on the students' grasp of the significance of the structure of medical information, i.e. the way that meaning is structured and constantly reshaped in medical discourse, e.g. when describing a table, diagram, chart or medical syllabus.

We suggest that a syllabus that includes multimodal text linguistics, but which places constant reflection on the structure of medical information and an enhanced intercultural component (e.g. how do you interact with patients who are not Italian? Or, vice-versa how do foreign students interact with Italian patients?) is worthwhile in the context of the experimentation that we are carrying out. Naturally, any Italian university will want to enrol as many students from English-speaking countries as possible. We, as authors, feel duty bound to entertain a plan that will cater for 4 categories of students on the basis of students' primary and secondary education:

- Category A: students with English mother-tongue status, typically having an American or Commonwealth education;
- Category B: students with a functionally bilingual status i.e. a partly Italian, partly American or Commonwealth education insofar as their parents have settled in Italy or returned to Italy after a period abroad;
- Category C: students with Italian mother-tongue status i.e. with an Italian education but good CEFR C1 skills in English such as an A grade in the *Cambridge Certificate of Advanced English* (CAE) or an IELTS (International English Language Testing System) Band 6.5-9.0;
- Category D: other mother-tongue status: i.e. with a European or non-European education, but good C1 skills in English (and maybe some knowledge of Italian).

3.3. Prior knowledge of scientific or medical genres

We also assume, on the basis of current experience, that very few students will have any awareness or experience of medical and scientific discourse, whether in English, Italian or any other

language, vis-à-vis lexicogrammatical, textual, generic, intersemiotic, intertextual and intercultural patterns. For example, no student is likely to have any idea of the significance of transitivity and relational clauses (Halliday 1994[1985], Halliday and Matthiessen 2004) in medical texts (Baldry 2011) or the connection that this has with nominalisation. Nor do we expect them to have any operative experience vis-à-vis the management of nominalisation in medical texts e.g. when creating tabulated summaries from medical animations in terms of participant-process-circumstance relations (Baldry 2011) or in translation from one language to another (Taylor 1998). Moreover, few students will have previously acquired presentational and text analysis skills associated with an exam presentation (mini-lecture) on the structuring of medical information. Thus, just because a student has mother-tongue status, we cannot assume that their creativity and writing skills in English will match their discussion skills. In passing, we may mention in our experience that not all students realise the significance of understanding textual processes nor are they appreciative of an approach where the acquisition of text analysis tools is linked to the fluent exposition of the features and mechanisms of medical communication in films, websites and printed texts. While it is not our job to decide enrolment policy, nevertheless, the presence of a mixed community, including students with a 'hybrid' education, unquestionably promotes textual and intercultural awareness and helps promote text management skills, discussion groups and peer learning in a truly intersemiotic and intercultural way.

From these background observations, there emerges some justification for extending, rather than abolishing, English in medical degree courses, in particular those which are entirely in English.³ Below we further uphold this view, by exemplifying a multimodal syllabus suitable for all the categories of students we have indicated above, but in particular for Categories C and D who, in our experience, form the bulk of the students enrolled. In par. 6,

³ This highlights the changes vis-à-vis what was possible in the 1990s when the focus was more on *lingue speciali* and reading skills in scientific English (Baldry 1998, Baldry and Pavesi 1998, 2000).

we provide a summary of our current syllabus; in par. 7, we outline a syllabus for the first triennio of an English language medical degree targeting all four categories which potentially could be experimented with adaptations in other universities in Italy.

4. Multimodal text linguistics in medical degree courses

Connecting up with students' previous experience and giving them a chance to make their voice heard responds to a basic need of students who, when enrolling in a medical degree course, move from a high school teaching and examination system that requires a high level of expository skill to one where they become 'human sponges' absorbing a large amount of medical information from both written and spoken sources. The Italian schooling system, through which most current medical students pass, focuses on critical skills and on an understanding of interpersonal relationships that are not needed in the early stages of a medical degree course, a temporary hiatus, since good communication skills are obviously essential in the successful performance of any health system.⁴

How can an *insegnamento* like English make the transition easier? One answer is to ensure that students have an 'active' role to play as regards the on-going construction of the syllabus. With our syllabus, many of the texts discussed and analysed in class are proposed by the students themselves. Indeed, our course requires students to propose, analyse and compare websites, printed texts and films in the classroom, at home and in their final exam. To achieve this, the syllabus ensures that text analysis theory and practice are closely related and immediately accessible. Conceptual tools (Baldry 2005, Baldry and Thibault 2006a) and e-learning and software tools come together at macro and micro textual levels. The exploration of multimodal text grammar (Baldry and Thibault 2006a) uses supplementary tools such as a 'universal questions' handout (Baldry 2008b) based on socio-semiotic text analysis

⁴ For example, Smith *et al.* (2007) in a study of 24 randomized controlled trials, found that improvements in students' patient communication skills accrued from small group discussion, structured feedback on student-patient interviews and data gathering skills; cf. Aspegren (1999), Maguire and Pitceathly (2002).

(Halliday 1978), and specifically including questions (see Table 4 in Section 7) on identity construction in films and websites (Lemke 2008, Baldry and Kantz 2009). We see Internet as a gateway to the different varieties and genres of medical English that are discovered and explored by our students. Students learn to examine printed texts, websites and films through the application of the scalar model summarised in Table 1.

	<i>Highest</i> ←————→ <i>Lowest</i>					
<i>Text Levels</i>	PAGE	PAGELET	SUPER-CLUSTER	CLUSTER	SUBCLUSTER	(RESOURCE)
<i>Genre Levels</i>	MACRO - GENRE	HYPERGENRE	GENRE	MINI-GENRE	GENRELET	(RESOURCE)

Table 1. The arrows represent co-contextualising processes affecting texts / genres in websites

All this requires a view of texts, whether written, spoken or multimodal, as meaning-making events whose functions are defined by their use in particular social contexts (Halliday 1989; Baldry and Thibault 2006a). For example, in relation to websites we typically ask students to consider the principles outlined in the eight subsections that follow.

4.1. Websites and their subdivisions

Home Pages, and other types of web pages are multisemiotic, hierarchical structures which are dually meaning-making textual and actional frameworks. They enact basic meaning-making processes – informing, persuading, warning, criticising, appraising and so on – in specific contexts. Language-based studies alone cannot accurately represent the semiotic structures of websites since they respond, *inter alia*, to ‘topological’ (i.e. spatial) principles of organisation as well as ‘typological’ (i.e. categorising, language-based) principles. Close examination of today’s websites shows that they are most unlike the websites of 10 years ago exhibiting action-based ‘prefabricated’ multimodal structures (see Figure 1) in which the incidence of ‘fixed elements’ is likely to increase with the march of time.

The screenshot shows the Nobel Prize website for the 2006 award in Physiology or Medicine. The main content area features a diagram titled 'The Nobel Prize in Physiology or Medicine 2006' illustrating the central dogma of molecular biology. The diagram shows DNA being transcribed into mRNA, which is then translated into a protein. A separate box highlights 'RNA interference', stating that miRNA is destroyed before it is translated into protein. The website layout includes a header with the Nobel Prize logo, a navigation menu, and a sidebar with a profile picture and various links.

Figure 1. Minimal running text in a medical web page

4.2. Integrated visual, spatial and linguistic resources

Today's websites usually rely on integrated visual, spatial and linguistic resources rather than on language alone in the creation of meaning and, as such, are typically intersemiotic (i.e. multimodal) rather than language-only structures; like many others, the web page in Figure 1 only contains marginal paragraphs and very few sentences of the type associated with paragraph-based running text (e.g. newspaper articles); instead meanings are made through elliptical structures (e.g. noun phrases) integrated with visual / spatial resources.

4.3. Hierarchical and cyclic rather than linear organization

Many websites (see Figure 1) encase written texts in explicit frames that guide the page-scanning and reading process. Websites base their thematic expansion on periodicity and visual / spatial subordination; frames are indicative of a hierarchy of page subunits running from page to resource / subcluster level via the following sequence *PAGE* > *PAGELET* > *SUPERCLUSTER* > *CLUSTER* > *RESOURCE / SUBCLUSTER LEVEL*; in this view, language is assumed to be a low-level resource which only instantiates meanings at higher semiotic levels through its combination with other resources; many of these combinations, most obviously language, orthography and colour, have undergone remarkable evolution in the Internet's short history.

4.4. Meaning-multiplying and meaning-compressing processes

The integration has a multiplying (Lemke 1998) rather than an add-up effect (i.e. 3x3 rather than 3+3); today's websites accordingly make more meanings per page than those of 10 years ago; this increased capacity to mean – greater meaning potential (Halliday 1989) and greater meaning density – relies on the increasing use of customised prefabricated structures (e.g. multimodal collocations, Baldry and Thibault 2006b).

4.5. Pattern formation

From one standpoint, the web is a hierarchy of nested genres: an analysis of 500 University websites in English shows that less than 1% of universities fail to identify themselves with a *COAT OF ARMS-CUM-MASTHEAD COMPLEX* located in the top left hand corner of a home page's top banner in which the coat of arms is positioned next to, and leftwards of, the masthead (Baldry and O'Halloran forthcoming); as Figure 1 shows, this affects many other institutions and is consistent with an attempt to confer institutional authority and prestige on a website.

4.6. The pressure-to-conform norm

Website objects are becoming more and more standardised; this process is already increasing the predictability of web page objects, e.g. top and bottom bars, in part due to the fact that web mini-genres (such as search engines, timelines and animations) are the products of specific software tools; the growth of more sophisticated search engines will further this process: were Yahoo and Google searches to visualise the top bars of web pages, rather than just addresses, the result would be an immediate investment by companies and institutions designed to further the already strong image-identifying functions of top bars, entailing a further rise in the predictability of information and attitudinal stances found in websites and their parts, due to the formation and crystallisation of new genres.

4.7. Holistic, dynamic, trajectory-based and negotiational

In terms of their meaning-making potential, web pages are not like printed pages insofar as they are constantly reshaped by the dynamic elements in the page and by user interactions in the form of writing and selecting. Thus, when interacting with the whole page, users must select and negotiate which parts and functions to prioritise in order to build page-to-page trajectories; accordingly, interaction with web pages is no longer just a question of hypertext readings and selections (i.e. reading and then clicking on a blue link for more in-depth information on a specific point). Instead, web interaction increasingly resembles conversational interaction; for example, in blogs it presupposes dialogic interaction, based on turn-taking norms and complex decision-making processes which have notable consequences vis-à-vis the increased potential to express interpersonal / attitudinal meaning (e.g. opinion and bias).

4.8. Integration of interpersonal, ideational and textual meanings

This subsection deals with the integration of interpersonal, ideational and textual meanings in predictable and hence potentially retrievable ways: Halliday's social semiotic theory (Halliday 1978) of the intertwining of different types of meaning in all texts (ideational: e.g. facts, events, thoughts; interpersonal: e.g. attitudes, opinions; textual: semiotic form) and how these three types of meaning can be analytically separated in language-based discourse is a culminating point of many centuries of thinking about how meaning is made; the same model has been successfully extended to multimodal discourse (Kress and van Leeuwen 2006[1996]; Baldry and Thibault 2006a, O'Halloran 2004, 2005) with the result that statements about the web's 'anarchy' can be offset by the observation that typical meaning-making patterns in websites are recoverable through manually annotated corpora and potentially through automatic means. In all this we should not, however, lose sight of the fact that students in a degree course in medicine need to be exposed to medical content in English which is why the next sections, describe the scaffolding on which the progression in medical knowledge and its communication in English can be based,

but in a way that invites constant reflection on how meanings, medical meanings in particular, are made in contemporary society.

5. A three-phase course plan: a multimodal approach

Table 2 shows aspects of the three-phase course plan, summarised below in note form, used to train students regarding the exam's central feature, its capacity to present websites and the films they contain analytically in a fluent *PowerPoint* presentation containing tabulated notes, tables, embedded film clips and multimodal transcriptions.

Course Plan	Lesson Steps
Phase 1: Making meaning Multimodality – theoretical framework, conceptual tools, intercultural context.	Step 1 Teachers' presentation of a website and embedded film in relation to text analysis questions and general theory of multimodality.
	Step 2 Teachers' presentation of specific websites in relation to specific textual aspects.
	Step 3 Teacher's exemplification of how to compare websites and films; focus on one specific textual / intercultural feature or type of interaction which is prominent in a film.
Phase 2: Making choices Thematics (bio-medical) Genres (e.g. Health scare genre, Public Information Films), context of situation.	Step 4 Students select two websites and embedded films with similar thematics or textual organisation and compare them.
	Step 5 Students prepare a <i>PowerPoint</i> providing a detailed analysis of the chosen texts; classroom discussion of the differences and similarities.

Course Plan	Lesson Steps
Phase 3: Making links Textual formats – Primary and Secondary Genres; Corpora of textual instances; Reception Analysis.	Step 6 Students practise <i>PowerPoint</i> presentation skills demonstrating their speaking skills in English and capacity to co-ordinate different data sets. Write up of comparisons in tabular format.
	Step 7 Final adjustments and exam preparation. Comparison with previous work: i. distribution and discussion of previous week's work; ii. use of specialised software tools to look at the work carried out on the same or similar texts by students of previous years.

Table 2. Current syllabus: an outline of the course and lesson steps

5.1. Phase 1

Phase 1 focuses on multimodal grammar explaining that, to make meaning, resources are co-deployed in texts; resources include: language, colour, movement, gesture, gaze, space, time, shapes, lines, dots, shading, spatial disposition, intonation, voice quality, breath control, rate of speaking, hesitations, pauses, font and punctuation and so on; in specific texts, and more precisely at specific points in a text, some meanings are predominantly made through visual resources, others predominantly through verbal ones. Types of meanings are illustrated in particular in terms of metafunctions (Halliday 1994[1985]) and principles such as intertextuality and recontextualisation, in relation, for example, to the *Smoker of the Future* Public Information Film [hereafter: Pif or Pifs] found in the UK's National Archives site [hereafter: NA site] with its references to the film *Blade Runner*.⁵

⁵ This website (www.nationalarchives.gov.uk/films/) is a good example of recontextualisation, as all the films in this website have, collectively as a website corpus, taken on a new meanings vis-à-vis their original functions (See Baldry 2005, Baldry and Kantz 2009, in press).

5.2. Phase 2

After the classroom illustration of multimodal grammar, follows a period of classroom discussion in which the organisational principles explained in previous lessons are related to social issues e.g. power relationships, intimidation etc. expressed in a website film. There is no question that students enjoy this phase, since it turns a film's use of, say, tone of voice or use of colour into experiences relevant to them. During this phase students start work on their project which requires them to make choices, in itself an important part of our approach. Thus, a first step in the creation of a project is the principle that students must find appropriate texts; this requires training and is not something a student can do automatically. For this reason, the focus is on finding appropriate websites and illustrating films from a significant repository on a comparative basis; all this is part of getting students to carry out research into texts; there is no spoonfeeding with ready supplied texts; students have to discover texts in all senses of the word 'discover'.

5.3. Phase 3

Having made their choices, students are encouraged to link their decisions up with those of others; students are encouraged to use software tools like McaWeb (<http://mca.unipv.it/>) and LearnWeb2.0 (<http://learnweb.13s.uni-hannover.de/lw/index.jsf>), which *inter alia* allow them to search a database of *PowerPoint* projects carried out in previous years by other students and thus to link their experiences with those of others.

6. Multimodal literacy and the structure of medical information

So far we have suggested that CLIL is an umbrella term for all those approaches in which linguistic and communicative competence is constructed at the same time as knowledge about a discipline is imparted by teachers and acquired by students. Usually, the term relates to a scholastic rather than an academic context, where a curricular subject such as history or geography is

taught in a language other than the students' mother tongue. We see such an approach as suitable in a university syllabus in which English is taken as a gateway to a more specific discipline, namely 'English multimodal text linguistics'. This is an application of the CLIL principle whereby the focus is not on language learning or specific disciplinary knowledge but a fusion of both. A multimodal and intercultural CLIL approach appears to be essential in the new syllabus for degree courses in medicine taught entirely in English, in particular where such courses really include mother-tongue students. Our approach is, however, such that we focus on a carefully thought-out mix of multimodal literacy, text linguistics, information management theory, communication skills and project work that will function with all the categories of students we have mentioned above. Thus, the syllabus changes, vis-à-vis the current one, not so much in type but rather in terms of the 'greater degree' to which multimodal text linguistic principles can be applied. We may sketch out in note form how this integration can be enacted.

6.1. Multimodal literacy as cultural shock

Literacy, medical literacy in particular, cannot be confined to the linguistic. A good starting point for exploring 'visual' literacy is creating a profound awareness that today's page is a visual rather than a linguistic unit (Baldry 2000). Shock tactics are perhaps needed to illustrate, for example, that the reading process is not governed solely by linearity but rather by an interplay between linearity and periodicity. Standing in front of a class of 80 students and describing a theory of periodicity vs linearity does not work whether a CLIL-based or a non-CLIL-based approach is used. Instead, students need participatory proof of what is being asserted, hence the need to put them, for example, in front an eye-tracking screen, ask them to select a favourite medical web page, show them the resultant tracing (Figure 2) in a before-your-very-eyes approach in which all the students can laugh at the funny way their fellow students actually read English.

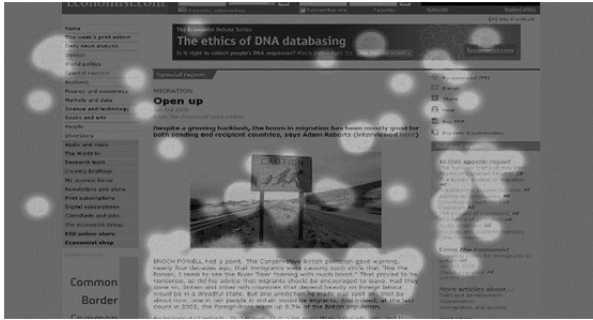


Figure 2. An eye-tracking scanpath: objective evidence of periodicity⁶

By the time that it has been explained that, ‘no’, they are not cross-eyed, and that, ‘yes’, this is proof of the periodic nature of reading, a theoretical pill will have been swallowed. This is an ‘eyes-on’ approach to the structure of medical information, which is not so much a question of providing a sugar-coating for theory but rather a question of building in moment-of-truth responses to the basic question we raised at the outset, namely *Why do I as a mother-tongue English speaker need to learn English?* All this is a hard test for English linguistics. The latter can, however, tap into a wealth of experiences e.g. in every corner of Italian universities in a way that no other subject can. The need for constant reflection on syllabus design and on methods for encouraging the active participation of students cannot be underscored too much. Medical science is often about providing opinions which involves interpretations of the visual and the spatial, just as much as it does the linguistic. A refinement of techniques used in the current syllabus will thus

⁶ Figure 2 suggests that reading scientific texts is all about constructing attitudes towards facts and events in a non-linear fashion from a hierarchically-arranged set of textual objects. The heatmap scanpath, actually an aggregate of various readers’ eye movements of a web page on the ethics of DNA databasing, uses a green-yellow-red scale of intensity where the longest focusing is in red (the centre of most circles), the least in green (the outermost rings). The scanpath highlights the process of selecting and discarding different web page texts before settling on just one part; the constant interplay in this scanpath between written text and photos – with written text providing opinions (an interpersonal aspect of meaning-making) about the main event represented in a photo (an ideational aspect of meaning-making) – is a clear demonstration of the hierarchical ordering of texts in web pages.

include many reflections on medical imaging. All of this responds to the need to provide a ready-made descriptive toolkit in English that easily embraces medical images and graphics.

6.2. Information structure theory and multimodal corpus techniques

We expect students to be skilled in presenting *PowerPoint* projects that relate to the structure of information. In other words, we expect them to carry out systematic analysis of how medical information can be classified and predicted in terms of its distribution and dependency structure in medical texts, which as Table 3 suggests is inherently multimodal. One emergent feature from current research (Baldry 2011, Baldry and O'Halloran forthcoming) is the exploration of the three-way organisation of information in the web which lies at the heart of how web texts make their meanings. In its efforts to encourage students think about how information and meaning are organised in texts, this approach is complementary to, rather than a replacement for, explanations in the course of the metafunctional organisation of meaning-making.

Information as classification	The web as a 'hierarchy' of nested co-contextualising multimodal texts – what types of text (= meaning units) are possible (see Table 1);
Information as distribution	The web as recurrent, collocational 'patterns' of linguistic, visual and spatial resources – what is likely to occur;
Information as relation	The web as 'if-then' ties between and across text / meaning levels – what dependencies there are, e.g. visual resources can express a fact, language an opinion – and vice-versa.

Table 3. The structure of information in the web

Naturally, we follow the majority of multimodal scholars in holding that metafunctional organisation (Halliday 1994[1985]) extends beyond language and embraces other semiotic systems, whether they are used in combination with language or not (O'Toole 1996; Kress and van Leeuwen 2006[1996]; Baldry and Thibault 2006a, 2006b; O'Halloran 2004, 2005 and many others). But Table 3 indicates the need to go beyond metafunctions by fathoming the notions of 'information as classification, distribution' and 'relation'.

The first of these, ‘information as classification’, is discussed above in Section 4 in relation to the scalar and hierarchical approach to text analysis (Table 1). The second is concerned with the distributional principles of corpus linguistics (Sinclair 1991), which may be seen as an outstanding contribution to text theory and, in particular, theories of texts in use, a contribution in which English linguistics in Italy has also been a driving force (Aston 1999; Aston, Burnard 1998, Tognini-Bonelli 2001; Partington 1998 and many others). In efforts to go beyond the traditional and rather archaic understanding of English grammar that many medical students have, it makes sense to go beyond words, sentences and paragraphs so as to explore the collocational patterns of words such as ‘opinion’ and ‘bias’ in medical texts, or, indeed, any other words that students themselves find intriguing. Looking at the company that words keep (Firth 1957), or, more scientifically, at collocations, in medical texts is likely to show that ‘opinion’ is, in Halliday’s terms, more ‘thing-like’ in contrast to ‘bias’ which is more ‘process-like’. In other words, quite apart from being a premise to the analysis of cultural diversity in latter stages of the course in English (see Section 7), reflections on how opinions are structured – how, for example, the words ‘bias’ and ‘opinion’ function in different ways in medical contexts – is conducive to endless classroom discussion. Since an important aspect of medical science is precisely the motivated comparison and expression of opinions, the comparison of traditional methods of word definition with the computer-based distributional techniques of corpus linguistics seems more than appropriate. From a procedural standpoint, this is a multi-stage, student-involving process: a) it can start, for example, with an analysis of Gladwell’s article (Gladwell 2004) and his claim: “On many occasions, I think, we use the words ‘bias’ and ‘opinion’ interchangeably. ... for the millionth time! – an opinion is not a bias!”, followed up by an analysis of opinions about the contrasts – temporary vs permanent; individual vs collective, different polarity, reactive vs predictive – he invokes; b) it proceeds with concordancing techniques applied to language-only text corpora, for example, the SARA interface (Aston and Burnard 1998) to the *British National Corpus* (www.natcorp.ox.ac.uk) as well as collections of student-discovered and student-assembled

texts, using *WordSmith* tools (Scott 2001). However, it is also possible to take a further step and go beyond this ‘information as distribution’ stage of analysis in which statistically significant co-occurrences of words are used to define potential and actual meanings and, instead, explore textual information in terms of ‘if-then’ relations, i.e. ‘information as relation’. Such an approach looks on specific information in terms of its function within an entire text. For example, it is possible to study how opinion is shaped in a film such as the one shown in Figure 3 in which Mr. Bean uses car battery jump-leads, connected to the electricity supply of a *London Transport* lamp-post, as a defibrillator to revive an unconscious person who has suffered myocardial infarction.



Figure 3. Mr. Bean’s questionable first-aid procedures

Whatever the culture may be, this is definitely not standard medical procedure. Interestingly, the film, contains no wordings other than a single ‘thank you’ which places it beyond the realm of traditional corpus linguistics. However, it does contain much relational information, as is apparent from the comments that it elicits which are of the type: “if he had called an ambulance, in the first place there would have been no need to put a bottle of pills in the patient’s mouth and then to take a great swipe at it in order to open it,” i.e. a type of relation which certainly needs to be practised (in the linguistic rather than the medical sense!) in classroom discussion. A rather more sophisticated analysis of information as relation is made possible by multimodal corpus linguistics (Baldry and Thibault 2001,

2006b, 2008, Baldry and O'Halloran forthcoming; Baldry 2011) through which it is possible to carry out concordancing techniques in relational terms vis-à-vis visual, rather than linguistic, processes (see in particular Baldry 2008a).

To summarise this section: new software tools, such as eye-tracking and multimodal concordancing techniques make it possible in the classroom to explore the structure of medical information as a multimodal construct in lively ways which, through their intensely visual nature, are likely to motivate medical students as they progress through the first three years of their degree.

7. Squaring intercultural awareness with multimodality

How can cultural awareness motivate students in the second half of their degree? What is culture? What is cultural diversity? Halliday himself has stressed the significance of context of culture in communication, while recognising that no linguistic model for it exists (Halliday and Hasan 1989: 47). It seems pointless to attempt to fathom the many issues involved in responding to these questions in this short paper, except to point out that we take a multimodal stance on intercultural awareness, which differs somewhat from past approaches which attempt to face up to the difficulties indicated by Halliday through language-only models often with considerable success judging by their use within language teaching and testing programmes in Italy (Bilotto 2008).

As well as from a multimodal perspective, our approach thus starts from the premise that self-knowledge and self-awareness are essential for students in an age of online communities and mobile learning and that a peer-learning context is essential for intercultural understanding. But, how can this be achieved without associating intercultural awareness directly with specific nations, an approach championed by some intercultural models (Hofstede 1984, 1994)? In other words, how can a classroom approach be achieved without running the risk of establishing or reconfirming stereotypes when the real goal is to provide tools for the analysis of cultural systems? In answering these questions, we may point out that multimodal text analysis affords many opportunities for achieving these goals, for example, in relation to the thematics of

what may be called the medical scare macrogenre (Baldry 2000, 2005) which over the last century, has had many manifestations in different cultures in film-based genres and which, in particular, may be associated with three sectors: a) anti-drugs, drinking and smoking campaigns; b) sex education and sexually transmitted diseases; c) health awareness and, in particular, admonitory advice about dieting and physical fitness. To date, we have been concerned with these genres and their subgenres since they exemplify a convergence between medical, social and political issues that affects the social identity of many individuals.

1	How far is identity defined by social roles?
2	How far do these roles overlap?
3	How is identity constructed?
4	How does the viewer interpret the identities established in the films in this corpus?
5	What is the politics of the notion of identity?
6	What roles do the body and physical interaction have in shaping identity?
7	What aspects of our identities are shaped by desire, pain and fear?
8	What kind of identities move our society in new directions?
9	What identities are temporary and which are more permanent?
10	Do we construct identities only from fixed semiotic options provided by our culture and its constraints?
11	What role do transgressive identities play in social and cultural change and over what timescales?
12	What is the relationship between children and adults in terms of changing identity?
13	How are identities in this corpus shaped in terms of interaction with diverse members of our communities: elders / juniors; same gender / non-same gender, same class / non-same class?
14	What strengths and weaknesses are associated with identity?
15	How is identity constructed in terms of nationality, occupation, sexuality, cultural disposition, religion?
16	How is identity related to language?
17	How is language used to reinforce institutional stereotypes?
18	What is the relationship between the individual and the state?
19	How does the state use stereotypes to control us?
20	How has globalization affected identity? Is identity independent of globalization?

Table 4. Twenty questions on identity

As Table 4 shows, owing to our belief that intercultural issues are ultimately issues relating to individual identity, we created an appendix to the universal-questions handout mentioned above (see also Baldry 2008a) partly based on Lemke (2008), which is designed to foreground the identity of specific individuals and relationships between them. How can such a set of questions be explored in relation to multimodal texts? In our approach, a teacher-led, historical reconstruction comes first; this is exemplified by detailed multimodal transcription of medical texts (Baldry 2000, 2005; Baldry and Thibault 2006a; Baldry and O'Halloran forthcoming) in such a way as to highlight social thinking on these matters, and their evolution, followed by a reconstruction, through detailed text analysis, of the 'possible' differences on these issues. Caution, of course, needs to be applied when associating trends to specific historical periods. Even today, there are cases where the 'do-or die' approach (i.e. the 'explicit' threat that you will die if you don't have this operation, take this pill, start dieting and so on) usually associated with a bygone era, is 'still' adopted in medical texts and events, more often than not, with declining success. For example, we may recall the 'panic-oriented' advertising and Pifs of the early days of AIDS prevention in the 1980s, which had little impact on the general public and which was quickly replaced by more deftly crafted texts that 'implied' the dangers of unprotected sex (e.g. through various forms of humour) rather than through 'scaring' or 'threatening'.

8. Guidelines for students

From what we have mentioned above, it should be clear that we firmly believe that a teacher-led approach to intercultural awareness is a question of providing 'methods' and not a question of instilling beliefs, hence the significance of multimodality with its vast array of analytical tools. Thus, vis-à-vis our 'methods-oriented' approach, we may briefly report the findings of an experiment carried out by two of the authors with dentistry students (Baldry and Kantz 2009 forthcoming) who were required to give a 20-minute mini-lecture in English as their end-of-course exam in the form of a *PowerPoint*

presentation comparing any two Pif films from the NA website in terms of how identities are constructed through combinations of language, gesture, gaze, movement, camera angle and so on, and applying the textual principles described in the course. The students were told that their presentations would be assessed in terms of the following four perceptions of the NA site:

a) as a corpus functioning as a gateway to changes in texts and their construction: the site as a longitudinal corpus helps us identify patterns in the multisemiotic strategies used over a period of sixty years as ways of enacting individual, collective, public and global identities and as ways of influencing attitudes towards gender roles, adult / children relationships and private / public spheres; for example, slogan apart, the 2004 *Give me five: five a day* uses no verbal resources when representing Britain as a consolidated multiracial society that has a collective interest in keeping fit in contrast to the earlier periods when a monoethnic society was addressed imperiously in a documentary-cum-newsreel style (e.g. *Operation Hurricane*) resembling that of *Pathé News* (www.britishpathe.com);

b) as a corpus of ideological tensions between competing worldviews and values, e.g. nationalisation, privatisation, survival of class values, environmental issues, foreignness manifested in the Pifs through heteroglossic voices, agency, shifts in alignment, interactional moves, etc.;

c) as exemplifying membership of communities in relation to the construction, positioning, negotiation and legitimation, through visual, verbal and musical strategies, of multifaceted identities, variously conceived of as projects of the self, products of the social and embodiments of ideology (e.g. Britain viewed negatively as nation of smokers, drug addicts, paedophiles, control freaks etc.); the representation of specific socio-cultural and professional groups, including *inter alia* medical and paramedical communities through manifestations of the health scare genre; for example, the NA's 2003 *Internet Shopping: Virtual Mall* deals with consumer protection identifying Britain with new communities and, *pace* Napoleon, specifically as a nation of virtual shopkeepers, gullible online consumers and expert Internet thieves;

d) as the expression of conflicts in identity: hegemonic identities versus contested or de-legitimated identities in institutional or

public settings or in cross-cultural communication with specific reference to resisting or favouring standardizing pressures and transitions e.g. the transition to decimal currency, to a multiracial society, to nationalised services as symbolised in titles such as *Charley's March of Time*.

What we were doing was twofold: first as stated above, we were encouraging students to look at websites in terms of classificational, distributional and relational approaches to the structure of information; and, second, we were encouraging them to take an evolutionary approach to intercultural awareness based on multimodal, rather than linguistic, categories.

9. Reception

The students, almost always off their own bat, responded well to our interest in the evolution of multisemiotic strategies and often explored the idea of conflict in identity as it relates to young children, in particular, the growing abstract nature over time of visual processes relating to the representation of the voice of conscience and inner alarm bells in Pifs directed to children. Presentations given by two students who chose films with an appearances-are-deceptive leitmotiv illustrate this. The first compared two cartoons *Charley: Strangers* (1973) and *Think Bubble: Adult and Child* (1994) in response to the question "What role do transgressive identities play in social and cultural change and over what timescales?" (Q11, Table 4). Both films deal with the dangers young children face from paedophiles. In the first cartoon, a cat physically impedes a child from going off with a faceless stranger whereas the second cartoon presents a think-cum-speech bubble looking down like a guardian angel on a child who is approached by a charming young man (who, in fact, turns out to be a paedophile). The bubble, a metaphor for the child's conscience, invites the child to reason. As the student wrote:

The videos mirror the ideas of their period. The first highlights appealing invitations by people who talk nicely to them. It is educational, inviting children to listen to their parents but doesn't explain why a child mustn't go off with strangers. The second does:

the *Think Bubble* cloud conveys the idea that evil can exist in people who appear to be good and have good looks.

Thus, as time goes by, even children of four years of age are seen as acquiring a conscience through ‘think-twice’ strategies that replace the earlier, more direct ‘don’t-do-this’, ‘tell-mummy’ strategies. All this is in keeping with the framework we have created, but the important point is that the student in question saw details that the teachers had not spotted but reached the analysis through systematic application of the tools supplied. Similarly, another student responded to the question “What strengths and weaknesses are associated with identity?” (Q14, Table 4) and picked the 1972 *Teenagers Learn to Swim* and the 1973 *Lonely Water*. Both films focus on the appearances-are-deceptive theme in relation to swimming and playing around water. When speaking about the first film, the student focused on the teenage boy-girl relationship expressed in terms of a ‘disjunction’, as represented in the text, between outer physical strength (the cartoon girl says of her boyfriend “He can do everything”) and inner strengths (the girl comes to realise that he can’t swim and is too vain to admit it). The student thus focused on the use of the human body as a meaning-making strategy deployed in films when shaping identity. The boyfriend’s “just not my scene man...” explanation of why he will not swim is shown to be out of step with his body language which is depicted as hiding his physical fear of water and even greater social fear of making a bad impression (Q6 and Q7, Table 4).

The incremental nature of our approach needs to be underscored. For example, in the case of the dentistry students, as part of our concern with intercultural awareness, even, in our first round of experimentations, students were allowed to take one of the Pifs from another site. In the light of all this, our fundamental questions in the latter stages of our courses have now become: a) how would you design a website for social-cum-medical issues? and b) how would you organise information in terms of classificational, distributional and relational properties? These questions, the latter in particular, relate to a sharper awareness of the possible set of choices that can be made to create meanings and how and why they must be made in websites. In other words, we are concerned with

the motivated choices and judgements students must make about intercultural awareness in their daily lives. We wish to stress that this type of approach responds well to the requirement for a dynamic, incrementally-organised syllabus that explores increasingly specialised medical genres and explicitly incorporates the Italian-English intercultural comparisons that we described in Section 2. We may also recall that the addition of new, supplementary aspects to a core course is in keeping with the distribution of courses and credits over more than one year.

We need, however, to exemplify all this a bit more. The NA website contains a collection of health-scare Pifs with an unforgettable impact whose subgenres, *inter alia* include sexually-acquired diseases such as AIDS, alcohol abuse, drug abuse, and “do-or-die” films. Many of these, such as the intriguing films about rabies, are, with hindsight, highly questionable from a social-cum-medical standpoint but provide a unique framework from which critical judgements can emerge. The 1976 *Rabies Outbreak*, for example, portrays a terrified pet-loving Britain threatened by a dog presumed to be rabid; the film feeds on the public’s collective paranoia by showing imaginary scenes of people taking refuge in telephone boxes for fear of being bitten and protecting their pet dogs by clutching them in their arms, which is all the more weird given that – in contrast to the devastating effects of mad-cow disease or malaria acquired as tourists – no Briton has died of rabies in the last 100 years (the last known case of rabies contracted in a human being within the UK was in 1902). What is even more surprising about the site is that global issues, such as climate change, are poorly represented in any period, as is the total lack of any industrial and workplace safety films. This is in contrast to the Italian cultural equivalent, *pubblicità progresso* films which have instead focused on this subject in the wake of recent public outcry about work-related deaths. The *pubblicità progresso* site (www.pubblicitaprogredito.org) is organised in terms of specific campaigns for specific years e.g. the 2008 campaign on industrial safety and the 2007 campaign on film piracy and so on. Comparison of different countries websites – for example US websites relate more to longer training films than they do to short Pifs – can make a significant contribution to a greater awareness of the forms and functions of such texts in society and

underscore the significance for medical students of standing back and looking at things in perspective. Thus, remarkably, given the changing composition of society, none of the films in the NA site deals, at least directly, with contemporary issues such as old age or caring for the aged, though one film, the 2006 *Mental Health*, does deal with mental, as opposed to physical, well-being (Kantz 2012). This may simply be because the Pif, in some cultures, is a dying genre. Like veins of gold, many genres have a limited time span and ways of expressing meanings are constantly found that encompass and restructure older genres in terms of new forms which are, at first sight, sometimes hard to spot. Getting students to identify website alternatives and replacements for these older genres is more than just part of the fun. Culture and genre are closely related. Taking new perspectives on genres, such as those relating to identity construction, is for us the best way to approach the very significant issue of intercultural interactions and their consequences that will affect medical students during their careers.

10. Conclusion

In Italy, medical degree courses notoriously lead the way in terms of innovation. So that the question we pose in our subtitle: *Do you still need a course in English when the entire degree in Medicine and Surgery is taught in English?* is likely to be extended to 'all' degree courses. In other words, in 10 or 20 years, will all degree courses in Italian have disappeared? Will proposing a new degree in Italian have the same clout as proposing a degree in Sardinian today? We do not think that this is likely but believe, instead, that investment in a dual system – e.g. an English-language medical degree alongside an Italian-language medical degree – will pay dividends 'if' (among many other constraints and conditions) the central role of teaching of English is properly supported by all and sundry. In this brief paper, we have attempted to defend the status of English as an *insegnamento* and have defined a role that it might take on in medical degree courses, in general. We align ourselves, in particular, with the need to take cultural diversity into greater consideration in the belief that, rather than Category A students (as

defined above), at least in their very first years of existence, English-language medical degrees are much more likely to be sought by students in the 'other' categories we have indicated, i.e. 'precisely' those students who are 'both' eager to understand cultural diversity 'and' well equipped to take it on board. In our opinion, students in these other categories, i.e. those with a good knowledge of English 'and' Italian, will stand to gain most from this new experience. But will an English-language medical degree attract them? Presumably, smaller class numbers, slightly better performance in exams deriving from good communicational skills in English and a better capacity to win scholarships at a later stage in their careers are among the most likely attractions / expectations. All this corresponds, we presume, to a belief that possessing an English-language medical degree will put a doctor in a slightly more privileged position and will give him / her a slight, but crucial, edge in their subsequent career over their fellow students in the Italian-language degree. Time will tell whether this is just an illusion.

In concluding, we simply wish to underscore the key points in our approach: an understanding of the organisation of texts in which language, and hence English, abandons its *prima donna* status vis-à-vis other semiotic resources; language is merely a basic resource in a complex hierarchical and intersemiotic interplay of resources that produces, for example, website texts. Downplaying the status of language may, in fact, help the academic fortunes of English in Italy as, *inter alia*, it may help to win over medical faculty (in the American sense of the term) struggling to adapt to new demands.

Above, in pursuing this goal, we have described a need to:

- a) theorise and represent the relationship between multimodal texts and society in a medical context;
- b) think about the current state of investment in multimodal e-learning;
- c) explore the changing relationships between texts as a result of social evolution and, in particular, the interconnections between multimodal text analysis and intercultural studies;

- d) encourage a sense of historical development of websites and comparative, diachronic views of their evolution based on socio-semiotic theory;
- e) suggest how the web will develop in the future vis-à-vis medical texts (e.g. advanced medical graphics, simulations that go well beyond the notion of the web as ‘pages’) and the relevance of multimodal analysis to this;
- f) facilitate students’ grasp of the conceptual and analytical tools of multimodal text linguistics, with a focus on the added value provided by a constant cycle of project work that includes access to projects carried out in previous years by other students;
- g) consider the interplay between ‘form’ and ‘function’ in texts in terms of lexicogrammatical, intersemiotic, genre-related, intertextual and intercultural aspects of meaning-making processes;
- h) ensure that students feel capable of using and going beyond the model given to them and acquire a sense of personal achievement – the best possible return on investment for universities.

These goals have been suggested at every point in this article. As a conclusion, we simply ask our readers to consider the new scenario for Italian State universities of English-language medical degrees as the tip of an iceberg and to ponder the question as to whether English Linguistics in Italy is ready to face up to the new scenario in which degree courses in Italy will not only be taught ‘entirely in English’, but will also have to measure up to the increasingly online nature of university degrees and increasingly strong competition from abroad. Finally, we also suggest that everything we have mentioned entails a need for society in general, and medical degree courses in particular, to consider investment in tenured personnel if improvements in the quality of teaching and the research that this necessarily entails are to be accomplished. Together with other resources, most obviously English-speaking support staff, such investments are essential when attracting students who ‘only’ speak English. Only when these underlying investments are made can the

unrealised ideal of a ‘truly’ English-language medical degree course be fully achieved.

Acknowledgements

The authors fully acknowledge that much of the material presented relating to website analysis originates from the *Multimodal Analysis of Websites* research project funded by the *National University of Singapore* (Grant number R-103-000-044-112), Principal Investigator Kay O’Halloran, Collaborator Anthony Baldry. Further details of the findings of this research project will appear in Baldry & O’Halloran forthcoming. We are grateful to Kay O’Halloran for reading through, and commenting on, an earlier version of this paper. The authors take this opportunity to encourage the collection and exchange of more information on these issues, raised in this article and thank the editors of this volume for the opportunity provided to express our thoughts.

References

- Aspegren, K. 1999, “Teaching and learning communication skills in medicine: a review with quality grading of articles”, *Medical Teacher*, 21, pp. 563-570.
- Aston, G. & L. Burnard (eds) 2001, *Corpora in the Description and Teaching of English*, CLUEB, Bologna.
- Aston, G. & L. Burnard 1998, *The BNC Handbook: Exploring the British National Corpus with SARA*, Edinburgh University Press, Edinburgh.
- Aston, G. 1999, “Corpus use and learning to translate”, *Textus*, 12: 2, pp. 289-314.
- Baldry A.P. & M.G. Pavesi 1998a, “Learning to read scientific English: Self-access courseware for beginners at university”, in C. Gagliardi (ed.), *Authoring: prodotti - esperienze - proposte*, Libreria dell’Università, Pescara, pp. 81-109.
- Baldry, A.P & P.J. Thibault 2001, “Towards multimodal corpora”, in G. Aston and L. Burnard (eds), *Corpora in the Description and Teaching of English*, CLUEB, Bologna, pp. 87-102.
- Baldry, A.P. & D. Kantz 2009, “New dawns and new identities for multimodality: Public information films in The National Archives”, *Textus*, 22: 1, pp. 225-254.

- Baldry, A.P. & D. Kantz forthcoming, *Public Information Films: Multimodal, Cross-Cultural and Evolutionary Aspects*, Equinox, London.
- Baldry, A.P. & E. Montagna forthcoming, *Readings in Intersemiosis*, Ibis, Como.
- Baldry, A.P. & K.L. O'Halloran forthcoming, *Multimodal Corpus-Based Approach to Website Analysis*, Equinox, London.
- Baldry, A.P. & M.G. Pavesi 2000, "Learning to read scientific texts: Integrated self-access courseware and corpora for university science students", in A.P. Baldry (ed.), *Multimodality and Multimediality in the Distance Learning Age*. Palladino, Campobasso, pp. 227-245.
- Baldry, A.P. & P.J. Thibault 2006a, *Multimodal Transcription and Text Analysis*, Equinox, London.
- Baldry, A.P. & P.J. Thibault 2006b, "Multimodal Corpus Linguistics", in G. Thompson and S. Hunston (eds), *System and Corpus: Exploring Connections*, Equinox, London, pp.164-183.
- Baldry, A.P. & P.J. Thibault 2008, "Applications of multimodal concordances", *Hermes*, 41, pp. 11-41.
- Baldry, A.P. & P.J. Thibault forthcoming, *Multimodal Corpus Linguistics*, Routledge, London.
- Baldry, A.P. (ed.) 2000, *Multimodality and Multimediality in the Distance Learning Age*. Palladino, Campobasso.
- Baldry, A.P. 1998, "The teaching of English in a medical faculty: Sociolinguistic aspects", in M. Pavesi and G. Bernini (eds), *L'apprendimento linguistico all'università: le lingue speciali*. Atti del Convegno tenutosi a Pavia il 28-29 ottobre 1996, Bulzoni, Roma, pp. 249-270.
- Baldry, A.P. 2000, "English in a visual society: comparative and historical dimensions in multimodality and multimediality", in A.P. Baldry (ed.), *Multimodality and Multimediality in the Distance Learning Age*, Palladino Editore, Campobasso, pp. 41-89.
- Baldry, A.P. 2005, *A Multimodal Approach to Text Studies in English*. Palladino Editore, Campobasso.
- Baldry, A.P. 2008a, "Turning to multimodal corpus research for answers to a language-course management crisis", in C. Taylor Torsello, K. Ackerley and E. Castello (eds), *Corpora for University Language Teachers*, Peter Lang, Bern, pp. 226-37.
- Baldry, A.P. 2008b, "What is multimodality for? Syllabus construction in English text studies for communication sciences", in M. Solly, M. Conoscenti and S. Campagna (eds), *Verbal / Visual Narrative Texts in Higher Education*, Peter Lang, Bern, pp. 229-250.
- Baldry, A.P. 2011, *Multimodal Web Genres: Exploring Scientific English*, Ibis, Como.

- Baldry, A.P. 2012, "Medical CLIL (Part I): How a medical degree works", in M. Cambria, C. Arizzi and F. Cocchetta (eds), *Web Genres and Web Tools: With Contributions from the Living Knowledge Project*, Ibis, Como, pp. 357-368.
- Bilotto, A.F. 2008, "Implementing intercultural communicative competence assessment in the European Language Portfolio: A proposal", in M.G. Sindoni (ed.), *Procedure di valutazione nei Centri Linguistici Universitari, Quaderni di Ricerca del Centro Linguistico d'Ateneo Messinese*, II, Rubbettino, Soveria Mannelli, pp. 27-36.
- Byram, M. 1997, *Teaching and Assessing Intercultural Communicative Competence*, Multilingual Matters, Clevedon.
- Byram, M. 2000, "Assessing intercultural competence in language teaching", *Stroforum*, 18: 6, pp. 8-13.
- Candlin, C. & M. Gotti (eds) 2004, *Intercultural Discourse in Domain-Specific English, Textus*, 17: 1.
- Cocchetta F. 2012, "Medical CLIL (Part II): How the body works", in M. Cambria, C. Arizzi and F. Cocchetta (eds), *Web Genres and Web Tools: With Contributions from the Living Knowledge Project*, Ibis, Como, pp. 369-378.
- Cucchi C. & M. Ulrych 2008, "Translation, rewriting and recontextualisation: Forms of mediated discourse", in M. Bertuccelli M.Papi, A. Bertacca and S. Bruti (eds), *Threads in the complex fabric of language*, Felici, Pisa, pp. 139-170.
- Firth, J.R. 1957, *Papers in Linguistics 1934-1951*, Oxford University Press, London.
- Gladwell, M. 2004, "Disclosure statement", *New Yorker*, 10 December 2004, available at <http://gladwell.com/disclosure-statement/>.
- Halliday, M.A.K [1985]1994, *An Introduction to Functional Grammar*, 2nd edn, Edward Arnold, London-Melbourne.
- Halliday, M.A.K 1989, "Part A.", in M.A.K. Halliday and R. Hasan (eds), *Language, Context and Text: Aspects of Language in a Social-Semiotic Perspective*, Oxford University Press, Oxford, pp. 1-49.
- Halliday, M.A.K. & C. Matthiessen 2004, *An Introduction to Functional Grammar*, 3rd edn, Edward Arnold, London.
- Halliday, M.A.K. 1973, *Explorations in the Functions of Language*, Edward Arnold, London.
- Halliday, M.A.K. 1978, *Language as Social Semiotic. The Social Interpretation of Language and Meaning*, Edward Arnold, London.
- Hofstede, G. 1984, *Culture's Consequences: International Differences in Work-related Values*, Sage Publications, Beverly Hills.
- Hofstede, G. 1994, *Cultures and Organizations: Software of the Mind, Intercultural Cooperation and its Importance for Survival*, Harper-Collins, London.

- Holub, R.C. 1984, *Reception Theory (New Accents)*, Routledge, London.
- House, J. 2003, "English as a lingua franca: A threat to multilingualism?", *Journal of Sociolinguistics*, 7: 4, pp. 556-578.
- Hymes, D. 1972, "Models of the interaction of language and social life", in J. Gumperz and D. Hymes (eds), *Directions in Sociolinguistics*, Holt, Rinehart and Winston Inc., New York, pp. 35-71.
- Kantz, D. 2012, "Medical CLIL (Part III): How the mind works" in M. Cambria, C. Arizzi and F. Coccetta (eds), *Web Genres and Web Tools: With Contributions from the Living Knowledge Project*, Ibis, Como, pp. 379-390.
- Katan, D. 2004, *Translating Cultures: An Introduction for Translators, Interpreters and Mediators*, St. Jerome Publishing, Manchester.
- Katan, D. 2009, "Translation as Intercultural Communication", in J. Munday (ed.), *The Routledge Companion to Translation Studies*, Routledge, Oxford, pp. 74-92.
- Kress, G. & T. van Leeuwen, [1996]2006, *Reading Images. The Grammar of Visual Design*, Routledge, London.
- Lemke, J. 1998, "Multiplying Meaning: Visual and Verbal Semiotics in Scientific Text", in J.R. Martin and R. Veel (eds), *Reading Science*, Routledge, London, pp. 87-113.
- Lemke, J. 2008, "Identity, development, and desire: critical questions", in C. Caldas-Coulthard and R. Iedema (eds), *Identity Trouble: Critical Discourse and Contested Identities*, Palgrave, London, pp. 17-42.
- Littlejohn, S.W. 1989, *Theories of Human Communication*, Wadsworth, Belmont, (CA).
- Loiacono, A. 2012, "Medical CLIL (Part IV): How the brain works", in M. Cambria, C. Arizzi and F. Coccetta (eds), *Web Genres and Web Tools: With Contributions from the Living Knowledge Project*, Ibis, Como, pp. 391-402.
- Maggi F., C. Mariotti & M.G. Pavesi (eds), *Lingue Straniere Veicolo di Apprendimento*, Ibis, Como.
- Maggi, F. 2012, "Medical CLIL (Part V): How reflections on text and genre works", in M. Cambria, C. Arizzi and F. Coccetta (eds), *Web Genres and Web Tools: With Contributions from the Living Knowledge Project*, Ibis, Como, pp. 403-414.
- Maguire, P. & C. Pitceathly 2002, "Key communication skills and how to acquire them", *British Medical Journal*, 325, pp. 697-700.
- Marenzi, I. 2012, "Designer genres: Social, interactional, technological and multimodal aspects of Web 2 genres", in M. Cambria, C. Arizzi and F. Coccetta (eds), *Web Genres and Web Tools: With Contributions from the Living Knowledge Project*, Ibis, Como, pp. 193-234.

- O'Halloran, K.L. 2004, "Visual semiosis in film", in K. O'Halloran (ed.), *Multimodal Discourse Analysis: Systemic functional perspectives*, Continuum, London and New York, pp. 109-130.
- O'Halloran, K.L. 2005, *Mathematical Discourse: Language, Symbolism and Visual Images*, Continuum, London and New York.
- Partington, A. 1998, *Patterns and Meaning: Using Corpora for English Language Research and Teaching*, John Benjamins, Amsterdam.
- Quartapelle, F. (ed.) 2012, *Assessment and Evaluation in CLIL*, Ibis, Como.
- Scollon, R. & P. LeVine 2004, "Multimodal discourse analysis as the confluence of discourse and technology", in P. LeVine and R. Scollon (eds), *Discourse and Technology: Multimodal Discourse Analysis*, Georgetown University Press, Washington, pp. 1-6.
- Scollon, R. 2001, *Mediated Discourse: The Nexus of Practice*, Routledge, London.
- Scott, M. 2001, "Comparing corpora and identifying key words, collocations, and frequency distributions through the *WordSmith Tools* suite of computer programs", in M. Ghadessy, A. Henry and R.L. Roseberry (eds), *Small Corpus Studies and ELT: Theory and Practice*, John Benjamins, Amsterdam, pp. 47-67.
- Sinclair, J. 1991, *Corpus, Concordance, Collocation*, Oxford University Press, Oxford.
- Smith, S. et al. 2007, "Teaching patient communication skills to medical students", *Evaluation & the Health Professions*, 30: 1, pp. 3-21.
- Taylor, C. 1998, *Language to Language*, Cambridge University Press, Cambridge.
- Thibault, P.J. 2000, "The multimodal transcription of a television advertisement: theory and practice", in A.P. Baldry (ed.), *Multimodality and Multimediality in the Distance Learning Age*, Palladino Editore, Campobasso, pp. 311-385.
- Tognini-Bonelli, E. 2001, *Corpus Linguistics at Work*, John Benjamins, Amsterdam.
- Ulrych, M. & A. Murphy 2008, "Descriptive Translation Studies and the use of corpora: Investigating mediation universals", in C. Taylor Torsello, K. Ackerley and E. Castello (eds), *Corpora for University Language Teachers*, Peter Lang, Bern, pp. 141-166.
- Ulrych, M. 2008, "Applied Translation Studies and beyond: A socio-historical perspective on a changing discipline", in G. Iamartino, M.L. Maggioni and R. Facchinetti (eds), *Thou Sittest at Another Boke. English Studies in Honour of Domenico Pezzini*, Polimetrica, Monza, pp. 145-170.
- Ulrych, M. 2009, "Translation and editing as mediated discourse: focus on the recipient", in D. Rodica and M. Shlesinger (eds), *Translators and Their Readers. In homage to Eugene A. Nida*, Les Editions du Hazard, Bruxelles.
- Wolff, D. 2003a, "On the importance of CLIL in the context of the debate on plurilingual education in the European Union", in *CLIL / EMILE – The European Dimension – Actions, Trends and Foresight Potential*. Public

Services Contract DG EAC: European Commission, UniCOM, University of Jyväskylä, Finland, pp. 47-48.

Wolff, D. 2003b, "Content and language integrated learning: a framework for the development of learner autonomy", in D. Little, J. Ridley and E. Ushioda (eds), *Learner Autonomy in the Foreign Language Classroom: Teacher, Learner, Curriculum and Assessment*, Authentik, Dublin, pp. 211-222.

Internet resources for Medical English

Alessandra Vicentini – University of Insubria (Varese)
alessandra.vicentini@uninsubria.it

Alessandra Radicchi – Independent Scholar
aradicchi@libero.it¹

Background

Every profession has its jargon, a technical or specialized language that allows its members to communicate efficiently. As a consequence, developing the language abilities required for successful communication in occupational settings has become of paramount importance, a necessity closely connected with the relatively recent emergence of English for Specific Purposes (ESPs) both as university teaching and an academic field of research (Swales 1971, 1985, 2004; Bhatia 1993; Garzone 1998, 2006; Cortese & Riley 2002; Gotti 2003, 2005). Indeed, “most notably following the economic power of the Unites States”, English was assigned the role of international language in the scientific, technical and economic domains (Hutchinson & Waters 1987: 6) from the end of WWII, a fact that coincided with a revolution in (applied) linguistics. The latter, in fact, began to focus, on the one hand, on how language is used in real communication rather than simply describe its lexical / terminological features and, on the other hand, on the learners’ needs, interests and learning processes, which were gradually catered for by the development of English Language Teaching (ELT), and especially by the didactics of ESP.

All the above comes into play when dealing with medical English (ME), a lingua franca used for functional purposes by a number of professionals (doctors, nurses, researchers, pharmacists,

¹ Research for this paper has been carried out jointly by the two authors. Alessandra Vicentini, in particular, is responsible for § 1, 1.1, 2, 3.1, 3.2.1, 3.2.1.1, 3.2.3, 4, while Alessandra Radicchi for § 3.2.1.2, 3.2.1.3, 3.2.1.4, 3.2.1.5, 3.2.2, 3.2.4. The general framework has been elaborated together.

paramedics, etc.) constituting the medical community and, as such, one of the classical and most important branches of ESP. Nowadays doctors are not only faced with the usual communicative needs their profession requires, but also with many new ones triggered by the ever-growing spread of globalizing trends and new technological tools. In fact, besides the need of a passive knowledge of the language in order to be able to read and learn about new advances in the medical field, doctors also require communicative competence, so as to contribute to and exchange research findings at an international level, often also through the Internet and the latest web 2.0 tools (Tapscott & Williams 2006, Boaretto, Noci & Pini 2007).² Furthermore, they have to be ready to undertake conversational exchanges with foreign patients and their relatives – today a recognized need in hospitals and healthcare structures worldwide – and with other healthcare professionals they might encounter at refresher courses or conferences abroad.

Three fundamental linguistic skills are therefore necessary in healthcare professional settings (Ulrych 1994: 58): (i) reading and writing an article in English, since scientific research is conveyed mainly through on- and offline medical journals where the lion's share goes to the English language; (ii) the use of everyday informal spoken language, in order to socialize effectively with colleagues during meetings, courses, etc.; (iii) presenting orally and understanding papers at (international) medical congresses. To these, a fourth technical-linguistic ability must be added. It consists in surfing the web in search of the suitable medical / healthcare information, usually conveyed in English, the Internet language,

² The web has deeply changed the modalities of health communication both among citizens and health professionals. According to Gelatti *et al.* (2009), the majority of doctors use the Internet to access scientific advances with unquestionable advantages but also with some disadvantages. Indeed, the rapidity in getting information and its availability 24 hours a day are pointed out as positive aspects, though great concern has been expressed regarding the quality of health data that can be retrieved from the WWW, its trustworthiness remaining one of the most worrying and complex issues. A research project aiming to investigate the quality of the information offered by the web to medical professionals is still under way at the Universities of Brescia (Italy) and Lugano (Italian Switzerland). Preliminary results thereof were presented at the last *Medicine 2.0 Congress* (Toronto, Canada, Sept.17-18, 2009).

and in exchanging opinions, posing questions and giving answers in medicine-dedicated forums and blogs. These are by now an inalienable, precious source of data in any professional field, and in the medical sector too.

Both domestic and international editorial markets have long tried to meet such composite and multifarious learning necessities through the supply of ME manuals, textbooks and dictionaries / glossaries, all concentrating on different language skills and linguistic problems and directed at diverse target students.³ Nonetheless, prospective medical and healthcare specialists have increasingly been looking at the Internet as their privileged source of information and education, thus confirming the social, cultural and – for the specific purposes of this study – educational trend hinted at earlier in the paragraph.

1. Aims

This paper intends to present and briefly analyze a selection of the numerous web-mediated resources of ME, that is to say web-portals and websites offering English linguistic tools for the medical profession. The web, today's number one channel for communication, is certainly a valuable and easily available resource that can provide plenty of authentic reading material and useful learning aids in the field of medical English as well as for most other educational needs and purposes. Besides educational

³ International publications abound: to name but a few, Glendinning / Holmström (2005), in its third edition, is a volume designed for and used by doctors, medical students in the clinical phase of their studies and other medical professionals, who desire to develop speaking and listening skills primarily; Ribes / Ros (2007), compiled by two Spanish physicians and researchers, reports some very practical suggestions to deal with different communicative settings (international congresses, telephone calls, etc.); Grice (2003), designed for nurses that are non-native speakers of English, places itself in a critical period in the British NHS (and in European healthcare in general), when overseas nurses were being (and still are) recruited. It presents examples of formal medical English, colloquialisms, idioms and clinical notes. As to the Italian scenario, Nicotera (1985), Webber & Cichello (1985), Gotti (1991), Mungra (2004), Bettinelli, Carlini & Catenaccio (2005, 2006) are just a few examples of the plethora of works addressing undergraduates at the Faculties of Medicine in Italy and testify to the interest aroused by the discipline.

websites, this survey includes reference websites like online medical dictionaries and journals usually used to contextualize and exercise the linguistic notions acquired by ME students. These resources could be aptly employed by university lecturers and professors to teach both English and foreign undergraduates enrolled in the health sciences.

2. Corpus and method

The research corpus was assembled through an initial quantitative investigation by using the *Google* search engine to retrieve the most frequently visited websites and web-portals providing didactic material specifically meant for the study of ME. This was accomplished by using selected keywords (words and phrases), corresponding more or less to the organization of the paper itself: *ONLINE*⁴ *MEDICAL ENGLISH COURSE*, *ONLINE MEDICAL DICTIONARY*, *MEDICAL ENCYCLOPAEDIA*, *ONLINE MEDICAL JOURNAL*.⁵

The results were then analyzed qualitatively to identify each website's / web resource's peculiarities, and evaluate advantages and limitations thereof, in terms of layout, contents, usability / accessibility, and functionality. Special emphasis was given to the presence of interactive contents in light of the latest web 2.0 evolution, a change in communication that has shifted the focus of attention from the sender (i.e. the teacher of ME) of the message to the user (i.e. the student of ME), who is by now an active agent proposing and posting messages and discussion topics, thus favouring a consequent change in the way languages and many other disciplines can be – and actually are – taught and learnt. This is particularly suitable for the present paper's macroscope, that is to investigate Internet resources for ME in order to describe the existence of new trends in the field. The analysis has been carried out following a general descriptive slant, based upon the well-known studies on Content Analysis (Roberts 1997, Neuendorf

⁴ The keywords were all premodified by the term 'online' to avoid retrieving data regarding advertisements or descriptions of offline ME learning tools.

⁵ All the data and images reported were retrieved on 14 April 2009.

2002). The use of hypermedia web-mediated resources was investigated by relying on recent studies that apply Discourse Analysis to Multimodality and are usually grouped under the denomination of Multimodal Analysis (Kress – van Leeuwen 2001, 1996/2006; Iedema 2003; O’Halloran 2004; LeVine – Scollon 2004; Garzone 2007).

3. Analysis and discussion

3.1. Quantitative results

	keywords	entries
1	online medical English course	1,250,000
2	online medical dictionary	2,270,000
3	online medical encyclopaedia	1,760,000
4	online medical journal	20,400,000
		Tot.= 25,680,00

Table 1. Online medical English resources as retrieved from *Google*

Table 1 contains the web resources devoted to the teaching and learning of English returned by a basic search on www.google.com. They total a significant number (25,680,00 entries), thus testifying to the availability of several diverse didactic tools and methodological learning opportunities for ME students. Traditional genres (Table 1, pts 2, 3: dictionary and encyclopaedia) are prominently represented. The online medical journal proves to be the most widespread and available reference tool for those desirous to practice their English while keeping themselves abreast of the latest medical and health findings. Finally, a remarkable number of websites host medical English courses (Table 1, pt 1), each focusing on different aspects of the language – from the pronunciation of difficult medical terms to specific lexical exercises or reading comprehension samples on particular health subjects.

The following paragraphs offer a short description of the main features of these websites. For space constraints, it was chosen to consider, for each category, only some of the resources displayed on the first 10 pages returned by the Google search engine (see

Table 1, pts 1-6). The selection was carried out manually, taking into account such parameters as completeness of information / material displayed and innovative contents / methodological approaches. When possible, priority was given to non-UK or -US based sites, deeming it interesting to explore different diatopic and diastratic approaches to the same discipline.

3.2. *Qualitative results*

3.2.1. *Online medical English courses*

On close analysis, one realises that most websites offering ME courses returned by the quantitative investigation are maintained by academic language centres and regularly updated. The sites' authors responsible for the choice and compilation of their contents are usually given and always reachable through a contact link provided in the homepage. All the educational websites included in this survey allow free access to their material, though it is sometimes advisable to create one's own account to be able to keep records of the work done. They are usually designed for students who are learning English as a second language and deal with topics typical of second language instruction. Great attention is drawn to medical terms which may be new also to English-speaking learners, but also to basic grammar rules and vocabulary. Indeed, some of the websites visited are not specifically meant for foreign students; they are aimed to help English-speaking learners train as doctors, nurses, dentists or, for example, legal assistants specializing in personal injuries become acquainted with specific aspects of the written language, as well as with that part of medical terminology which is often obscure even to native speakers.

The hyperlink nature typical of webgenres is fully exploited here, since a list of links to other websites is provided so that each site can be an excellent starting point for those willing to improve their knowledge of medical English by making use of the immense possibilities offered by the web. Most of the resources consulted are suitable for self-study as they provide instant online feedback on the work done, with interactive exercises and immediate self-assessment. Multimodal resources, involving both auditory and visual semiotic elements, are usually present to involve the learner

as much as possible: homepages are attractively organized by making use of simple, brightly coloured graphics and pictures to create an overall look and feel of user-friendliness.

Englishmed – The website sponsored by the European Union through the Leonardo Da Vinci programme and promoted by the Elanguest English School in Malta takes up the top – and therefore the most clicked and promoted – position in the hits returned by Google.com. The most important factors contributing to its effectiveness are its user-friendliness, deriving from easy-to-follow graphics and a well-planned homepage, as well as its emphasis on participatory elements. Such a multimodal and multimedia nature is immediately made evident by the claim “medical English multimedia course” lying under the logo and displayed on top, left-hand position on every page. This announcement corresponds to a significant presence of several interactive devices involving the reader while also providing self-assessment tools for autonomous study. Suffice it to say that: (i) there are podcast links featuring cartoons where stylised characters play different healthcare roles in a given, standard situation; these are followed by related exercises requiring students to answer questions about what they have seen and listened to; (ii) a button on the top, horizontal menu (“medical English help”) refers users to another website, *Englishforums*, where they can pose questions to experts and receive answers like in a discussion forum; (iii) specific lexicon and syntactic issues are handled through exercises asking students to match up the right collocations among the terms provided; (iiii) the reading comprehensions and gap-fill exercises are all based on real medical documents and each article is endowed with a guided reading practice which, while reading, makes it possible to click on highlighted keywords to see a definition appear in a box on the right of the page.

But what makes this website an essential tool for those who want to learn medical English is the fact that it offers a complete online course where all the language abilities required for successful communication in an occupational setting can be developed: reading, writing, listening, and speaking. All the activities are meant for learners who are studying English as a second language and need to familiarize with medical terms, as well

as to improve their general knowledge of the language. Furthermore, the main vertical menu displayed in the homepage's centrepiece position allows students to choose the group they wish to study with (doctors, nurses, pharmacists, and general medical staff) and thus receive targeted and more specific information according to the special purpose their profession / role requires. By selecting any of the four categories suggested, another webpage opens up where learners can choose to work on the language skill they want to improve.

The screenshot shows the Englishmed.com homepage. At the top left is the logo 'englishmed.com' with the tagline 'medical english multimedia courses'. To the right are icons for a heart and a cross with the word 'Support'. Below the logo is a navigation bar with links: 'Start', 'Dialogues (Animated)', 'Resource centre', 'FORUMS!', and 'Email'. A search bar is located below the navigation bar. To the right of the search bar is a section titled 'Start (Here you can choose the group you wish to study with)' with a dropdown menu. Below the search bar is a 'Log In' section with links: 'Login with your account', 'Create new account', and 'Forgot your password?'. Below the 'Log In' section is a table of 'Exercises' with their respective counts:

Exercise	Count
Collocations	393
Articles	212
Recreating Articles	212
Reconstructing Articles	212
Irregular Verbs	212
Find The Articles	212
Find The Determiners	212
Find The Common Verbs	212
Gap filling	151
Word order	138
Hangman	138
Document Gap filling	87
Matching	86
Multiple choice	17

On the right side of the page, there are four main categories, each with an icon and a list of links:

- Doctors** (Icon: Stethoscope)
 - Visit to a surgery
 - About a problem
 - Fact
- Nurses** (Icon: First aid kit)
 - New relationships
 - Introductions
 - Resources
- Pharmacists** (Icon: Pills)
 - The Pharmacy
 - Reading exercises
 - Resources
- General Medical Staff** (Icon: Caduceus)
 - Surgery
 - Cartoons
 - Resources

Figure 1. *Englishmed* homepage

As for the listening skill, it is to be highlighted that this is the only website among those analyzed for this paper that enables users to practice listening comprehensions through dialogues between doctors and patients. Furthermore, dialogues sound natural, without the contrived feel of a scripted recording. To facilitate comprehension,

each audio file is associated with a video clip as well as with its written version, which can be read on the screen along with the voice interpreting it. Also available are pre-listening activities that make the listening exercise more complete and effective. A detailed description of what doctor and patient will talk about helps learners understand difficult vocabulary and idiomatic expressions. However, technical terms are reduced to a minimum and all conversations sound like everyday informal exchanges.

Also included are a list of medical terms (e.g. *HEARTBURN*, *WARD*, *OPERATION*) as well as a list of problematic words (e.g. *STRETCH*, *TURN*, *FAIRLY*), which allows further and more personal investigation. By clicking on any of them, learners find themselves connected with an online dictionary webpage where they can read a definition of the word they are not sure of before starting the listening exercise.

As a whole, this can be considered a useful resource for self-study, offering as it does an effective self-assessment system: indeed, after indicating their choice, learners submit their work for correction and get online feedback on correct and incorrect answers.

EFL Laboratory – The EFL Laboratory website is worth describing, firstly, because it targets all the main language skills for students enrolled in the health sciences, and secondly, because it is a Kuwait-based web resource, a fact that can also be inferred both from the pictures displayed on the homepage depicting female students wearing a veil on their head and from the Arabic translation provided in the vocabulary section. Here learners can “improve their reading, writing, listening, and vocabulary skills in the building blocks of the health sciences: medicine, biology, chemistry, and physics”, by using the resources provided by the website, which are orderly arranged in topics displayed in the main vertical menu on the homepage: Listening, Mechanics (i.e. grammar), Reading, Speaking Vocabulary, and Writing.

The Listening section offers a wide variety of listening comprehension exercises supported by vocabulary preview sections where the most difficult words the students will hear are introduced. There is also a special area providing listening clues about the subject the exercise will deal with and finally a follow-up activity

with reading comprehension questions. “Mechanics” provides grammar practice for those who need to learn prepositions and adverbial particles, brush up their verb tenses or improve their knowledge of phrasal verbs with fill-in-the-blanks exercises and passages to be edited for punctuation and grammar. All the grammar practice is contextualized as all the exercises are based on medical texts or common medical expressions. The “Writing” entry from the main menu allows learners to explore the structure of a written text providing information about academic writing, scientific essays, editing and revising, writing a lab report, and summarizing. Interestingly enough, the “Speaking” section contains suggestions on how to structure an oral presentation and handle questions after delivering a speech. The website also provides links to other renowned, reliable web resources, such as the *BBC’s Learning English* section and the *New York Times’* vocabulary section or other websites specifically dedicated to listening activities (e.g. *Englishlistening* 2009), thus turning out to have a ‘spider web’ structure, a ‘cover’ re-directing users to other external, presumably more qualified or complete resources.

Centre for Applied English Studies – The website featured by the English Centre of the University of Hong Kong offers valid help for “students majoring in Chinese medicine, dentistry and nursing”, who are trying to widen their knowledge of medical terminology. It concentrates mainly on vocabulary by referring the reader to the *Medical Terminology Website* (2009) and helps recognize frequently found medical terms by clarifying the meaning of the most common prefixes, suffixes, and word roots – difficult to understand even by native speakers – through the interplay of visual and verbal elements. A full list of prefixes, suffixes, and word roots in alphabetical order is also available for quick reference. The following illustrations are of prefixes showing position. Words in light blue are examples. It is possible to click on them for further explanations.

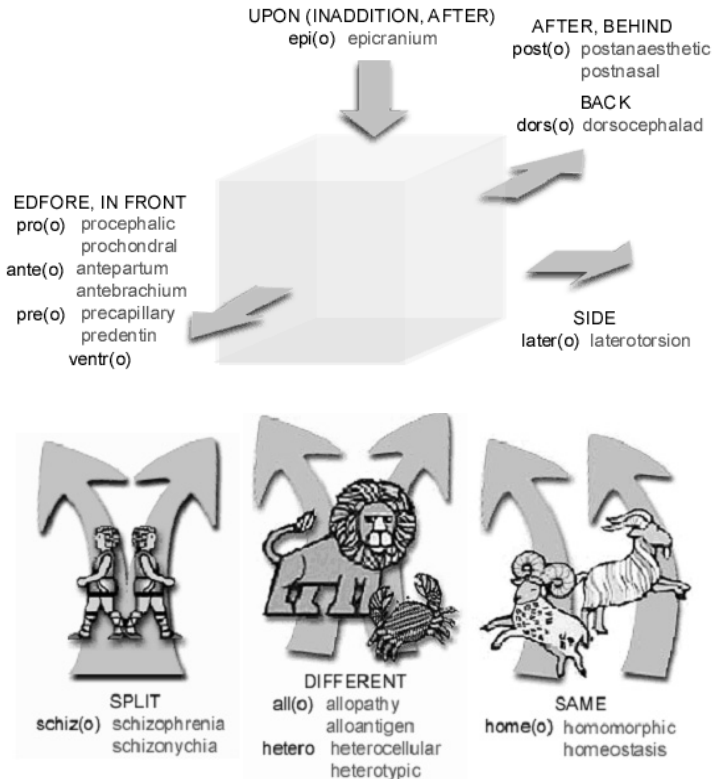


Figure 2. Illustration of prefixes showing position, CAES – Centre for Applied English Studies

By choosing the "Self-assessment tasks" option, learners can access multiple-choice tasks that provide instant feedback.

What makes this site a unique resource among those consulted for this survey is a pronunciation section which gives indications on how to pronounce the most common combination of letters in medical terms. All the information is not given through long and difficult explanations, but arranged in tables that clarify at first sight how the word should be pronounced also through the use of IPA transcriptions and the support of corresponding audio files.

HospitalEnglish – This US-based website contains free resources for medical professionals studying English as a second

language and a wide range of printable material, such as patient information forms and worksheets for reading prescriptions, and directions for use. It provides lots of vocabulary building activities and healthcare professional articles, accompanied by comprehension questions and follow-up exercises to reinforce the vocabulary and grammar structures seen in the article. Most of the material is also available in a special version for teachers with medical flashcards and lesson plans.

Medical Terminology Course, La Passerelle, Fauxpress – Among the other websites returned by the quantitative search, three are essentially those worth mentioning. They do not offer a complete online language course, but focus only on a specific aspect of medical English. Their main aim is to help native speakers understand medical terminology better.

The first, *Medical Terminology Course*, can be accessed from the Des Moines University, Iowa (US), website. Its goal is not only to teach the 300 medical terms advertised, but the basics of what makes up medical words, so that it should become easy to recognize and learn new terms when coming across them. By selecting the "Basics" option from the main menu before starting the vocabulary exercises, it is possible to learn a few fundamentals on how medical terminology is constructed; namely, the main prefixes, suffixes, and word roots used. The main menu lists ten different topics to choose from to practice medical terminology. The first five descriptors refer to the human body's systems (circulatory, nervous, digestive, respiratory, reproductive system male and female, urinary). The following table illustrates the meaning of the main terms referring to the nervous system:

Cephal/o	Head	Cephalgia (a headache)
Encephal/o	Inside the head (brain)	Encephalitis (inflammation of the brain) Anencephalic (born without a brain)
Mening/o	Membranes surrounding the brain and spinal cord	Meningitis (inflammation of the membranes)
Myel/o	Spinal cord	Myelogram (X-ray of the spinal cord)

Figure 3. The nervous system terms (*Medical Terminology Course*)

Each section features a link to a quiz page. Every quiz opens with a multiple-choice task based on the vocabulary area just learned. The answers can be submitted for correction and feedback on the questions are provided. The start over button allows learners to repeat the test.

The second website worth mentioning in this section is *La Passerelle*, hosted by a French online cultural magazine created in 1997. Here vocabulary competence can be tested using 12 different self-assessment activities which, far from giving a complete coverage of medical terminology, provide a stimulating way of testing it.

Finally, the website *Fauxpresse* owned by Jack Kimball offers sound reading practice by selecting from a menu listing four different medical topics: Nutrition, Sensory Anatomy, Skeletal and Orthopaedic Anatomy and The Heart. Also included is a well-organized list of medical links where the items are divided into seven categories: Basic Teaching Resources including links to

digital health sciences libraries and Universities, Anatomy, The Spine, Lungs, Environmental Medicine, Web Resources with links to dictionaries, American medical associations and libraries, and Articles. Finally, students can find information on how to write texts in health sciences by selecting the "Writing Exercises in Science" subentry. The purpose of the exercises is to give learners a chance to write well-crafted paragraphs. The first three exercises (Basic Points about Paragraphs, Classifying, and Using Transitions) help them write brief paragraphs about various topics in science and technology. Some of the words in the exercises are highlighted in brown and by clicking on them learners can read more about their meaning.

3.2.2. Online medical dictionaries and glossaries

Dictionaries and glossaries provide an essential tool for those who are faced with medical literature in English. If it is true that many medical terms are of Latin or Greek origin and therefore often easy to recognize for Italian, French, or Spanish learners, it is also true that their pronunciation may be significantly different and misleading. Moreover, where possible, they are often replaced by Anglo-Saxon words taken from everyday language. A good medical dictionary can help learners find both the general meaning of a word and the special meaning that it acquires if used in a medical context.

Among the medical dictionaries entries available, only those allowing free access and providing the most complete set of information about medical words were selected and are described in this paragraph. These feature both specialized (i.e. *Medterms* and *Medilexicon*) and non specialized (i.e. *OneLook*, *HyperDictionary*) or general (i.e. *TheFreeDictionary*) resources, which, as such, target different readerships, i.e. medical professionals or undergraduate students of health sciences vs. the general public, and are accordingly organized. They include alphabetical lists of words and provide their meaning, part of speech, derived words, etymologies, and often a guide to accepted pronunciation. Translation services are offered through links to other websites or an online glossary accessible from all the web-based dictionaries presented. The glossary provides a list of terms pertaining to the medical field with

no explanation or definition but only their translational equivalent in seven languages.

Online dictionaries and glossaries have not been specifically designed with an educational purpose, but they can be of great help in teaching medical language terminology both to native and non-native speakers who need to familiarize with the vocabulary used in the medical field. They tell learners a lot about words and how to use them in writing and speaking, thus helping them with word-building, grammar or pronunciation. Their being available on the Internet makes it easier to search them and retrieve all the necessary information.

The Free Dictionary – This online resource includes a medical, a legal, and a financial dictionary. The main sources of the medical section are general medical, dental, and veterinary dictionaries. Additional sources are encyclopaedias. By avoiding jargon, this lexicographic tool offers concise and easily accessible information about medical words and abbreviations as well as details about causes, symptoms, prevalence and risk factors.

It is possible to search *TheFreeDictionary* using four different search options: look up a word, find all the words beginning or finishing with the letters typed in the search box, scan all the articles containing that word. When looking up the word *MISCARRIAGE*, for example, the information displayed will be as follows:

MISCARRIAGE

Also found in: Dictionary / thesaurus, Medical, Legal, Acronyms, Idioms, Encyclopaedia, Hutchinson.

Miscarriage or *spontaneous abortion* is the natural or spontaneous end of a pregnancy at a stage where the embryo or the fetus is incapable of surviving, generally defined in humans at a gestation of prior to 20 weeks. Miscarriage is the most common complication of early pregnancy. [1] The medical term "spontaneous abortion" is used in reference to miscarriages because the medical term "abortion" refers to any terminated pregnancy, deliberately induced or spontaneous, although in common parlance it refers specifically to active termination of pregnancy.

Terminology

Very early miscarriages – those which occur before the sixth week LMP (since the woman's Last Menstrual Period) are medically termed *early pregnancy loss* [2] or *chemical pregnancy* .[3] Miscarriages that occur after the sixth week LMP are medically termed *clinical spontaneous abortion* <ref name="paternal smoking" />

In medical contexts, the word "abortion" refers to any process by which a pregnancy ends with the death and removal or expulsion of the fetus, regardless of whether it's spontaneous or intentionally induced. Many women who have had miscarriages, however, object to the term "abortion" in connection with their experience, as it is generally associated with induced abortions. In recent years there has been discussion in the medical community about avoiding the use of this term in favor of the less ambiguous term "miscarriage".[4]

Labour resulting in live birth before the 37th week of pregnancy is termed "premature birth", even if the infant dies shortly afterward. Although long-term survival has never been reported for infants born from pregnancy shorter than 21 weeks, infants born as early as the 16th week of pregnancy may cry and live a few minutes or hours. [5]

A fetus that dies while in the uterus after about the 20th week of pregnancy is termed a "stillbirth". Premature births or stillbirths are not generally considered miscarriages, though usage of the terms and causes of these events may overlap

The Free Dictionary, s.v. *MISCARRIAGE*

As is shown by the above example, the definition of the lemma usually follows a standard structure: i.e. other sources in *TheFreeDictionary* where the same lexeme can be found, a general medical definition and, lastly, other terms or senses of the same term in different medical contexts / cases. Moreover, the general purpose section can help contextualize specific medical terms, as well as expose non-English speaking students to general English.

OneLook – *OneLook* is addressed to the non specialist. Indeed, it is not technically a dictionary but a search engine for words and phrases: if users need to find the definition or translation of a word, it will take them to the web-based dictionaries that can define or

translate it. About 6 million words in more than 900 dictionaries, including medical dictionaries, are indexed by this search engine.

Moreover, it is possible to enter a wildcard pattern where users, if uncertain of the spelling of a word, can use asterisks to match any sequence of letters (*CARDIO** will find all the words beginning with *CARDIO-*: *CARDIOVASCULAR*, *CARDIOPULMONAR* and so on) or question marks to match one single letter (*C???IOVASCULAR*). Interestingly, *OneLook* website features a reverse dictionary that allows you to describe a concept and retrieve words and phrases related to it.

HyperDictionary – Also *Hyperdictionary* is a non specialist resource, an educational tool providing free dictionary services. It includes English dictionaries, computer dictionaries, thesauruses, dream dictionaries, and medical dictionaries. The results are displayed in an easy and user-friendly way. They include pronunciation, definition, synonyms, and links to external websites offering articles about the subject of the query.

When looking up the lemma *MISCARRIAGE*, there appears the following description:

Meaning of MISCARRIAGE

Pronunciation: mis'karij

WordNet Dictionary

Definition: [n] a natural loss of the products of conception

[n] failure of a plan

MISCARRIAGE is a 11 letter word that starts with M.

Synonyms: abortion, spontaneous abortion, stillbirth

Antonyms: live birth

See Also: abortion, failure, habitual abortion, imminent abortion, incomplete abortion, partial abortion, threatened abortion

Webster's 1913 Dictionary**Definition:** \Mis*car"riage\, n.

1. Unfortunate event or issue of an undertaking; failure to attain a desired result or reach a destination.

When a counselor, to save himself, Would lay
miscarriages upon his prince. --Dryden.

Ill conduct; evil or improper behavior; as, the
failings and miscarriages of the righteous. --
Rogers.

2. The act of bringing forth before the time; premature birth.

Medical Dictionary

Definition: spontaneous termination of a pregnancy before the fetus has developed enough to survive outside the uterus.

Dream Dictionary

Definition: dreaming that you have a miscarriage, suggests that some idea or plan did not follow through or has gone awry. The dream may also serve as a warning against your continued course of action. You should alter your path or may risk losing something of significance and value to you. Alternatively, the dream may indicate that you have been wronged in some way. For expectant mothers, dreams of miscarriages are common in the second trimester of pregnancy.

Thesaurus Terms

Related Terms: abortion, abortive attempt, breakdown, clerical error, collapse, corrigendum,

defeat, dud, erratum, error, failing, failure, fault, faute, frustration, human error, merry chase, misapprehension, miscalculation, miscarrying, misconception, miscount, misdeal, misfire, misidentification, misjudgment, mismanagement, misplay, misprint, misquotation, misreport, miss, misstatement, mistake, misunderstanding, misuse, typo, typographical error, vain attempt, wet squib, wild-goose chase.

(*Hyperdictionary*, s.v. *MISCARRIAGE*, retrieved on 7 May 2013).

As is shown by the above example, *Hyperdictionary* acts as a general, non specialist dictionary, where not only phonetic, morphological and semantic definitions / indications are given, but also historical explanations (see Webster's dictionary) alongside some sample quotations from authoritative authors and thesaurus hyperlinked terms. As expected, the specialist section takes up only a small amount of space.

Medterms – *Medterms* is available at an online, healthcare media publishing company website, *Medicine.Net.com*. It is a specialized dictionary compiled by doctors, which provides quick access to hard-to-spell and often misspelled medical definitions through an extensive alphabetical listing. It is specified in the homepage that the dictionary is written with consumers and patients in mind. By clicking on the "Medterms Dictionary" button, it is possible to get easy-to-understand explanations of more than 16,000 medical terms. If users are not sure of the spelling of a word, they can type in the first few letters followed by an asterisk.

When looking up a word (i.e. *MISCARRIAGE*), the dictionary behaves as a search engine which returns either the single term *MISCARRIAGE* (and its definition) or a string of words / an extract from a text / webpage where *MISCARRIAGE* occurs within the same semantic environment of other terms (i.e. *ABORTION*, Figure 4). Users can then click on the link(s) they are interested in and view both the definition and the real usage context of the word under scrutiny.

Home Slideshow Pictures Image Collection Quizzes Diseases & Conditions Symptom Checker Health & Living Medications MedTerms Dictionary Pet Health

May 7, 2013

MedicineNet.com
We Bring Doctors' Knowledge to You

miscarriage Search

Results for: miscarriage Refined by MedTerms Dictionary [undo]

• Spontaneous Abortion Info | zult.info/Spontaneous
zult.info/Spontaneous - Learn More

• Get Pregnant Naturally | conception.com
conception.com.ng/cb.htm - Discover a Chinese Ancient System of Getting Pregnant Naturally

1-10 of 49 results

Multiple miscarriage
Multiple **miscarriage**. More than one **miscarriage** for a woman. In multiple **miscarriages**, there is about a 5 percent chance that one member of the couple is...
Source: MedicineNet

Miscarriage, multiple
Miscarriage, multiple. More than one **miscarriage** for a woman. In multiple **miscarriages**, there is about a 5 percent chance that one member of the couple is...
Source: MedicineNet

Miscarriage
Miscarriage. Inadvertent loss of a pregnancy before the fetus is viable. A considerable proportion of pregnancies end in **miscarriage**. Also known as spontaneous abortion

Chromosomes in multiple miscarriages
Chromosomes in multiple **miscarriages**. Chromosome abnormalities (such as deletions, additions, or translocations) that are responsible for causing **miscarriages**. A couple that has had more than one...
Source: MedicineNet

Stillbirth
...delivery of a fetus that has died before birth for which there is no possibility of resuscitation. The distinction between a **stillbirth** and a **miscarriage** is arbitrary. The dividing line has...
Source: MedicineNet

Abortion
...is the loss of a pregnancy and does not refer to why that pregnancy was lost. A spontaneous abortion is the same as a **miscarriage**. The **miscarriage** of 3 or more consecutive pregnancies is termed...
Source: MedicineNet

Abortion, artificial
Abortion, artificial. An abortion that is brought about intentionally. Also called an induced or therapeutic abortion. As opposed to a spontaneous abortion (a **miscarriage**)
Source: MedicineNet

Spontaneous abortion
Spontaneous abortion. A **miscarriage**, that is, any pregnancy that is not viable (the fetus cannot survive) or in which the fetus is born before the 20th week of...
Source: MedicineNet

Figure 4. Search for the word *MISCARRIAGE* (*MedTerms, MedicineNet.com*)

Medilexicon This is a dictionary listing over 200,000 medical, pharmaceutical, biomedical, and healthcare acronyms and abbreviations that can be retrieved by using an alphabetical list (only for members) or a search engine box. It is possible to search either by abbreviation or by definition. This is the answer users would get if they were looking up the acronym ENT:

The acronym / abbreviation matching your exact criteria are shown below:		
ENT		
Ear, nose and throat		Medical Articles
Embryonic Nervous Tissue		Medical Articles
Enzootic Nasal Tumor		Medical Articles
Equilibrative Nucleoside Transporter		Medical Articles
Extranodular Tissue		Medical Articles
Enterostatin		Medical Articles
Entorhinal Cortex		Medical Articles

Table 2. Search by abbreviation for the acronym ENT (*Medilexicon*)

Table 2 shows how each definition is accompanied by a medical article where learners / users can view how each term is used in a specific context.

Salus – Possibly the most complete glossary of medical terms can be accessed on this Italian-based website. After selecting the look-up language, users can browse through an alphabetical list of medical terms. No definition or explanation is provided for the words included in the list. They are simply followed by their technical equivalent, as well as their popular corresponding term in italics. Every word is also preceded by two buttons: one is a link to a very important multilingual lemma collection providing translations in eight languages, the other takes the user to a glossary in the selected language. Also included is an English dictionary that provides definitions of words and phrases. Here is part of the list of the medical terms that can be found under the letter "u":

- *ulcer* (pop) , **ulcer**
- **ulcer** , *ulcer* (pop)
- *ulcer-causing* (pop) , **ulcerogenic**
- *ulceration* (pop) , **ulceration**
- **ulceration** , *ulceration* (pop)
- **ulcerogenic** , *ulcer-causing* (pop)
- **ulcus cruris** , *foot ulcer* (pop)
- *unconscious* (pop) , **autonomic**
- *under the skin* (pop) , **hypodermic**

- *under the white of the eye covering* (pop) , **subconjunctival**
- *under the tongue* (pop) , **sublingual**
- *underactive thyroid* (pop) , **hypothyroidism**
- *understood* (pop) , **cognitive**
- *unfavourable* (pop) , **infaust**
- *uniform* (pop) , **homogeneous**
- *uniform* (pop) , **uniform** [...]

(*Salus*, Medical terms under the letter ‘u’)

3.2.3. *Online medical encyclopaedias: UK Health Encyclopaedia & US MedlinePlus*⁶

Among the medical or healthcare encyclopaedias returned by our search, two are worth reporting and describing for the present study: the UK *Health A-Z* and the US *MedlinePlus* encyclopaedias, both ranking in top positions. They are certainly two useful and reliable tools, the first being featured by the UK *NHS* and the second by the *US National Library of Medicine*, in turn maintained by the *US Department of Health and Human Services*.

MedlinePlus includes over 4,000 articles about diseases, tests, symptoms, injuries, and surgeries that are searchable by alphabetical order. Many definitions, which are usually simple from a syntactic point of view and quite concise to fit a webpage, are endowed with photographs and illustrations to visually explain complex subjects, both to complement the health content and to enhance the educational value of the topics touched upon. Content is physician-reviewed and physician-updated, in collaboration with skilled consumer medical editors and writers, thus constituting a trustworthy source of information for all ME students.

⁶ To get further information on the two resources, see Grego (2008) and Vicentini (2008).



Figure 5. MedlinePlus homepage

Also the UK *Health A-Z* encyclopaedia, containing 2,000 entries and representing a substantial part of the UK NHS website, emphasizes the visual element, enabling the user to look for the condition or treatment desired by clicking on the related part of the human body.

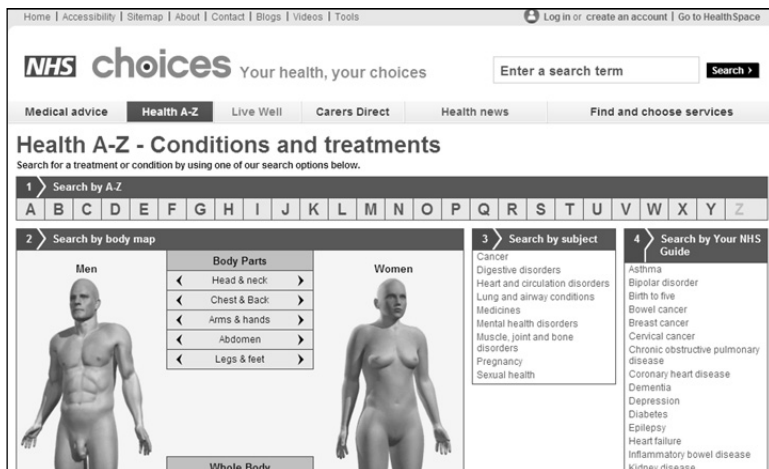


Figure 6. Health A-Z, NHS

3.2.4. *Online medical journals*

Most of the sites dealing with medical English provide links to online medical journals. They publish original and well-documented articles on a wide range of topics mainly to foster debate on issues affecting medicine and healthcare among physicians or health professionals.

Although they are not specifically meant for language instruction, they can be a source of authentic reading material to help learners develop their reading skills. Among the online journals returned by Google.com those worth describing are: *The British Medical Journal*, *The Lancet*, *The Journal of the American Medical Association* and *Annals of Internal Medicine*. They provide free access to all online content and features to subscribers only; however, all those who register receive free online access to abstracts and full texts of past articles as well as to new ones a few months after publication. Current and past issues of the journals can be searched by typing in a few key words in the search box featured in their home pages, or through an advanced search system that retrieves articles by their author, title, or volume.

British Medical Journal – The *BMJ* site was launched in 1995 and contains the full text of all articles published in the weekly print version since January 1994, along with material that is unique to the website.

It is UK-based and requires subscription (but some sample contents are free). It is published in both print and online version, with the online contents being available in both PDF and HTML formats. The main text genre is academic. The communication type is intraspecialistic and interspecialistic, and the lexis is mainly technical.

The website opens with a colourful home page listing, among other features, the contents of the current issue of the magazine. By typing in key words in the search box, users can carry out the same kind of search in more than 800 different online medical journals at the same time. By clicking on "Topic", it is possible to select a specialty and get details of all relevant articles published about it since 1998. Moreover, those who subscribe to the e-mail alerts service will receive an e-mail message every time a new article about a selected topic is published. *BMJ* is also a highly interactive

site trying to promote stimulating problem-based learning for healthcare professionals through webchats, blogs, polls and debates. Podcasts for commentaries, interviews, and summaries of articles provide excellent listening practice opportunities for learners of English as a second language and there is no need to be signed in to listen to them.

Another significant feature of *BMJ* is *Student BMJ*; a monthly international medical journal for students with an interest in medicine. It was launched in 1995 and contains articles that have been specially commissioned with medical students in mind. The journal is split into various sections including “Education”, featuring articles written by experts who are asked to include the kind of information not normally found in textbooks, and “Papers” that presents the world of original scientific research accompanied by commentaries.

BMJ helping doctors make better decisions

What do you do with 108,000 search results?

Student BMJ

student BMJ

The Student BMJ website will be relaunched later on this month. The April issue of Student BMJ will be available on the new site.

Send an email to: response.studentbmj@bmj.com if you want to be informed when the new site goes live.

Apologies for any inconvenience caused, but we are sure the new website will be worth the wait.

WHAT SHOULD DOCTORS WEAR?

Life

Medical student fashion

What do medical students wear around the world? We asked medical students around the world what they wear

Submit your international medical student events today!

We need picture quizzes. Submit yours now. (see [author guidelines first](#))

Student BMJ on Facebook

Online poll

Should drug industry staff teach

Student BMJ

Student BMJ

Home

Current Issue

Archive

Journal Reviews

Web Only

Subscribe

Topic Collections

Interactive

Rapid Response

RSS Service

International Experience

Careers Zone

Write For Us

Author Guidelines

How To Write

About Us

About Student BMJ

Contact Us

Reviewer Guidelines

Site Map

Accessibility

Out There

Links

Notice Board (updated!)

Figure 7. *Student BMJ*

Journal of the American Medical Association (JAMA) – Besides publishing original articles on a wide range of medical topics, *The Journal of American Medical Association* provides links to many other specialized journals available online as well as CareerNet services, a career resource for physicians and CME (Continuing Medical Education), that enables physicians to get a certificate by reading articles and completing an online quiz.

Another interesting feature that makes the site particularly suitable for language learners is the opportunity to listen to podcasts and audio files of commentaries on the week's issue of the journal.

The Annals of Internal Medicine – *The Annals of Internal Medicine* was established in 1927 by the American College of Physicians and is a leading journal for studies in internal medicine. Like other online journals it publishes original articles, reviews, clinical conferences, and other information relevant to internal medicine and related fields.

4. Conclusions

The analysis of the resources available online for ME has provided evidence that the educational potential of the Internet is immense. Some general considerations can be drawn in spite of the volatile, multi-faceted nature of such a medium.

There appears to emerge a general tendency of hybridization and embedding / merging of different learning tools – and consequently genres – into one. This provides different solutions that may cater for different language abilities and needs with the least effort. Thus online ME dictionaries' and journals' websites include links referring to forums and blogs, while online ME courses often refer learners to specialized dictionaries or sections of general lexicographic tools. This trend is of course in line with the general process of genre hybridization⁷ and of change that the advent of the

⁷ With the term hybridization reference is made to the ultimate tendency of webgenres of encompassing various different genres or subgenres that can or cannot be multimedia / multimodal (see Askehave / Ellerup Nielsen 2005, Emigh / Herring 2005, Bhatia 2004, Kwaśnik / Crowston 2005, Garzone 2007, Santini 2006, 2007, Caballero 2008).

web has triggered off. This can cause confusion, though it presumably satisfies the learners' needs for multiple, embedded functions into (apparently) just one tool. The other evident and rising phenomenon is that of the deployment of multimodal and multimedia contents, which once again exploits the web's potentialities, thus producing, for example, highly interactive courses making use of visual, auditory, and verbal elements.

The online medical English courses are generally designed for medical (i.e. undergraduate) students, doctors, medical, or paramedical professionals who are learning English as their second language, though some resources can be found directed at native speakers too. In the latter case the exercises usually insist on some difficult orthographical or lexical aspect of the language. Instead, when non-native learners are at issue, the English courses usually aim to develop two of the abilities required for successful communication in occupational settings: firstly, that of acquiring the jargon of that particular work context; secondly, that of coping with medical readings of all kinds, from case notes to research papers. Only a few websites provide listening comprehension practice or activities connected with the oral interaction between patient and doctor. Non-English learners, in fact, need to be able to communicate in English mainly with colleagues from abroad and that happens essentially, apart from congresses, through written documents.

Despite having no explicit educational purpose, online dictionaries and glossaries are essential reference resources for native and non-native speakers who want to read or write papers in the health sciences field. They also provide a valid tool to help learners understand and memorize new words offering easy and fast access to information. They usually include a list of links that enable students to widen their knowledge of words through their synonyms, antonyms, and related terms and often suggest useful readings that can contextualize them. The same considerations apply to health encyclopaedias.

As for online medical journals, they provide an important insight into medical research. Despite not being specifically meant for second language instruction, they can be a valid help in teaching reading skills. Medicine is one of those fields where innovation and development are constant. It is important to ensure that all

medicine-related teaching material reflects the most recent advances. Every teacher knows how difficult it is sometimes to teach reading comprehension due to the lack of recent authentic material on the one hand, and to the problems encountered when trying to keep the interest and the attention of learners, on the other. The Internet can be of great help by providing up-to-date reading material and texts that are more appealing to read because of the use of colour, sound, and active links.

There exist different types of teachers that can avail themselves of the online resources analyzed for this study. For example, there are ESP instructors who specifically deal with medical English at university health science courses; just as there are teachers teaching English as a second language who implement their lessons with some specialized medical lexis. Some online resources are destined to teachers only, while others provide exercises for self-study (and so with keys) that do not necessitate the constant support of an educator.

If used in ESP courses, all these online resources for medical English offer the possibility to overcome one of the main problems teachers encounter in this kind of classes, that is the heterogeneous background of students due to their different language level, prior education, and work experience. If used in a mixed background group, an online course may allow each learner / student to choose the activities that are more suitable for his or her level and interests.

In sum, if knowledge of ME has been one of the historical disadvantages of healthcare professionals from non-English-speaking countries, the Internet and its ME resources can help shift the focus of attention to that practical approach to the language that healthcare professionals in general, and physicians in particular, need to master if they are to satisfy the current requirements imposed by their work.

References

- Askehave, I. & A. Ellerup Nielsen 2005, "What are the characteristics of digital genres? Genre theory from a multi-modal perspective", in *Proceedings of the 38th Hawaii International Conference on System Sciences, Computer Society Press, Hawaii*, 3-6 January 2005, pp. 98a.

- Barber, C.L. 1962, "Some measurable characteristics of modern scientific prose", in *Contributions to English Syntax and Philology*, Acta Universitatis Gothoburgensis, Goteburg, pp. 21-43.
- BBC Learning English 2009, available at <http://www.bbc.co.uk/worldservice/learningenglish/language/>, last consulted on 14 April 2009.
- Bettinelli, B., N. Carlini & P. Catenaccio 2005, *English for Medicine*, vol. 1, Hoepli, Milano.
- Bettinelli, B., P. Catenaccio & K. Beatty 2006, *English for Medicine*, vol. 2, Hoepli, Milano.
- Bhatia, V. K. 1993, *Analyzing Genre: Language Use in Professional Settings*, Longman, London.
- Bhatia, V. K. 2004, *Worlds of Written Discourse: A Genre-Based View*, Continuum, London.
- Boaretto, A., G. Noci & F. Pini 2007, *Marketing reloaded. Leve e strumenti per la co-creazione di esperienze multicanale*, Il Sole 24 Ore Pirola, Milano.
- Bolter, J.D. & R. Grusin 1999, *Remediation. Understanding new media*, MIT Press, Cambridge.
- Bressanelli, M. *et al.* 2009, "What do portals for doctors offer? A qualitative analysis of their features for the enrichment of expert knowledge", paper presented at the last Medicine 2.0 Congress (Toronto, Canada, Sept.17-18).
- Caballero, R. 2008, "Theorizing about genre and cybergenre", *CORELL: Computer Resources for Language Learning*, 2, pp. 14-27.
- CAES – Centre for Applied English Studies 2009, available at www.ec.hku.hk, last consulted on 14 April 2009.
- Cortese, G. & P. Riley (eds) 2002, *Domain-Specific English: Textual Practices across Communities and Classrooms*, Peter Lang, Bern.
- Dudley-Evans, T. & M. St John 1998, *Developments in ESP: A Multi-Disciplinary Approach*, Cambridge University Press, Cambridge, England.
- EFL Laboratory 2009, available at <http://amarris.homestead.com/index.html>.
- Emigh W. & S. C. Herring 2005, "Collaborative authoring on the web: A genre analysis of online encyclopedias", in *Proceedings of the 38th Hawaii International Conference on System Sciences "Collaboration Systems and Technology Track"*, Hawaii, 3-6 January 2005, pp. 99a.
- Englishforums 2009, available at www.englishforum.com, last consulted on 14 April 2009.
- EnglishListening 2009, available at www.englishlistening.com, last consulted on 14 April 2009.
- EnglishMed 2009, available at www.englishmed.com, last consulted on 14 April 2009.

- Fauxpress 2009, available at <http://www.fauxpress.com/kimball/w/logo.htm>
- Garzone, G. 1998, "Lingue speciali, linguaggi specialistici," in D. Antelmi, G. Garzone and F. Santulli (eds), *Lingua d'oggi: varietà e tendenze*, Arcipelago, Milano, pp. 73-142.
- Garzone, G. 2006, *Perspectives on ESP and popularization*, CUEM, Milano.
- Garzone, G. 2007, "Genres, multimodality and the World Wide Web: Theoretical issues", in Garzone G., G. Poncini and P. Catenaccio (eds), *Multimodality in Corporate Communication. Web Genres and Discursive Identity*, Franco Angeli, Milan.
- Gavioli, L. 2005, *Exploring Corpora for ESP Learning*, Benjamins, Amsterdam, Philadelphia.
- Gelatti, U. et al. 2009, "What do portals for doctors offer? A qualitative analysis of their features for the enrichment of expert knowledge", in *Proceedings of the Congress Medicine 2.0*, 17-18 September 2009, Toronto, Canada.
- Glendinning, E. & B. Holmström 2005, *English in Medicine*, Cambridge University Press, Cambridge, 3rd edn.
- Gotti, M. 1991, *English for medicine*, Zanichelli, Bologna.
- Gotti, M. 2003, *Specialized Discourse: Linguistic Features and Changing Conventions*, Peter Lang, Bern.
- Gotti, M. 2005, *Investigating Specialized Discourse*, Peter Lang, Bern.
- Grego, K. 2008, "Medical English and institutional communication: Linguistic accessibility to ethically-sensitive topics in national health systems' websites – UK vs. USA", in M.A. Campos Pardillos and A. Gómez González-Jover (eds), *Proceedings of the 1st International Conference on Language and Healthcare, Alicante, Spain, 24-26 October 2007*, IULMA, Alicante, electronic edition.
- Grice, T. 2003, *Everyday English for Nursing*, Elsevier Health Sciences, Oxford.
- HospitalEnglish 2009, available at www.hospitalenglish.com, last consulted on 14 April 2009.
- Hutchinson, T. & A. Waters 1987, *English for Specific Purposes: A learning-centred approach*, Cambridge University Press, Cambridge, England.
- HyperDictionary 2009, available at www.HyperDictionary.com, last consulted on 14 April 2009.
- Ibba, M. 1994, *L'inglese delle scienze biomediche nel contesto accademico*, Pubblicazioni del Centro di Linguistica dell'Università Cattolica, La Scuola, Brescia, pp. 41-55.
- Iedema, R. 2003, "Multimodality, resemiotization: Extending the analysis of discourse as multi-semiotic practice", *Visual Communication* (2)1, pp. 25-57.
- Kress, G. & T. van Leeuwen [1996]2006, *Reading Images. The Grammar of Visual Design*, Routledge, London & New York, 2nd edn.

- Kress, G. & T. van Leeuwen 2001, *Multimodal Discourse*, Arnold, London.
- Kwaśnik, B. H. & K. Crowston 2005, "Introduction to the special issue: Genres of digital documents", *Information, Technology & People*, 18: 2, pp. 76–88.
- La Passerelle 2009, available at www.lapasserelle.com, last consulted on 14 April 2009.
- LeVine, P. & R. Scollon (eds) 2004, *Discourse and Technology. Multimodal Discourse Analysis*, Georgetown University Press, Washington.
- Medical Terminology Course 2009, available at www.dmu.edu/medterms, last consulted on 14 April 2009.
- Medical Terminology Website 2009, available at <http://147.8.224.21/mt/>, last consulted on 14 April 2009.
- Medilexicon 2009, available at www.medilexicon.com, last consulted on 14 April 2009.
- MedlinePlus 2009, available at <http://www.nlm.nih.gov/medlineplus/>, last consulted on 14 April 2009.
- Medterms 2009, available at www.medterms.com, last consulted on 14 April 2009.
- Mungra, P. 2004, *Reading Skills in Medical English*, A. Delfino, Roma.
- Neuendorf, K.A. 2002, *The Content Analysis Guidebook*, Sage, Thousand Oaks, CA.
- New York Times 2009, "New York Times learning section", available at <http://learning.blogs.nytimes.com/>, last consulted on 14 April 2009.
- NHS 2009, available at <http://www.nhs.uk/Pages/HomePage.aspx>, last consulted on 14 April 2009.
- Nicotera, G. 1985, *Medical English*, Monduzzi, Bologna.
- O'Halloran, K. (ed.) 2004, *Multimodal Discourse Analysis. Systemic-Functional Perspectives*, Continuum, London.
- OneLook 2009, available at www.onelook.com, last consulted on 14 April 2009.
- Proz 2009, available at www.proz.com, last consulted on 14 April 2009.
- Ribes, R. & R. Pablo Ros 2007, *Medical English*, Springer-Verlag, Berlin/Heidelberg.
- Roberts, C.W. (ed.) 1997, *Text Analysis for the Social Sciences: Methods for Drawing Inferences from Texts and Transcripts*, Lawrence Erlbaum, Mahwah, NJ.
- Salus 2009, available at www.salus.it, last consulted on 14 April 2009.
- Santini, M. 2006, "Interpreting genre evolution on the Web: Preliminary results" in *Proceedings of the 11th conference of the European Chapter of the Association for Computational Linguistics (EACL)*, Trento, Italy, April 3-7.
- Santini, M. 2007, "Characterizing genres of web pages: Genre hybridism and individualization", in *Proceedings of the 40th Hawaii International Conference on System Sciences (HICSS-40)*, Hawaii (USA), 3-6 January 2007.

- Strevens, P. 1988, "ESP after twenty years: A re-appraisal," in M. Tickoo (ed.), *ESP: State of the Art*, SEAMEO Regional Centre, Singapore, pp. 1-13.
- Student, BMJ 2009, available at <http://student.bmj.com/student/student-bmj.html>, last consulted on 14 April 2009.
- Swales, J.M. & C. Feak 2004, *Academic Writing for Graduate Students*, University of Michigan Press, Ann Arbor.
- Swales, J.M. (ed.) 1985, *Episodes in ESP*, Pergamon, Oxford.
- Swales, J.M. 1971, *Writing Scientific English*, Thomas Nelson, London.
- Tapscott, D. & A.D. Williams 2006, *Wikinomics: How Mass Collaboration Changes Everything*, Penguin Group, London.
- The Annals of Internal Medicine 2009, available at www.annals.org, last consulted on 14 April 2009.
- The British Medical Journal 2009, available at <http://www.bmj.com/>, last consulted on 14 April 2009.
- The Free Dictionary 2009, www.thefreedictionary.com, last consulted on 14 April 2009.
- The Journal of the American Medical Association 2009, available at <http://jama.ama-assn.org/>, last consulted on 14 April 2009.
- The Lancet 2009, available at www.thelancet.com, last consulted on 14 April 2009.
- Ulrych, M. 1994 "Lexical Aspects of Medical English: an Italian Perspective", in Ibba M. (ed.), *L'Inglese delle scienze biomediche nel contesto accademico*, Pubblicazioni del Centro di Linguistica dell'Università Cattolica, La Scuola, Brescia, pp. 57-68.
- US Department of Health and Human Services 2009, available at <http://www.hhs.gov/>, last consulted on 14 April 2009.
- US National Library of Medicine 2009, available at <http://www.nlm.nih.gov/>, last consulted on 14 April 2009.
- Vicentini, A. 2008, "Strategies for communicating ethical and legal issues in medical research: A linguistic analysis of WHO's and NHSS' webpages", in M.Á. Campos Pardillos and A. Gómez González-Jover (eds.) 2008, *Proceedings of the 1st International Conference on Language and Healthcare*, Instituto Interuniversitario de Lenguas Modernas Aplicadas (IULMA), Universidad de Alicante (Spagna), 24-26 October 2007. Alicante: IULMA, CD-ROM, electronic edition.
- Webber, P. & S. Cichello 1985, *English in Medical Sciences*, Zanichelli, Bologna.
- Widdowson, H.G. 1998, "Communication and community. The pragmatics of ESP", *English for Specific Purposes*, vol. 17, 1, pp. 3-14.
- WordReference 2009, available at www.wordreference.com, last consulted on 14 April 2009.

English Toolbox for Nurses: A meaningful learning experience

Jaana Helena Simpanen
jaanahelena.simpanen@unipa.it

Antonina Ausilia Uttilla
antonella.uttilla@virgilio.it

*I forget what I was taught.
I only remember
what I have learned.
(Patrick White, Nobel Prize
for Literature in 1973)*

1. Introduction

It is a fact that English is now a prerequisite for a great number of national and international activities, and it is almost impossible to avoid contact with it, as the global village is constructed in English. This is particularly the case for certain professional fields, as noted by Modiano: “Individuals who desire or need to participate in the international movement will be rendered incapable of doing so without English” (2001: 341).

Today English may be seen “as a neutral *lingua franca* or it may be seen more insidiously as a dominating and overpowering force” (Tardy 2004: 247). This means that its role as a common language is not uncontroversial; in fact, Gil and Najjar state that “English as a global language is complex and multifaceted. It is not simply just beneficial or destructive, good or bad, liberating or oppressing, but rather all of these things, to varying degrees, at the same time” (2009: 6).

Thus we have to consider the use and the status of all languages in a wider context since almost all areas of life have been touched by globalisation some way. McGrew (1992: 65-66) states that “languages” along with “goods, capital, people, knowledge, images, communications, crime, culture and pollutants, drugs, fashion, and beliefs readily flow across territorial boundaries”.

At the centre of the global communication network is English which appears, as de Swaan (2001: 6) points out: “the hypercentral language that connects the supercentral languages with one another and that therefore constitutes the pivot of the world language system”.

This means that globalization clearly presents dilemmas to English language teachers, who “as a part of their professional responsibility, should be aware of the impact they have on the students they teach” (Iganawa 2010: 298). Moreover, globalization also requires us to reconsider approaches and methods that are used for teaching English since “English language education is certainly one of the fields where the consequences of globalization are seriously felt by teachers and students, as well as the rest of society” (Iganawa 2010: 299).

1.1. ESP background

English Language Teaching (ELT) has brought about many changes in the last past forty years. One of the most interesting developments regards the division of English as a Foreign Language (EFL) into General English (GE) and English for Specific Purposes (ESP) (Vičič 2011) which emerged in the late 1960s and whose development “was accelerated by the Oil Crises of the early 1970s” (Hutchinson & Waters 1987: 7).

In fact, Crystal (1990: 7), talking about the development of the English language as the medium of global communication, states that: “when a language, like a nation, exercises a new-found influence in world affairs, several things happen. People begin to study it in unprecedented detail”.

Against this background, in a short time, English became a big business, and “time and money constraints created a need for cost-effective courses with clearly defined goals” (Hutchinson & Waters 1987: 7). Consequently, there was both “a general raising of consciousness” (Crystal 1990: 7), and “an ever-increasing need for quality English Language Teaching” (Vičič 2011: 107).

At the same time “influential ideas began to emerge in the study of language” (Hutchinson & Waters 1987:7). The new studies did not focus on the formal aspects of the language but shifted to the research on the ways language is actually used in real

communication (Widdowson 1979). The findings of these studies showed that the language we use varies greatly, and in many ways, from one context to another (Hutchinson & Waters 1987).

In English language teaching this result gave rise to the idea that there are “differences between, say, the English of commerce and that of engineering” (Hutchinson & Waters 1987: 7) and led to the development of English courses for specific groups of learners. The statement Tell me what you need English for and I will tell you the English that you need (Hutchinson & Waters 1987: 8) expresses in a clear short form the key defining idea of ESP.

As students of different professions need language courses tailored to their specific needs in the perspective of their “futures in worlds of work, study, and everyday life” (Belcher 2006: 133), today they are taught more and more ESP instead of GE (Vičić 2011). According to Hutchinson & Waters (1994: 16), ESP can be further subdivided into “two main types of ESP differentiated according to whether the learner requires English for Academic study (EAP) or for work / training such as English for Occupational Purposes (EOP), English for Vocational Purposes (EVP) and Vocational Language as a Second Language (VESL)”.

The distinction between EAP and EOP is not yet ‘clear-cut’ as Hutchinson and Waters (1994: 16) point out: “the language learnt for immediate use in a study environment will be used later when the student takes up, or returns to, a job”. Harding (2007: 7) instead states that “in ESP - English for Specific Purposes – the purpose for learning the language is paramount and relates directly to what the learner needs to do in their vocation or job”.

1.2. ESP courses

As to their main characteristics, an ESP course differs from a GE course, first, because it mainly focuses on what students will need in their future working environments, and second, because of the new role of teachers, who act as ‘facilitators’ (Vičić 2011: 109), and as “needs assessors first and foremost, then designers and implementers of specialized curricula in response to identified needs” (Belcher 2006: 135). Another difference between an ESP course and a GE course may be seen in the active participation of learners “who have the specific content knowledge and who are

able to bring that knowledge to the classroom” (Ellis & Johnson 1994: 26).

Since the vocation of ESP is teaching specialized language “in response to identified needs” (Belcher 2006: 135), needs assessment may be seen “in ESP as the foundation on which all other decisions are made” (Belcher 2006: 135) as well as “the corner stone of ESP and leads to a very focused course” (Dudley-Evans & St. John 1998: 122). As a matter of fact, ESP considers students’ language needs as “unique to specific learners in specific contexts and thus must be carefully delineated and addressed with tailored- to-fit instruction” (Belcher 2006: 135) in the perspective of their future working environments.

Although there are several ways of interpreting needs, in today’s globalised teaching and learning contexts, ESP courses tend to relate to both “what the learner ‘wants’ to do with the language (‘goal-oriented’ definition of needs)”, and to “what the learner ‘needs’ to do to actually acquire the language (a ‘process-oriented’ definition)” (Kaur 2007: 2), even if the main focus tends to be on “the process-oriented approach in aligning students’ needs with their present working scenarios” (Kaur 2007: 2).

In ESP course design materials writing should focus on the conception of learning because: “A truly valid approach to ESP must be based on an understanding of the processes of language learning” (Hutchinson & Waters 1987: 21). According to Dudley-Evans (2001), materials development, carried out on the basis of the results of students’ needs analysis, is one of the main characteristics of ESP which thus appears as a materials-led field where most materials are prepared by individual teachers for particular situations.

Vičič (2011: 112-113) argues that tailor-made course materials can at their best provide “the teacher with the opportunity to decide on combinations of vocabulary, functions and structures and to develop materials that will introduce most relevant vocabulary and related functions and structures”.

However, McDonough & Shaw (1993) point out that developing ESP materials is a complex task as it means merging two broad approaches, one concerned with the conception of language in use including categories of function, context, and language skills; the

other with more formal elements of grammar, vocabulary, and pronunciation.

1.3. Who should teach ESP?

Together with needs assessment, and the subsequent processes of syllabus design as well as materials writing, the role of “content-area informed instructors” (Belcher 2006: 135) is another of those key defining characteristics that make the difference between ESP and GE.

As to the controversy regarding who should teach ESP courses, the open question seems to be “how much knowledge is enough for ESP instructors” (Belcher 2006: 139). Ellis & Johnson (1994: 26) suggest that ESP teachers do not need to be subject-area specialists but should have the ability to integrate student knowledge, and thus act above all as “experts in presenting and explaining language,” who should also be able “to ask the right questions and make good use of the answers”.

In a similar vein, Dudley-Evans (1997: 61) states that the main abilities required in the specific teaching situations is “a willingness to listen, to think on one’s feet and an enjoyment of reacting to problems as they may emerge.” Maleki (2008: 16) strongly recommends that “ESP courses be taught by EFL teachers rather than specialists in the field”.

Today, however, there are several ways for ESP specialists to compensate for their limited field-specific knowledge. Through team-teaching ESP professionals can collaborate with content-area experts (Dudley-Evans & St. John 1998), or they can link language and subject-area classes (Belcher 2006).

The situation is totally different in those classes where the subject teacher is not present, in fact, Dudley-Evans (1997: 60) not only points out how “the nature of communication is made very distinctive by the difference in subject knowledge between the students and the language teacher”, but offers a learner-centred solution to the dilemma in terms of ‘pooling of knowledge’ and ‘working together’ (Dudley-Evans 1997: 60).

During their career, ESP teachers are likely to teach both pre-experience learners, who have just finished upper secondary school, and job-experienced students with some practical experience in

their field (Vičič 2011). Regardless of these differences, the focus of ESP teaching-learning process for both categories should be on performance, and learners should become, as Ellis & Johnson (1994: 35) point out ‘operationally effective’.

In those ESP classes where neither the language teacher nor the pre-experience students have subject-area knowledge, “experts can be brought in by proxy” (Belcher 2004: 172). Student nurses, for example, can be shown videos of experienced nurses “performing and talking their way through tasks” (Belcher 2004: 172).

When teaching job-experienced students, ESP teachers can instead focus on what learners do in their jobs, and use the learners’ direct experience in the ESP teaching-learning process (Vičič 2011).

Dual professionalism is, on the contrary, a new trend, an “expertise infusion” (Belcher 2004: 172), that goes against the assumption that ESP specialists “are not required to have specialized subject knowledge” (Vičič 2011: 112-113). This means that ESP practitioners are more often “dual-specialist professionals” (Belcher 2004: 172) - both highly qualified teachers as well as being experts in their subject specialism - “for example, law or medicine, and applied linguistics” (Belcher 2006: 140).

Furthermore, today many ESP practitioners are not only specializing in an ever-increasing number of highly-specialized subject areas but they are also focusing on the importance and view of ‘context’ which can be summed up as “dynamic, continually changing [...] constructed by the participants in a communicative situation” (Douglas 2000: 89). And although it would not be correct to claim that in the past ESP specialists have totally ignored “social context (or social consciences!), it may be fair to say that never before has ESP emphasized social situatedness as much as it does today” (Belcher 2004: 166).

1.4. ESP and globalization

According to Iganawa (2010: 297) “English language represents the progression of globalization” in which “English language teaching (ELT) is a means of propagating not only the English language, but also the globalization that the language symbolizes”. In this process, English teachers can be seen as both ‘recipients of

globalization and its impact', as well as 'agents' and "providers of the impact that globalization and the English language bring to the local people" (Iganawa 2010: 298).

Those who are involved with ESP practice know that at present it is getting more and more difficult to briefly describe ESP because of "ESP's growing body of research and theory, and ever-diversifying and expanding range of purposes: from the better known English for academic purposes (EAP) and occupational purposes (EOP) [...] to the more specific mission-oriented ESP" (Belcher 2006: 134).

This clearly means that in a globalized world ESP has to cope with "constantly changing learning targets it addresses" (Belcher 2006: 134). Gil & Najjar (2009: 6) suggest that "any solutions to the dilemma presented by globalization must be appropriate to the context". This is to say, on the one hand, that language teaching and learning should always be contextualized; on the other, that language teaching and learning process is not only influenced by the immediate learning environment, but it is, on the contrary, influenced by "whatever is relevant to the learner and their language learning, whether present in the immediate setting or not" (Gil & Najjar 2009: 6).

Language teaching in general, and particularly ESP pedagogy, may surely benefit from new perspectives on globalization and social context. For instance Bax (2003: 284) suggests that "language teaching everywhere will benefit from fuller attention to the contexts in which it operates". Accordingly, Belcher (2006: 135) states that some of the most challenging tasks ESP specialists are meeting today refer to "the needs of people hoping to more fully participate in school, work, and neighborhood communities".

1.5. Social context

It goes without saying that skilled nurses with competent standards in English as a Second Language (ESL) have been already recruited over several decades from developing to developed countries (Suliman & Tadros, 2011). Even if nurse mobility always somehow responds to socioeconomic factors present in source and destination countries, nurses' motivation to migrate can still be considered

multifactorial, not exclusively limited to financial incentives (Kingma 2007).

While nurses are on the move, at the same time people expect their health, and their rights to be protected at the same high level wherever they live or go (The White Paper Together for Health: A Strategic Approach for the EU 2008-2013, 2007). They expect to be understood, independently of their own or their health workers' language. Yet, "differences in language between nurse and patient make clear and accurate communication difficult to achieve", meaning that, "nursing care, patient outcome, and patient satisfaction suffer" (Villaruel, Portillo & Kane 1999: 262).

In fact, the number of international migrants has doubled since 1970s, and nurses are increasingly part of this migration flow (Kingma 2007; Oulton 2006). Since countries are at different stages of the socio-economic development process, critical nursing shortage in industrialized countries is already generating a great demand for health care workers, thus affecting mobility of health professionals, while structural adjustments in the developing countries have created workforce imbalances with large number of unemployed health professionals (Kingma 2007).

This essentially means that nursing shortage is already a global crisis, and that nurses are definitely part of the migratory system (Oulton 2006). But as the speed of change differs greatly, migration and mobility will affect even more heavily the distribution of health care workers in the future (Buchan 2002).

The White Paper Together for Health: A Strategic Approach for the EU 2008-2013 (2007: 9), that defines the global EU health strategy, accordingly points out how "EU Health systems are under mounting pressure to respond the challenges of population ageing, citizens' rising expectations, migration, and mobility of patients and health professionals".

The United Nations Population Fund (UNFPA) report on Ageing in the Twenty-first Century: A Celebration and A Challenge (2012: 163) emphasizes the importance of the training of caregivers and health professionals: "Global and regional institutions should encourage comparative research and networks of good practices. They should also consider developing virtual training sites for participants who may find it difficult to travel abroad for training".

This means that nurses and other healthcare providers need to be skilled and trained to adapt to new trends and patterns not only in diseases and therapy, but also in new technologies (The White Paper Together for Health: A Strategic Approach for the EU 2008-2013, 2007).

1.6. International (student) nurses' language problems

Globalization and workforce mobility have thus profound implications for many facets of human life as well as far reaching consequences for languages as de Swaan (2001) states, especially for English, that, on the one hand, allows communication over vast distances, and on the other, is used to connect speakers of other languages to each other.

Considering that English is the main language of newspapers, academic conferences, science, technology, international business, medicine, as well as nursing, a good knowledge of both GE together with job-related English, ESP, is fundamental for all healthcare professionals.

Student nurses do not have to master only general English, but must also be proficient in the use of medical terminology (Suliman & Tadros 2011). This means that student nurses should develop their language skills as soon as possible to be proficient in at least two types of communication in English; first, in interaction / communication among nurses and/or different professions inside a health care team, and second, in the interaction / communication between nurses and familiar relatives of the patient (Condrey & Derico 2012).

The first type is basic interpersonal communication that is commonly used in social interaction with peers both in the working or study environment and outside the academic setting and utilizes GE (Condrey & Derico 2012). Besides, as student nurses are learning a practice profession which has its own language, such as medical terminology in healthcare settings, they have to learn that specific language, which is, according to Guhde (2003), almost a second language by itself.

As professionals spending the most time with patients, nurses ultimately hold a position of great importance in the health care team to satisfy patients' communication needs. Consequently,

“most of the research on nurse-patient interaction focuses entirely on the nurse’s communication in the encounter” (Shattell 2004: 716). Nevertheless, considering the mutual nature of communication, “patients’ share in interaction should be taken more into consideration than it has been until now” (Fleischer *et al.* Berg 2009: 339), while, what happens at the moment, is that “in the sick role, a patient is a willing passive recipient” (Shattell 2004: 716).

As language problems between nurses and patients make clear interaction difficult to achieve, for instance, with “Limited English Proficiency (LEP) patients” (Villaruel, Portillo & Kane 1999: 262), nurses should be aware of different options for addressing language differences that health care facilities can offer. These strategies range from *ad hoc* or volunteer interpreters to language line services and other technologies depending on cost, timing, and interpreter availability (Villaruel, Portillo & Kane 1999).

To bridge the gap, monolingual English-speaking nurses themselves, instead, often use “gestures, facial expressions, a change in voice volume, or the use of a few key words or phrases in the target language to get by when communicating with LEP persons” (Villaruel, Portillo & Kane 1999: 263). Similarly, also student nurses who have “nursing-related work experience realized when others did not understand them, used facial expressions and meaningful gestures” (Shattell 2004: 716).

The other way around, international student nurses on the move are often likely to have difficulties with English, for example, in the Flinders University School of Nursing & Midwifery, students who are non-native speakers of English “are generally failing assignments or being removed from clinical practice because they are considered to have inadequate language skills and may possibly be dangerous to patients” (Müller 2011: 14). In accordance with this finding, Donnelly, McKiel & Hwang (2009: 206) state that language can be “a barrier to grammatically correct charting, asking questions and communicating thoughts and knowledge clearly”.

Moreover, these students complain about “not knowing the meaning of particular words, wanting people to speak more slowly, their own need for more time to speak, not knowing the pronunciation of certain words..., and coping with their own, and

others', frustrations when their communication breaks down" (Müller, 2011: 14).

As a matter of fact, language not knowing the meaning of particular words, wanting people to speak more slowly, their own need for more time to speak, not knowing the pronunciation of certain words [...], and coping with their own, and others', frustrations when their communication breaks down (Müller 2011: 14). development may be noted "as the most significant problem in the lack of success of immigrant ESL nursing students" (Malu & Figlear 1998). On the one hand, this means that

the difficulties facing the students in communicating verbally and writing in the English language, particularly with staff in a multicultural and multinational clinical training environment, are ongoing major concerns for the nursing faculty (Suliman & Tandros 2011: 403).

On the other, this means that in the globalized context, the potential for miscommunication in the interaction / communication between (student) nurses and (familiar relatives of) the patient is always fairly high. Donnelly, McKiel & Hwang (2009: 204) point out how student nurses language barriers "resulted in challenges to providing safe, competent nursing care." In other words, their inability "to understand clients could seriously endanger the client's safety, health and well-being" (Donnelly, McKiel & Hwang 2009: 204).

2. English Toolbox for Nurses

2.1. A meaningful learning experience in Sicily

Against this background, the English language teacher staff of *Laboratorio Linguistico del Polo Universitario della Provincia di Agrigento* decided to start up a project-based activity with 32 third-year student nurses in the first term of the academic year 2008-2009.

The group comprised 18 females and 14 males. They were in the same age range (21-23), and had been regularly enrolled through the annual university entrance selection in the academic year 2006-

2007, so they were familiar with one another as they had been classmates for two years.

From the point of view of core competencies, the students had already attended two compulsory 24-hour modules of *Inglese Scientifico* during the first and the second year of their studies and passed both the end of module exams with *idoneità*. They all had also had previous practical hospital experience.

As to their Information and Communication Technology (ICT) competencies, the students were asked to fill in a self-evaluation form to define their technological knowledge. Male students estimated that their skills were stronger when compared with the self-assessment made by the female students. Five male students had previously achieved a European Computer Driving Licence (ECDL) certification in seven modules.

The teacher team was formed by two language teachers – an ESP specialist (a native speaker), a General English teacher (a non-native speaker), and the Head of the *Laboratorio Linguistico del Polo Universitario della Provincia di Agrigento*. A content area specialist in *Scienze Infermieristiche* was constantly consulted during the project work. She was also present both during the brainstorming session and the project presentation as well as in some classes. Networking with the technological support staff of *Polo Universitario della Provincia di Agrigento* was also included in the project.

The project aimed to facilitate learning job-related English, focusing on how to bridge communication gaps in nurse-patient interaction, as we wanted both to “instill confidence in the student who feels stressed” (Suliman & Tadros 2011: 406-407) and to “listen to students and advice them on how to overcome worries due to English-language difficulties” (Suliman & Tadros 2011: 407) thus contributing to student nurses’ better international career opportunities, since a good command of English “will make nurses competitive and more appealing on the international market” (Suliman & Tadros 2011: 407). Moreover, we wanted to develop student nurses’ life skills such as negotiation and collaboration (Karppinen 2005).

As student nurses’ “communicative tasks are rarely conducted under stress-free conditions” (Müller 2011: 15), and as they often “experience difficulty understanding what others are saying”

(Müller 2011: 16), we decided to produce a specialized computer software that could assist health care providers in communicating in their future -probably- multilingual workplace in those cases when differences in language between nurse and patient make clear interaction difficult to reach (Villaruel, Portillo & Kane 1999: 262).

Before the beginning of the third year 24-hour ESP module, the students were informed about the project work and familiarized with its main objectives. As they already knew both the language teacher group and the subject area teacher no particular presentations were needed. The students were motivated to start as they were aware of the fact that there would not be a final exam but that they would get *idoneità* through their active participation in the project work.

2.2. Project objectives

The main concept of *English Toolbox for Nurses*, built on 32 third-year student nurses' practical hospital experience, was to produce a computer based translation tool to bridge communication gaps in patient / nurse interaction in a multicultural healthcare environment.

As to the educational objectives the project aimed to contribute positively to the student nurses' personal and linguistic growth in three specific areas specified by Kohonen (1999: 282): authenticity (language input, educational experience); autonomy (awareness of learner's own learning styles and strategies, development of negotiation skills); motivation (development of general life skills and specific technological skills, positive attitude to face challenges, willingness to co-operate and collaborate, self-esteem and respect for other people's time and ideas).

In accordance with this line of thinking, the following project objectives were set

1. Provide the students with autonomy and a unique positive language learning experience that will impact both their broader classroom and prospective work experience
2. Provide a meaningful learning environment for student nurses to develop their proficiency in the use of job-related English
3. Create opportunities for shared learning

2.3. Start up

The project idea, that came out from a number of considerations on how to implement an innovative ESP course for the third-year student nurses, took shape during a preliminary brainstorming session, when the English teachers and the subject area teacher reflected, first, on the Australian novelist Patrick White's famous quote "I forget what I was taught. I only remember what I have learned", and then, on Mario Rotta's (www.mariorotta.com) opinion of how a multimedia project can become a catalyst for working through projects.

Dudley-Evans & St. John (1998: 145) list their ideas surrounding course design in the form of the following questions which we found useful for our course design:

1. Should the learners performance be 'assessed' or 'non-assessed'?
2. Should the course deal with 'immediate needs' or with 'delayed needs'?
3. Should the role of the teacher be that of the 'provider' of knowledge and activities, or should it be as 'facilitator' of activities arising from learners expressed wants?
4. Should the course design be 'worked out by the language teacher' after consultation with the learners and the institution, or should it be 'subject to a process of negotiation' with the learners?

By asking these questions prior to the course design, the ESP teacher should be better prepared, particularly if the teacher has to balance out some of these parameters that are linked to institutional and learner expectations (Dudley-Evans & St. John 1998). In a similar vein, (Hutchinson & Waters 1987: 21) state: "designing a course is fundamentally a matter of asking questions in order to provide a reasoned basis for the subsequent processes of syllabus design, materials writing, classroom teaching and evaluation".

In order to align our 'homogeneous' group's (all third-year student nurses) language needs with their future working scenarios, we decided to focus on their 'delayed needs'. We figured out an

'intensive' course, with a 'narrow focus' that would 'run parallel with the students' practical hospital experience'. We opted for 'non-traditional assessments' as the students were asked to perform, create and produce. It was thus decided that the students would get their *idoneità* for their active participation in the project, and no exams or tests were programmed.

The rough course outline was to be sketched out by the teacher staff, but they were expected to be ready to face a 'process of negotiation' with the students as to the development of the course design. In the classroom the teachers were supposed to act as 'facilitators', introduce subjects, encourage participation and integrate students' shared experiences. As the students were asked to create a computer-based translation tool to be used in healthcare settings, the reference materials were 'specific'.

Moreover, we thought that working through projects would be the most suitable form for this educational experience. We were inspired by Silberman (1973) who, already in the seventies, pointed out the key role of group work together with learning and expression in a variety of media, rather than just pencil and paper and the spoken word in the open educational movement. In a similar vein, some thirty years later, Cuban (2004) focused on how, in the late sixties and early seventies, the open classroom model stressed not only the importance of both students' active participation in the teaching / learning process, but that of the first-hand educational experiences together with the effectiveness of 'learning by doing'.

We all agreed that project work can still offer excellent, tailor-made solutions in various educational contexts, for example, applying a project-based approach to multimedia productions is likely to create a meaningful learning environment. Accordingly, Karppinen (2005) suggests that in a motivating learning scenario students become active media producers instead of being passive consumers.

In accordance with this line of thinking, we planned to use multimedia tools to connect content and target language to students' lives through tasks that are, not only intellectually and emotionally challenging, but also contextualized. We aimed to use multimedia instruments not only to increase the degree of flexibility and

adaptability of a project but also to add creativity to the traditional course content and management, thus providing new opportunities for situated learning contexts that make simultaneous acquisition of language, content and technological skills possible.

As to the language experience, we tried to rethink our predisposition to solely rely on Communicative Language Teaching (CLT), and agreed on applying an alternative approach to our project which could view learning and teaching as situated processes, thus meeting the needs of the individual learners, and the learning community most effectively.

Inspired by the work of Brown, Collins, & Duguid (1989), we aimed to avoid separating what is learned from how it is learned as the learning tasks in which knowledge and skills are developed and used are neither separable from nor ancillary to learning. Rather, the tasks are an integral part of what is learned. According to Brown, Collins, & Duguid (1989: 2), it is therefore possible to argue that in this way learning is 'fundamentally situated'.

Accordingly, our objective was to create a situated learning context in order to explore the relationship between the individual and the social. We did not want to focus only on internal learner characteristics, learning strategies, and linguistic production, but on the communicative effect of all these elements combined, that is, on the reception of their action in a particular socialization process (Norton & Toohey 2001). Indeed, whether nurses are working at home or abroad, there will come a time when they need to rely on English as a Lingua Franca for communication in the healthcare setting, and precisely in the patient / nurse interaction.

Thus, before starting up our project we tried to identify some of the main trends and changes in the current healthcare delivery (The White Paper Together for Health: A Strategic Approach for the EU 2008-2013, 2007), to reflect on the way job-related language is used, and the effects of this language use (e.g. Belcher 2004, 2006; Hutchinson & Waters 1987; Vičič 2011). Consequently, the choice of the content framework was inspired by two global social phenomena – the issue of patient safety (e.g. Donnelly, McKiel & Hwang 2009; Müller 2011) and mobility of health workers (e.g. Kingma 2007; Oulton 2006) in a globalized world.

Against this background, the focus on access to good quality care, equity and solidarity through the integration of technological skills (Löfström & Nevgi 2007), and the development of job-related language knowledge (e.g. Belcher 2004, 2006) seemed a good way to raise our student nurses' professional profile. Moreover, one of the main objectives of the project was for the group to live a meaningful learning experience in which collaborative and cooperative activities could play the main role (Karppinen 2005).

2.4. Project development

The project followed two main lines, the first allowed teachers, through the integration of technological instruments, to plan new type of tasks and students to become active part of the process (Jonassen 1995; Löfström & Nevgi 2007). The teaching-learning process was designed both to develop student nurses' life skills such as negotiation, collaboration and creativity (Karppinen 2005), and to connect good content knowledge and appropriate use of English for patient / nurse interaction.

Since the second aim of the project was the production of an innovative IT based language tool, the student nurses were encouraged to implement a software addressed to health professionals - nurses, doctors, paramedics, receptionists, specialists or even those who volunteer - to help them to avoid any linguistic misunderstanding with their patients as this could cause harmful or unequal treatment (e.g. Donnelly, McKiel & Hwang 2009; Müller 2011) in public or private health structures or even in remote disaster areas in their multilingual context of work.

Choosing a name is an important decision that has to be made very quickly at the start of a project. We took some time to try out some names: acronyms, single words and multiple-word project names. At last both the teachers and the students agreed on *English Toolbox for Nurses* that is a bit long, but should give the user an indication of what the project does. As we wanted the name to stand out from the crowd, we checked it at Google (www.google.it) and other search engines and found out that at that time the name was free.

To start up the IT based process of the development, a storyboard, that is a set of graphic organizers such as illustrations

and images displayed in sequence for the purpose of pre-visualizing an interactive media sequence, was created. Once the preliminary design of the user interface was ready, and the materials (language items, maps, images, audio files) to be inserted were selected. After that, the interactive modules, the building blocks of the Toolbox, were developed.

The homepage of *English Toolbox for Nurses* was designed to offer users a clear starting point for the main tasks they will undertake when using our software. To enter the Toolbox, users can choose one of three different options from the homepage; it is possible to click either on the Human Body, which starts a search through body parts, or on Admission Unit.

If you click on the hospital plan (Fig.1), a second slide shows you the complete list of the wards and departments for further search.

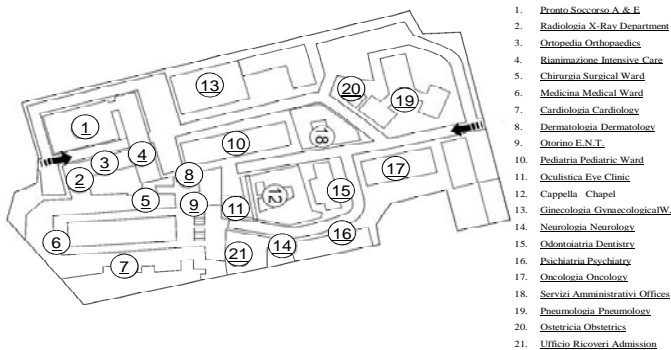


Figure 1. Hospital plan (2nd slide)







Now it is possible to click on a ward or department to continue the search. You can choose any department and ward from 18 options. A page offering four options for further search will be visualized. Furthermore, you can enter the bilingual Glossary from every section page.

As to the language contents, the students were asked to identify and translate into English some of the most frequently used expressions in the patient / nurse dialogue. This task was performed with the help of the content-area specialist. The slides were then organized into the following four sections: a “Questions” section, a “Suggestions and Orders” section, an Image section and a bilingual “Glossary”.

English Toolbox for Nurses

Cardiologia - Cardiology

Domande - Questions

Il dolore è leggero?	Is the pain mild?	
La Sua pressione è di solito alta?	Is your blood pressure usually high?	
La Sua pressione è di solito bassa?	Is your blood pressure usually low?	
Le Sue caviglie sono gonfie?	Are your ankles swollen?	
Qual'è il Suo gruppo sanguigno?	What is your blood group?	
Qualcuno nella Sua famiglia soffre di malattie cardiovascolari?	Does anyone in your family suffer from a cardiovascular disease?	

3/5



Figure 2. Cardiology (Questions Section)

“Questions” (Fig. 2) and “Orders & Suggestions” (Fig. 3) form the backbone and the heartbeat of *English Toolbox for Nurses*. As both making questions and giving advice seemed particularly useful sentence types for health care professionals in service, language material was organized into these two categories.







Both the “Questions” and the “Orders and Suggestions” section include six sentences written both in English and in Italian. It is

possible to hear the English version by clicking on the audio icon on the right.

English Toolbox for Nurses

Cardiologia - Cardiology

Ordini e suggerimenti Orders and suggestions

E' necessario fare altri esami!	We need to do some further tests!	
Eviti grassi saturi!	Avoid saturated fats!	
Il battito del cuore è molto veloce!	Your heart is beating very fast!	
La aiuto io!	I'll help you!	
Le verrà fatto un elettrocardiogramma!	You will be given an electrocardiogram (EKG)!	
Le verranno fatte le analisi del sangue!	You will be given a blood test!	

2/4



Figure 3. Cardiology (“Orders and Suggestions” Section)

English Toolbox for Nurses

Cardiologia - Cardiology

Immagini - Images

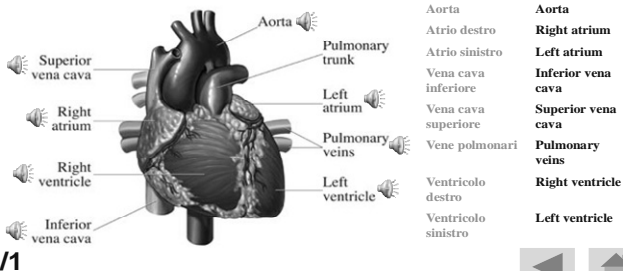


Figure 4. Images

The work was carried out through a combination of face-to-face together with asynchronous and synchronous activities via the Internet in order to pay considerable attention to the balance between the two parts, so that they both could be functional and complementary to the other.

On the one hand, asynchronous activities, such as exchanging e-mails, added flexibility to the project as they gave the members time to digest the information and put it in the proper context and perspective. As both the students and the teachers carried out their tasks also outside the classroom, whenever and wherever they wanted to, we can say that asynchronous activities gave extra time to the group, in addition to the 24-hour face-to-face module.

On the other, as we used only writing-based tools to communicate, the only synchronous communication strategy possible was a chat session. The group got online in the same chat room and typed questions, comments, and responses in real time. This enabled immediacy and was extremely useful as it made the distances shorter and the collaboration more interactive.

Löfström & Nevgi (2007: 314) argue that “the role of the teacher is changing as online environments develop” As a matter of fact, the teachers involved in the project all have good technological skills, but they nevertheless strengthened networking with technological support staff both in the application of ICT revision and the editing stage. The audio files, read out by the native speaker English language assistant, were recorded in the language lab of the *Polo Universitario della Provincia di Agrigento*.

In the classroom, students mostly worked in pairs or groups, both under the supervision of the English teachers that were responsible for the accuracy of the language, and in collaboration with the content area specialist in *Scienze Infermieristiche*.

This kind of organizational model automatically made students more responsible for their own learning (Löfström & Nevgi 2007), as they had to make plans as well as decisions, back up their personal opinions and discuss them and finally, come to an agreement (Kohonen 1999), not only as to the contents, but also as to the final format of the product which was continually discussed with the teachers.

As soon as the audio files were ready, they were integrated into the graphic structure including image and text files, and the final product was tested in the language lab and on some students' and teachers' laptops and notebooks. Eventually, the students downloaded *English Toolbox for Nurses* to their USB flash drives and the software was published on the website of *Polo Universitario della Provincia di Agrigento*.

2.5. A project plan in a nutshell

Our project was developed through three stages, and precisely, Planning, Performing and Feedback. During the Planning stage the teachers first of all carried out a language needs analysis. After that the students and the teachers negotiated and made a decision on the topic and overall content of the project. The group made a detailed plan (storyboard), and shared the objectives and procedures. Each member's task and duty was made clear. All the ideas for the project were discussed.

During the Performing stage, the students and the teachers came out of their classroom to perform the planned tasks such as making recordings, gathering and organizing language materials, which were mostly shared and discussed on the platform of the Language Lab.

The product was finally edited. This process included selecting and preparing language, images and audio files through processes of correction, condensation, organization, and other modifications. At this stage the students showed their involvement and developed their abilities. It was an important stage for them to develop their specific language abilities and integrate the four skills of listening, speaking, reading and writing.

The feedback session included reviewing, discussions and a final presentation given by students through PowerPoint (PPT) or an oral presentation. This was not only a process of project work reporting, but also a process of peer learning, reviewing and evaluation. As a matter of fact, comments from peers and teachers were of great value in helping students improve their project work and build up their self-esteem. The final multimedia product was tested in the University Language Lab and on some teachers' and students' laptops and notebooks.

3. Results

Our experience with *English Toolbox for Nurses* shows that the production of a multimedia tool used to integrate language, content and technological skills is a key solution to increase the level of students' engagement in teaching-learning processes (Löfström & Nevgi 2007).

Clearly enough, the application of multimedia instruments *per se* does not necessarily contribute to language learning (Karppinen 2005), which, anyhow, remained our top priority during all the steps of our project work as Hutchinson & Waters (1987: 14) put it "our concern in ESP is not with language 'use' – although this will help us to define the course objectives. Our concern is with language 'learning'".

Anyhow, a favourable learning situation surely promoted the students' positive emotional involvement in the subject matter which may also be related to "the medium with which the subject is studied" (Karppinen 2005: 245).

In our case, a special focus on computers and "web-based learning environments" (Löfström & Nevgi 2007: 315) contributed to students' personal growth both as individual learners (Karppinen 2005), who were helped to absorb the principles of learning autonomy in a gradual way, and as members of a group sharing a common aim.

Step by step the students learned how to link their technological skills, project goals and appropriate strategies and consequently got a clearer view of the language learning process. Working on a project undoubtedly also contributed to raise the degree of the students' awareness of their strengths and weaknesses as language learners.

Furthermore, group and pair work in the classroom as well as synchronous communication via the Internet provided the students with the opportunity to develop their negotiation and decision-making skills. These activities improved their group work skills, while language put into an interesting, job-related context (Harmer 1991) promoted their active participation during all the stages of the project.

In fact, as the course ran parallel with the students' practical hospital experience, they also felt particularly encouraged to bring their specific content knowledge to the classroom (Ellis & Johnson 1994). Identifying key vocabulary for patient / nurse interaction in the wards as well as the main difficulties Italian student nurses as users of English as a foreign language face in patient / nurse dialogue increased their motivation a lot. Thus we can say that our job-experienced students themselves, as Belcher (2004: 172) puts it, definitely became "the most significant subject-area resources in an ESP class."

4. Conclusions

The group reached the goals of the original course design, even if the completion of the project required more time than the institutional 24-hour module. All the members lived through a meaningful collaborative learning experience in a virtual environment, reflecting on the wider social context of nurse shortage and facing (student) nurses' language problems creating a translation tool to be used on computers in multilingual healthcare settings.

As technology develops fast, we soon discovered that for a more functional use, the Toolbox should have been transformed into a smart phone application. Currently, the Toolbox is not even a rudimentary version of an app, but it has a flexible structure and could be transformed into a mobile nursing application for smart phones which could help healthcare workers through the process of job-related language learning, and/or translation problems in the patient / nurse dialogue.

Some of the biggest issues that developers of medical and nursing mobile apps have to face are both the variety of mobile devices and operating systems. While these issues are big enough to tackle, there are also other problems such as non-standardization of mobile design and network connectivity. This means that creating apps for a great variety of mobile devices with different mobile features and requisites can pose a huge challenge to the developer.

In other words, the perspective for a further development of the Toolbox was absolutely impracticable in the framework of our

project because of the costs, time limits as well as insufficient professional skills. Nevertheless, the project itself and the production of a working software gave the members of the learning community the opportunity to think and work differently.

References

- Bax, S. 2003, "The end of CLT: A context approach to language teaching", *English Language Teaching Journal*, 57: 3, pp. 278-287.
- Belcher, D. 2004, "Trends in teaching English for specific purposes", *Annual Review of Applied Linguistic*, 24, pp. 165-186.
- Belcher, D. 2006, "English for specific purposes: teaching to perceived needs and imagined futures in worlds of work, study, and everyday life" *Tesol Quarterly*, 40: 1, pp.133-156.
- Brown, J.S., A. Collins & P. Duguid 1989, "Situated cognition and the culture of learning", *Educational Researcher*, 18: 1, pp. 32-42.
- Buchan, J. 2002, "Global nursing shortages", *British Medical Journal*, 324: 7340, pp.751-752.
- Carson, J., J. Taylor & L. Fredella 1997, "The role of content in task-based EAP instruction", in M.A. Snow and D.M. Brinton (eds), *The Content-Based Classroom*, Longman, New York, pp. 367-370.
- Coburn, W.W. 1993, "Contextual constructivism: the impact of culture on the learning and teaching of science", *Scientific Literacy and Cultural Studies Project*, available at http://scholarworks.wmich.edu/science_slcsp/11.
- Commission of the European Communities 2007, "WHITE PAPER Together for Health: A Strategic Approach for the EU 2008-2013", Brussels, 23.10.2007, COM(2007) 630 final, available at http://ec.europa.eu/health-eu/doc/whitepaper_en.pdf.
- Crystal, D. 1990, *The English Language*, Penguin Books, London.
- Cuban, L. 2004, "Whatever happened to...? The open classroom", *Education Next*, 4: 2, pp.69-71, available at <http://www.educationnext.org>.
- de Swaan, A. 2001, *Words of the World. The Global Language System*, Polity Press, Cambridge.
- Donnelly, T., E. McKiel & J. Hwang 2009, "Factors influencing the performance of English as an additional language nursing students: instructors' perspectives", *Nursing Perspective*, 16: 3, pp. 201-211.
- Douglas, D. 2000, *Assessing Language for Specific Purposes*, Cambridge University Press, Cambridge.

- Dudley-Evans, T. 1997, "Five questions for LSP teacher training", in R. Howard and G. Brown (eds), *Teacher Education for LSP*, Multilingual Matters, Clevedon, pp. 58-67.
- Dudley-Evans, T. & M.J. St. John 1998, *Developments in ESP: A Multidisciplinary Approach*, Cambridge University Press, Cambridge.
- Duffy, T.D. & D.J. Cunningham 1996, "Constructivism: Implications for the design and delivery of instruction" in D.H. Jonassen (ed.), *Handbook of Research for Educational Communications and Technology: A Project of the Association for Educational Communications and Technology*, Macmillan, New York, pp. 55-85.
- Ellington, H. & P. Race 1993, *Producing Teaching Materials*, 2nd Edition, Kogan Page, London.
- Ellis, R. (1999), *Learning a Second Language Through Interaction*, John Benjamins, Amsterdam.
- Ellis, M. & C. Johnson, 1994, *Teaching Business English*, Oxford University Press, Hong Kong.
- Fleischer, S. *et al.* 2009, "Nurse-patient interaction and communication: A systematic literature review", *Journal of Public Health*, 17: 5, pp. 339-353.
- Gil, J. & R.L. Najar 2009, "ELT today: from Dilemma to Professional Responsibilities", *TESOL in Context*, S: 2, pp.1-9, available at http://tesol.org.au/files/files/92_Gil.najar.pdf.
- Harding, K. 2007, *English for Specific Purposes*, Oxford University Press, Oxford.
- Harmer, J. 2007, *The Practice of English Language Teaching*, 2nd Edition, Longman, New York.
- Hutchinson, T. & A. Waters, 1987, *English for Specific Purposes: a Learning-Centered Approach*, Cambridge University Press, Cambridge.
- Hutchinson, T. & A. Waters 1994, *English for Specific Purposes*, Cambridge University Press, Glasgow.
- Iganawa, K. 2010, "The impact of English language and ELT: Perceptions by EFL teachers", *Shitennoji University Bulletin*, 50, pp. 297-317.
- Jonassen, D.H. 1995, "Supporting communities of learners with technology: A vision for integrating technology with learning in schools", *Educational Technology*, 35: 4, pp. 60-63.
- Karppinen, P. 2005, "Meaningful learning with digital and online videos: Theoretical perspectives", *Association for the Advancement of Computing in Education Journal*, 133, pp.233-250.
- Kaur, S. 2007, "ESP course design: matching learner needs to aims", *English for Specific Purposes World*, 1: 14, Vol. 6, pp.1-10, available at http://www.espworld.info/Articles_14/DESIGNING%20ESP%20COURSES.htm.

- Kingma, M. 2007, "Nurses on the move", *Health Services Research*, 42: 3, pp.1281-98.
- Kohonen, V. 1999, "Authentic assessment in affective foreign language education" in J. Arnold (ed.), *Affect in Language Learning*, Cambridge University Press, Cambridge, pp. 279-294.
- Larsen-Freeman, D. 2000, *Techniques and Principles in Language Teaching*, Oxford University Press, Oxford.
- Light, P. & K. Littleton 1999, "Introduction: Getting IT together", in K. Littleton and P. Light (eds), *Learning with Computers. Analysing Productive Interaction*, Routledge, London, pp.1-9.
- Löfström, E. & A. Nevgi 2007, "From strategic planning to meaningful learning: diverse perspectives on the development of web-based teaching and learning in higher education", *British Journal of Educational Technology*, 38: 2, pp. 312–324.
- Maleki, A. 2008, "ESP teaching: A matter of controversy", *English for Specific Purposes World*, 1: 17, Vol. 7, pp.1-21, available at [http://www.esp-world.info/Articles_17/PDF/ESP Teaching Iran.pdf](http://www.esp-world.info/Articles_17/PDF/ESP_Teaching_Iran.pdf).
- Malu, K.F. & M.R. Figlear 1998, "Enhancing the language development of immigrant ESL nursing students: a case study with recommendations for action", *Nurse Educator*, 23: 2, pp.43-46.
- McDonough, J. & C. Shaw 1993, *Materials and Methods in ELT*, Blackwell Publishers, Oxford.
- McGrew, A. 1992, "A global society?" in S. Hall, S., D. Held and A. McGrew (eds), *Modernity and its futures*, Polity Press, Cambridge, pp. 61-116.
- Modiano, M. 2001, "Linguistic imperialism, cultural integrity, and EIL", *English Language Teaching Journal*, 55: 4, pp. 339-346.
- Müller, A. 2011, "Addressing the English language needs of international nursing students", *Journal of Academic Language & Learning*, 5: 2, 2011.
- Norton, B. & K. Toohey 2001, "Changing perspectives on good language learners", *TESOL Quarterly*, 35: 2, pp. 307-322.
- Oulton, J.A. 2006, "The global nursing shortage: an overview of issues and actions", *Policy, Politics & Nursing Practice*, 7: 3, pp. 345-395.
- Robertson, R. 1995, "Glocalization: Time-space and homogeneity-heterogeneity", in M. Featherston, S. Lash & R. Robertson, (eds), *Global Modernities*, Sage, London, pp.25-44.
- Shatell, M. 2004, "Nurse–patient interaction: a review of the literature", *Journal of Clinical Nursing*, 13: 6, pp. 714-722.
- Shuell, T.J. 1990, "Phases of meaningful learning", *Review of Educational Research*, 60:4, pp. 531-547.
- Silberman, C.E. 1973, *The Open Classroom Reader*, Random House, New York.

- Skela, J. 2008, "Vrednotenje učbenikov angleškega jezika z vidika kognitivne teorije učenja" in J. Skela (ed.), *Učenje in poučevanje tujih jezikov na Slovenskem: pregled sodobne teorije in prakse*, Tangram, Ljubljana, pp. 154-178.
- Suliman, W.A. & A. Tadros 2011, "Nursing students coping with English as a foreign language medium of instruction", *Nurse Education Today*, 31, pp. 402-407.
- The United Nations Population Fund (UNFPA) and Help Age International 2012, "Ageing in the Twenty-First Century – a Celebration and a Challenge 2012", available at <http://unfpa.org/ageingreport/>.
- The United Nations Population Division 2002, "World Ageing Report 2002", available at <http://www.un.org/esa/population/publications/worldageing19502050>.
- Tardy, C. 2004, "The role of English in scientific communication: *lingua franca* or *Tyrannosaurus rex*?", *Journal of English for Academic Purposes*, 3, pp. 247-269.
- Vičič, P. 2011, "Preparing materials for ESP teaching", *Inter Alia*, 2, pp. 107-120.
- Villaruel, A.M., C. Portillo & P. Kane, 1999, "Communicating with limited English proficiency persons: Implications for nursing practice", *Nursing Outlook*, 47: 6, pp. 262-70.
- Widdowson, H. 1979, *Explorations in Applied Linguistics*, Oxford University Press, Oxford.

*English Library:
the Linguistics Bookshelf*

Printed Edition – ISSN 1974-0603
Electronic Edition – ISSN 1974-0670

General Editor

Giovanni Iamartino (Milano)

Scientific Committee

Joan C. Beal (Sheffield)
John Considine (Edmonton)
Giuseppina Cortese (Torino)
Gabriella Del Lungo (Firenze)
Robert DeMaria Jr (Poughkeepsie)
Marina Dossena (Bergamo)
Roberta Facchinetti (Verona)
Giuliana Garzone (Milano)
Maurizio Gotti (Bergamo)
Lavinia Merlini (Pisa)
Carmela Nocera Avila (Catania)
Stefania Nuccorini (Roma3)
Jane Roberts (London)
Gabriele Stein (Heidelberg)

The book series “English Library: the Linguistics Bookshelf” is meant to be a forum for scientific discussion and debate over any topic of English linguistics, in a theoretical, descriptive or applied perspective, both synchronically and diachronically. It aims to provide new insights into English phonetics and phonology, morphology, syntax, lexis, semantics and pragmatics, and into the interface between different levels of linguistic analysis. New and recent research methodologies, critical

approaches, and specialized fields of knowledge – such as corpus linguistics, critical discourse analysis, translation studies, the varieties of English, and ESP – will be dealt with in the series.

“English Library: the Linguistics Bookshelf” addresses a readership composed of academics and students interested in the nature, history and usage of the English language.

The book series will publish monographs, collections of essays, and conference proceedings. Each book in the series is peer-reviewed by one member of the Scientific Committee and an anonymous member of the international Advisory Board. It is hoped that the online open-access publication of the “English Library: the Linguistics Bookshelf” series will encourage scientific dialogue among researchers in Italy and worldwide.

Publications:

Aurelia Martelli and Virginia Pulcini, eds (2008), *Investigating English with Corpora*. Studies in Honour of Maria Teresa Prat, Polimetrica Publisher, Italy.

Elisa Mattiello (2008), *An Introduction to English Slang. A Description of its Morphology, Semantics and Sociology*, Polimetrica Publisher, Italy.

Giovanni Iamartino, Maria Luisa Maggioni and Roberta Facchinetti (eds) (2008), *Thou sittest at another boke....* English Studies in Honour of Domenico Pezzini, Polimetrica Publisher, Italy.

Kim Grego (2010), *Specialized Translation. Theoretical issues, operational perspectives*, Polimetrica Publisher, Italy.

Laura Pinnavaia (2010), *Sugar and Spice... Exploring Food and Drink Idioms in English*, Polimetrica Publisher, Italy.

Giuseppina Cortese (ed) (2011), *Reflections on Children's Rights - Marginalized Identities in the Discourse(s) of Justice*, Polimetrica Publisher, Italy.

Anna Loiacono, Giovanni Iamartino and Kim S. Grego (eds) (2011), *Teaching Medical English: Methods and Models*, Polimetrica Publisher, Italy.

Luciana Pedrazzini and Andrea Nava (eds) (2012), *Learning and Teaching English: Insights from Research*, Polimetrica Publisher, Italy.

Tatiana Canziani, Kim S. Grego and Giovanni Iamartino (eds) (2014), *Perspectives in Medical English*, Polimetrica Publisher, Italy.

