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INSIGHTS INTO MEDICAL DISCOURSE: DIACHRONIC AND SYNCHRONIC PERSPECTIVES

Abstract

This paper investigates some of the main trends currently characterising the study of medical discourse, and explores the complex nature of its realisations. Indeed, in the last few years medical discourse has shown important variations deriving from a host of factors, such as cultural aspects, community membership, professional expertise and generic conventions. Moreover, a few research projects have pointed out differentiations in the behaviour of medical writers compared to that of members of other disciplinary fields. After a presentation of the main studies on the evolution of medical discourse, the paper analyses the principal results of previous investigations into medical text genres, presenting some significant data originating from a research project carried out by CERLIS, the research centre on specialized discourse based at the University of Bergamo. In this project special attention has been given to the relationship between socioculturally-oriented identity factors and textual variation in English specialized discourse, focusing in particular on the identification of identity traits typical of medical English compared to other different branches of learning. Moreover, the paper discusses some of the main issues concerning medical discourse employed in oral contexts and the dissemination of medical research findings and healthcare information, and highlights the considerable variety of themes, data and research methods adopted in these fields of inquiry.

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Sažetak

U radu istražujemo neke od glavnih aktuelnih trendova u proučavanju diskursa medicine i složene načine njegovih realizacija. Poslednjih nekoliko godina diskurs medicine ispoljava značajne varijacije koje proističu iz niza faktora kao što su kulturni aspekti, pripadništvo zajednici, profesionalna stručnost i žanrovske konvencije. Pored toga, nekoliko istraživačkih projekata ukazalo je na razlike u pisanju između autora koji pripadaju medicinskoj struci i onih iz drugih naučnih oblasti. Nakon što predočimo najvažnije studije o evoluciji diskursa medicine, u radu analiziramo glavne rezultate prethodnih istraživanja medicinskih žanrova, s posebnim osvrtom na podatke dobijene iz istraživačkog projekta na CERLIS-u, istraživačkom centru sa sedištem na Univerzitetu u Bergamu. Ovaj projekat posebnu pažnju poklanja odnosu između sociokulturnih faktora koji određuju identitet i tekstualnih varijacija specijalizovanog diskursa na engleskom jeziku, usredsređujući se na identifikaciju karakterističnih osobina diskursa medicine na engleskom u odnosu na one tipične za druge naučne oblasti. Osim toga, u radu se bavimo i glavnim pitanjima diskursa medicine u oralnom kontekstu, diseminacijom rezultata istraživanja diskursa medicine, te načinima predstavljanja zdravstvenih informacija, sa naglaskom na raznovrsnost tematike, podataka i istraživačkih metoda u ovim oblastima.

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Ključne reči

diskurs medicine, dijahrone studije, specijalizovani žanrovi, diskursne zajednice, diseminacija rezultata istraživanja diskursa medicine, predstavljanje zdravstvenih informacija.

1. INTRODUCTION

The topic of medical discourse has been the object of study of several disciplines for several centuries. In the last few decades it has thoroughly been studied in various branches in the field of linguistics. Journals such as *The Annual Review of Applied Linguistics, English for Specific Purposes, Historical Pragmatics, LSP and Professional Communication,* and *Journal of English for Academic Purposes* – all devoted to the analysis of scientific discourse – have been publishing an increasing number of linguistic, diachronic, socio-historical and cross-linguistic analyses of oral and/or written medical discourse. The fact that the second edition of the *Encyclopedia for Language and Linguistics* (Brown, 2006) has featured a special section entitled *Medicine and Language* (edited by Françoise Salager-Meyer) which, for the first time, has brought together several perspectives on this research

area, is proof of the applied linguistic community's growing awareness of the importance of the analysis of medical discourse. The variety of themes, data and research methods has become so vast that it would be impossible to give a satisfactory account in such a limited space as is the length of this paper.[1] The present analysis, therefore, will take into consideration only a few of the main fields of study of medical discourse, with particular reference to the ones in which I have been personally involved.

2. DIACHRONIC ANALYSES

A considerable amount of research has been carried out on the analysis of the linguistic changes that the medical field has undergone throughout the centuries. These studies, particularly concerning lexical, grammatical and textual investigations, were popular also in previous decades and have continued in recent years (e.g. Taavitsainen, 2001; Taavitsainen & Pahta, 2004; Gotti, 2006a; Taavitsainen, 2006). More innovative approaches, however, have been taken, relying on the insights of new methodological perspectives, often derived from different disciplinary fields or other linguistic branches.

2.1. The adoption of a new textual genre

Several studies of medical discourse have relied on the insights of recent research on genre analysis (Swales, 1990; Bhatia, 1993), pointing out the specific generic characteristics of different texts and their degree of flexibility. Textual genres are not rigid and stable, but highly dynamic and closely related to their socio-professional contexts (Bhatia & Gotti, 2006). Moreover, genres vary according to several factors, the main ones being the communicative purposes they aim to fulfil, the settings or contexts in which they are employed, the communicative events or activities they are associated with, the professional relationships existing between the people taking part in such activities or events, and the background knowledge of each participant.

An interesting line of research concerning the evolution of medical genres consists in the identification of new textual forms created by the scientific community to meet specific requirements. An example of this type of research is Gotti (2010) that examines the dynamic characteristics of the birth of the genre of the experimental essay. Particular attention is paid to a comprehensive understanding of the interactions between the new genre and its context, focusing not only on its form and content but also on how this genre was constructed,

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[1] Recent reviews of studies of medical discourse can be found in Skelton & Whetstone (2012) and Ferguson (2013).

interpreted and used in the achievement of specific goals in specialized contexts. This is in line with the evolution of genre analysis, as in the latest approaches the emphasis on text and context has been almost reversed (cf. Bhatia, 2004), with context attracting more serious attention in the description of specialized genres.

The development of the experimental essay in the Early Modern English period was consequential to the great epistemological and methodological innovations which took place in 17th-century England (Gotti, 2011a: Ch. 5). Indeed, these innovations determined the need for corresponding changes both as regards the methods of communicating information about new scientific discoveries and as regards the most suitable means of expression chosen to describe and discuss the new phenomena then being observed and analysed. Indeed, the needs of 17th-century 'natural philosophers' could no longer be satisfied by the traditional essay, as this mainly followed principles and employed techniques of a prevalently literary type.

The means of communication identified as appropriate for specialized purposes was the experimental essay, meant to enable the researcher to report his experiences with immediacy and precision. Moreover, this genre would protect the writer from any accusation of incomplete theoretical exposition, as its purpose would be mainly descriptive rather than argumentative. Indeed, many experimental accounts were short (one or two pages long) and focused on a single experiment. They usually started from the observation of natural phenomena which had aroused the curiosity and intervention of the researcher. The voice commonly used was active, often putting the researcher in a thematic position and usually conferring on it the grammatical function of the subject, so as to parallel his active role in the experimental activity. Evidentiality was usually attained by means of observation and perception, two processes which were deemed basic and preliminary to induction. The actions regarding observation and perception were usually expressed by verbs having a first-person pronoun subject:

(1) I found […] all my endeavours were destructive to my purpose; […] And though the Portion were never so small, yet my bare eye could make this discovery; much more could I, when assisted by a Microscope, perceive, I had destroyed more Vessels, than preserved, in despite of the exact care, I was capable to use. (1666_pt1_316)[2]

The researcher usually described the object of his observation with great care and caution as he had perceived it, reporting events faithfully and sincerely, and expressing his opinions and conclusions with the degree of positiveness corresponding to the certainty of the facts described, availing himself of the various modal and hedging expressions that the English language offered in order

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[2] All quotations in this section are taken from the *Philosophical Transactions of the Royal Society* as reported in the *Corpus of Early Modern English Medical Texts* (Cf. Gotti, 2011b).

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to suit the different degrees of certainty of the facts reported. Example (2) illustrates this attitude:

(2)   It seems not irrational to guess afore hand, that the exchange of bloud will not alter the nature or disposition of the Animals [...]. The most probable use of this Experiment may be conjectured to be, that one Animal may live with the bloud of another; (1666_pt1_357-8)

In taking this cautious attitude, not only did the experimenter show his professional correctness, but he also proved himself to be a reliable and faithful witness to the events that he was reporting. Moreover, in order to make his narration more reliable, the author carefully inserted the testimony of his collaborators and other visitors. The confirmation provided by the presence of esteemed and reliable witnesses proved particularly useful in cases in which innovative or expensive apparatus was used to carry out the experiment. The very detailed way in which experimental accounts were reported was thus meant to give the reader the opportunity to witness the event in a virtual manner. Moreover, the minuteness of detail and the accuracy of the narration were meant to make repetition easier and thus encourage the growth of empirical practice in the community of scientists. A further reason that justifies the experimenter's recourse to this detailed narrative technique is his need to acquire official recognition of his results. Indeed, the detailed and accurate description of his personal scientific experience was considered one of the requisites for transforming a personal account into an official protocol to be submitted to the broad community of men of science.

2.2. The formation of a discourse community

Another construct derived from contemporary linguistic studies that has influenced recent diachronic research is that of 'discourse community' (Swales, 1990: 24-27). This concept is strictly linked with that of 'community of practice', a term mainly drawn from its sociolinguistic use as a group sharing those disciplinary principles and professional procedures that its members employ for constructing new knowledge and performing their specific activities (Lave & Wenger, 1991). These disciplinary 'tribes' (Becher & Trowler, 2001) do not merely presuppose the existence of a common professional culture but also of a shared set of linguistic conventions, which thus makes them constitute separate discourse communities as well.

    Although mainly defined in studies adopting a synchronic approach, the terms 'discourse community' and 'community of practice' have recently been applied to earlier periods as well. For example, Gotti (2013) has used them to investigate the large group of 17th-century 'natural philosophers' who formed the

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Royal Society. This group constituted a community of practice, who shared specific aims and research activities mainly founded on careful observation of natural phenomena and accurate experimental activity. This community of practice also became a community of discourse as its members soon realised that the new epistemological and methodological approach that they envisaged also implied the adoption of common linguistic conventions and sometimes even the creation of innovative discursive practices. Indeed, the relationship between these two components – the commonality of professional practices and that of discursive conventions – was very strong and reciprocal, because if it is true that the sharing of an empirical epistemological and methodological approach provided the basic criterion for admission to this new community, it is also true that the adoption of common linguistic and stylistic principles favoured the consolidation of this new community and the establishment of its specific identity.

Apart from this emphasis on experimental activity, another important aspect of the new scientific approach consisted in the need for both the procedures and the results of these experiments to be made known to the entire learned world. The publicity given to the work of the members of the Royal Society would further distinguish them from the group of alchemists, who considered secrecy one of the main features of their research method. Moreover, there was a need to socialise the discoveries made and the new ideas developed, also thanks to a collaborative spirit which inspired 17th-century scientists, in contrast to the individualism that characterised philosophers in the Renaissance period. The publication of experiments would also have a socializing function, as this exchange of information could promote new professional relationships and strengthen existing links, thus favouring the formation of a new scientific community.

The collaborative nature of this community of practice greatly relied on the interactive network established among its members. A relevant role in the performance of this important function was played by communal correspondence (cf. Gotti, 2006b). Indeed, in this period the exchange of letters was not always intended for merely personal purposes, but often had a wider scope and a more official function, offering recipients greater opportunities of keeping abreast of the times. With this exchange of letters, scholars could find out about work in progress, new publications and how controversially they were received. Letters often conveyed information about the research work carried out not only by individuals but also by groups, and were frequently addressed not merely to single experimenters but also to teams of researchers working elsewhere. Many letters were read aloud at meetings of the Royal Society, particularly before the *Philosophical Transactions* of the Royal Society of London started publication (Gotti, 2006c).

Apart from outlining clear principles of an epistemological nature, communal correspondence and specialized publications also had another purpose, linked to stylistic issues. Indeed, early scientists clearly perceived that the differentiation of their group from that of practitioners was to be not only methodological and

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conceptual, but also linguistic and stylistic. According to this new approach, a researcher was expected to structure his discourse in an appropriate manner, not only to guarantee a more successful perlocutionary result for his own argumentative text, but also because in that way he could facilitate his interlocutors' interpretative task. Indeed, members of the Royal Society agreed that the language used in presentations and discussions should be clear and readily comprehensible. This is the reason why the use of ambiguous terminology was considered unacceptable, as it was perceived as a serious obstacle to correct argumentation and effective communication among scientists. This terminological issue was deemed central to scientific procedures, as the obscure use of language on the writers' part would not only prevent them from being understood, but also from being fully accepted into the scientific community.

In many of their works the members of the Royal Society underlined the contrast between their way of writing and that of the people they were criticizing. They often emphasised their willingness to write "in a style more fashionable than that of meer scholars" (Boyle, 1772/1965, I: 462), specifying "that to keep a due decorum in the discourses, it [is] fit, that in a book written by a gentleman, and wherein only gentlemen are introduced as speakers, the language should be more smooth, and the expressions more civil, than is usual in the more scholastic way of writing" (Boyle, 1772/1965, I: 462). From this sentence, we can see that the adjective used to qualify the style to be adopted in scientific argumentation was *civil*. The 'civility' of this new stylistic approach (Gotti, 2012) would reflect a real gentleman's adoption of a fair attitude towards their interlocutors and respect for the people whose opinions they argued against. The adoption of a 'civil' style also implied that the scientist should always be open to criticism and willing to reconsider his conclusions once it had been proved to him that other theories were more convincing than his.

Another principle often pointed out by members of the Royal Society in their metatextual comments was that of economy of discourse. According to this principle, sentences should be as concise as possible, with no space given to unnecessary details. That is why in several specialized treatises of this period we find a strong condemnation of metaphors, which were usually seen as deceitful devices. The avoidance of the use of metaphors led the specialist to condemn all forms of eloquence, commonly identified with figurative speech and stylistic embellishment. Another feature of the language meant to guarantee maximum comprehension was the adoption of a plain style, based on simple verb-forms and sentence-constructions. Another important principle was to reproduce in the writing activity the same distinction correctly adopted by the scientist between the setting out of the facts observed and his considerations on them. Indeed, Boyle suggested leaving 'a conspicuous interval' (Boyle, 1772/1965, I: 2) on the page between the two textual parts (report of experimental findings and reflections on them) so as to show the methodological procedure adopted while underlining the rhetorical and pragmatic difference between those two parts.

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3. SYNCHRONIC ANALYSES

3.1. Comparative analyses of medical research articles

Recent linguistic studies have carried out a comparative analysis of medical research articles with those of other disciplines. Fløttum (2006), for example, has investigated in which ways and to what extent medical research articles differ linguistically and rhetorically from research articles taken from the disciplines of Economics and Linguistics. As part of the KIAP Project[3] (short for *Cultural Identities in Academic Prose: language versus discipline-specific*) she also compared articles written in three different languages: English, French and Norwegian in order to establish whether cultural identities may be identified in academic prose, and, if so, whether these identities are language or discipline-specific in nature.

Another project that has investigated difference in academic writing across disciplines is the CERLIS Project. On this issue, CERLIS – the research centre on specialized discourse operating at the University of Bergamo – has chosen to investigate the relationship between socioculturally-oriented identity constructing factors and textual variation in academic discourse, focusing in particular on the identification of identity traits typical of different branches of English academic discourse. For the purposes of this research, a specific corpus (CADIS = Corpus of Academic Discourse) has been designed,[4] comprising texts from four different disciplinary areas: Law, Economics, Linguistics and Medicine. For each disciplinary area, four different textual genres were considered: research articles, abstracts, book reviews and editorials. The structural complexity of CADIS reflects its contrastive orientation: it is designed to be internally comparable, so its texts can be analysed not only by disciplinary area, genre, language and culture, but also historically. This is possible because the corpus covers a time frame of over thirty years, from 1980 to 2011. Including all language groups – native speakers (NS) and non-native speakers (NNS) of English, and native speakers of Italian –, a total of 2,738 texts (from 635 to 739 per disciplinary area) – have been inserted in the corpus (cf. Gotti, 2012).

As part of this project, the topic of discipline variations has been the object of research of various CERLIS members. Giannoni (2006a, b), for example, has investigated book acknowledgements in both hard (Medicine) and soft disciplines (Linguistics and Economics), and has found that texts in the hard field tend to be longer than in the soft sciences, which means that authors and editors in the hard sciences exploit this genre more fully than their colleagues in the soft field (cf. also

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[3] KIAP, funded by the Norwegian research council (2002-2006), was located at the Department of Romance Studies, University of Bergen. For details and for the KIAP publication list, see the website at http://kiap.aksis.uib.no.

[4] Cf. the corpus webpage at www.unibg.it/Cerlis for a detailed presentation of the corpus.

Salager-Meyer et al., 2006). Moreover, he has noticed further considerable differences particularly in the use of hyperbolic, ironic or emotive language, which is almost inexistent in Medicine while it is very frequent in Linguistics and Economics. This pattern seems to reflect the appropriate degree of emotional involvement warranted in each community: it is minimised in the life sciences but maximised in the social sciences, which are closely concerned with human behaviour. Emotive expressions emphasise the camaraderie and empathy shown by acknowledgees, whether scholars, friends or family members, with expressions such as *trusted friend, kindred spirits, unfailing love and support, kindness and concern.* This analysis also points out how, by means of the acknowledgements section, authors succeed in achieving three main purposes: i) to construct complex academic identities that reconcile their private and professional lives as well as their teaching and research commitments; ii) to further their careers by making explicit their networks and patronage; iii) to build consensus around disciplinary communities whose role is increasingly challenged by society (especially in the humanities).

Giannoni (2010) has also investigated the use of metaphoric expressions in NS English research articles published in peer-reviewed journals from four domains (Economics, Law, Medicine, Linguistics). His analysis shows that evaluative metaphors vary considerably across disciplines in terms of source domain, connotations and polarization, and that they are linked not only to disciplinary proclivities but also to a discipline's metaphoric identity. The most noticeable finding is the prevalence of *significant* over all other values, especially in Medicine and, to a lesser extent, in Linguistics. It appears therefore that significance is a highly strategic aspect of research especially in the latter two domains. However, a semantic distinction needs to be made between *significant* = 'statistically valid' (i.e. *No significant differences in allele or genotype frequencies were found for the other six variants*) and *significant* = 'meaningful' (i.e. *When an event has great significance or elicits negative emotional responses for an individual, he may display the topic's emotional load through vocal changes*). The most striking difference is observed in Medicine, which appears to view significance only as a mathematical quality, carefully avoiding other interpretations of this metaphor. The statistically measurable dimension of research is emphasised also in Economics (92%) and Linguistics (85%). The opposite case applies to legal studies, where *significant* is used almost exclusively (98%) in an overtly subjective, non-statistical sense arising from jurisprudence and legal interpretation.

Maci (2012) has compared the argumentative strategies employed in medical research articles (RAs) written by native speakers of English with those written by Italian non-native speakers of English in order to identify any cross-cultural differences in terms of argumentative devices employed by their authors. Analysing the *Discussion* section of 50 articles from two important journals of cardiology – the *Italian Heart Journal* (published in English) which, in 2006,

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changed its name to the *Journal of Cardiovascular Medicine*,[5] and the American journal *Circulation* –, she has identified several differences between the textual organisation of English medical research articles written by native and non-native speakers, which seem to be linked to their authors' linguistic and cultural identity. The main differences are rhetorically realised through hedges and other argumentative strategies, such as the use of connectives. Indeed, NSs of English tend to exploit more fully modality expressed by modal auxiliaries (such as *may*, *would*), verbs (such as *appear, suggest*), and adverbs (such as *likely*), a finding in line with previous research (Vihla, 1999). The modal verb *may*, in particular, frequently appears in the NSs corpus, to such an extent that it can be regarded as a keyword with high keyness (*may* occupies position 15). This is not the case in the Italian NNSs subcorpus, where *may* occupies position 95. The scarce use of hedges is mitigated by the presence of supporting evidence provided by previous studies in the same field, with quotations employed so as to establish academic credibility. References are inserted as matter-of-fact, thus making them more certain and strengthening the case made. Results are therefore made meaningful because researchers refer to previous accounts of formal research. Furthermore, quotations are not listed as anonymous numbers; rather, they are personified by quoting the surname of the author(s) of previous studies.

3.2. The provision of medical information

The provision of health information is widely distributed across the media by means of television, radio, newspapers, magazines and the Internet, and provides a constant and readily accessible supply of health care information and advice. To fulfil their informative and educational function, the media try to reach all kinds of people, of all ages, and therefore also make use of those channels which are meant to reach specific audiences, such as publications targeted at men, women or teenagers (McKay, 2006). Although their common goal is to inform about advances in medical treatments and new drugs, warn about health risks, and promote the value of taking care of the self, they do so in different ways and using the style and language which is appropriate to the audience they are addressing (Gotti, 2014).

There has also been growing awareness of topics where misunderstanding or lack of proper communication between experts and non-experts can lead to failures in the very activity being undertaken. An important case in point is explanation about diseases and treatments as presented in face-to-face interaction

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[5] Since, in Italy, Italian journals, despite their in-depth analyses, are regarded as second-class research tools by the local medical community, and since medical journals are regarded as being serious only if they are published in English, either in the UK or in the US, the Italian scientific board of the *Italian Heart Journal* decided to conceal the Italian-like quality of the journal by assigning it an English name (*Journal of Cardiovascular Medicine*) and an American publisher, whilst maintaining an Italian editorial and scientific board.

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between doctors and patients or reported in medical journals or information leaflets included in medical products (Hall, 2006). Indeed, in the medical field there has been a great change in the last few decades in the amount of information made available to people other than the traditional learned intermediaries – the doctors, pharmacists and other medical workers. Many countries have adopted policies which mandate that adequate information be made available about treatments, medication and surgical procedures so that people can participate in an informed way in the management of their own health. The sources of data, however, are not always as transparent and objective as they need to be.

A genre of medical discourse which has recently received a considerable amount of attention from linguists is that of patient information leaflets (PILs). PILs are texts that are inserted into the product package in order to enable a patient to use medication appropriately. Although directives and guidelines for PILs have been issued both at national and international level, they generally regard the information to be given rather than the style to be adopted. In this way, there may be great variations concerning information about the same medication in leaflets distributed in different languages and in different countries. Such variation often derives from specific decisions about document design, which are based on the culture of the country in which the PIL will be made available.

In a study of PILs on sale in Flanders and the Netherlands, Van Berkel and Gerritsen (2012) have analysed the influence of cultural values on the style of these health communication texts. In particular, they have investigated whether an important factor such as uncertainty avoidance – i.e. to what extent people try to avoid risk – has an impact on the content and style of PILs. People from low uncertainty avoidance cultures do not fear risks and do not need to know the exact effect of the risks they take; instead, people from high uncertainty avoidance cultures prefer clearly-formulated regulations and rely on experts for advice (Hofstede, 2001). Since uncertainty avoidance is related to risk and threat, this value appears to be significant in consumer health information. Flanders and the Netherlands differ significantly in uncertainty avoidance, with high scores for Flanders and low for the Netherlands (Hofstede, 2001). In their analysis of the leaflets for the same products sold in the two countries, Van Berkel and Gerritsen (2012) therefore expected to find significant differences in terms both of contents and style. Indeed, the results confirmed their expectations: the Flemish PILs mentioned a greater number of risks and the risks themselves were better elucidated. The Dutch leaflets, instead, contained more statements in which the harmful consequences of the risks were not explained.

Another element investigated was the use of medical terminology and, in particular, its explanation, as the use of medical terms and whether they are explained or not may greatly influence uncertainty avoidance: the higher the uncertainty avoidance the more we can expect that medical terms are used and explained. This correlation was found valid also in the data analysed by Van Berkel and Gerritsen. The Flemish texts contained more medical terms with their

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explanation; the Dutch leaflets, instead, contained more medical terms unaccompanied by an explanation.

Other elements investigated by Van Berkel and Gerritsen were the length of the entire text of the PIL and the extent to which the PILs were structured. As regards the latter, the Flemish leaflets made greater use of structure markers such as headings and this correlates with the preference for precision and user-friendliness typical of high uncertainty avoidance cultures. The insertion of more details, explanations and headings determined a greater length of the Flemish texts. In their corpus analysis Van Berkel and Gerritsen were thus able to trace quite a number of differences in style and content between Flemish and Dutch PILs and to attribute these differences mainly to the different degree of uncertainty avoidance in the two countries. This is their conclusion:

> Despite uniform regulations in the European Union and a common language, PILs in Flanders and the Netherlands show significant differences in the number of structure indicators, risks mentioned and the use of medical terms. Since the aspects that occur significantly more often in Flanders all aimed to reduce risk, the difference between the Flemish and the Dutch PILs could be due to higher uncertainty avoidance in Flanders than in the Netherlands. (Van Berkel & Gerritsen, 2012: 159)

Van Berkel and Gerritsen then integrated their analysis with an interview with prospective patients, particularly elderly people, from both countries. When shown the different versions of the various texts, a marked preference was expressed for the Dutch variants, motivated by the shorter length of the texts. Typical positive comments were as follows:

- 'You don't have to have to read a whole bible, do you? In other words; the other PIL is too long.'
- 'Otherwise, you read a lot of stuff you don't understand.'
- 'The other text is three pages longer. That isn't necessary; it leads to worrying.'
- 'If you are in pain, you won't read that much.' (Van Berkel & Gerritsen, 2012: 166)

These comments are interesting as they may be of great use in the design of this kind of documents as they raise important questions such as the following: Which of the two models presented here – i.e. the more detailed vs the more concise type – should pharmaceutical companies adhere to? Should PILs be written in a style that is highly appreciated but not as thoroughly comprehended thus leading to the risk of less appropriate medicine use? Or is it better to use a style which might not be fully appreciated, but which contains information that is better comprehended and leads to more appropriate medicine use? It is obvious that – in the best interest of the patients – the answers to these questions have to be found by both pharmaceutical companies and communication specialists, in order to choose the

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style and layout that will provide patients with the information they need and that at the same time will meet their stylistic needs, so that the text can be fully understandable but at the same time appreciated by the reader.

3.3. Medical discourse in oral contexts

Although research on written medical discourse has traditionally received close attention, also talk in medical domains has been researched in some depth, owing to the fact that the importance of correct communication in the health services is increasingly recognised. The linguistic branch that has mainly investigated oral discourse in the medical domain is conversation analysis (Bowles, 2006). Mainly adopting an ethnomethodological approach, conversation analysis can show how the analysis of oral interaction may explain the organisation of the structures of social institutions. By focusing on language in terms of social action, conversation analysis uses naturally occurring data of verbal communication and subjects it to close turn-by-turn examination. The nature and structure of turn-taking can be investigated by means of a number of analytical tools. The first of these is the concept of the *adjacency pair*, which presupposes that in paired utterances (e.g. question-answer) the production of the second part is conditioned by the first part. Consider the following example, of a partial sequence of an encounter between a physician (Dr. E) and a patient's daughter (Dtr), in which the former establishes the terminal status of the patient and thereby implies the futility of continued medical treatment:

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(3) 1 Dr. E: [W]e don't think she's ever going to get better. We can keep her body alive on
2   the machine for a very long period of time, but==
3 Dtr: ==but she is going now.
4 Dr. E: And it sounds like that's not what she would want.
5 Dtr: No.
6 Dr. E: Everybody is in agreement with that and that's what Dr. [X] has said as well. […] [B]ased upon what
7   everybody said, her to her doctors and all of you to me, it sounds like it's not what she would want.
8 Dtr: No.   (Barton, 2006: 28)

As can be seen, the daughter's turns are all conditioned by the doctor's opening moves: in line 3 by completing the doctor's utterance, the daughter agrees on medical futility and on her mother's terminal status using the lay expression *she's going now*. In lines 5 and 8 the daughter expresses her consensus to the physician's opinion that the patient wishes to withdraw life support in order to let her die by providing overt agreement with the confirming negative *no*. Again these agreeing

turns are conditioned by the doctor's previous statements that *it's not what she would want*, where the pronoun *it* refers to the decision not to continue medical treatment.

The use of videorecorded samples in conversation analysis has produced an increase in the amount of attention paid to the role of non-verbal elements in the organisation of medical talk, such as laughter (Haakana, 2002), silence (Ten Have, 1991), body movement (Modaff, 2003), gaze (Robinson, 1998), and gestures (Heath, 2002). Medical interactions have mainly been investigated with a strong focus on the analysis of their characteristic phases and sequential moves and the social action that they generate. As regards the medical activities that have been studied, the most typical is the doctor-patient interview with its main sequential phases which traditionally run from history-taking through to physical examination (Robinson & Stivers, 2001; Stivers & Heritage, 2001; Heritage & Maynard, 2006). Various aspects of this activity have been analysed, such as the way in which doctors and patients interact in the diagnostic phase, or deliver and receive good and bad news, negotiate prescription requests, deal with test results or discuss taboo subjects such as death, disability or sexuality. Other aspects that have been investigated in the analysis of doctor-patient interviews are the way participants take on specific institutional roles (Sarangi, 2010), conform to particular identity traits, establish asymmetrical power relations, narrate their experience with illness (De Martino, 2013) or express stance (Staples & Biber, 2014).

The analysis of some settings, such as the psychotherapy interview or the psychiatric interview, has shown differentiations from the typical interactional devices used in the organisation of the traditional doctor-patient interview pattern. The psychiatric interview, for example, has been shown to be a very complex activity (Ribeiro & Pinto, 2006), as the interactional process may be facilitated or inhibited by the participants themselves, who often talk at cross-purposes. Indeed, patients bring up idiosyncratic topics and often get 'off the track'. In this case, psychiatrists have to use their interviewing competence to get back on topic and lead their patients into less digression (Shea, 1998). The interviewers themselves may bring up topics in a disjointed way, frequently interrupting the ongoing conversation. They try to follow their institutional agenda, which implies their gathering patients' information, reaching a diagnosis and establishing a course of action. Patients, instead, often have different expectations as they see this encounter as an opportunity to introduce personal narratives unrelated to their illnesses (Bercelli, Rossano, & Viaro, 2008).

Another kind of activity which has greatly been investigated relates to interactions taking place within a medical training programme. One example is the study of surgical instruction in the operating theatre. As Zemel and Koschmann (2003) have shown, this talk is very complex as medical training is often simultaneous and multi-layered, with a surgeon teaching anatomy to medical students while at the same time demonstrating surgical techniques to trainee

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surgeons, all within the context of attending to the patient being operated on and the staff present in the operating theatre. This kind of study is very important in training terms, as it helps to point out the key moments when the interaction between trainer and trainee is particularly problematic. Moreover, in some educational institutions, trainees are sensitised to the cooperative and co-constructed nature of doctor-patient talk by carrying out their own recordings and analysis of talk.

Another field of application of the results of conversation analysis is speech pathology, as this kind of investigation sheds light on the effects of communication impairment in a meaningful and realistic manner, particularly in the areas of aphasia and of stammering research. As regards the latter, Acton (2004: 35) is convinced that conversation analysis is particularly suitable for this kind of research because it is able "to draw attention to the relationship of stammerers' conversations to the organisational constraints of ordinary conversation".

A further area in which conversation analysis has proved particularly useful is intercultural communication, a phenomenon which has become increasingly common in societies with high rates of immigration. In this context, the study of oral medical discourse is helpful for diagnosing when interactional problems are due to cultural differentiations. Indeed, consultations between doctors and patients are part of the changing reality resulting from globalisation and the increasing diversity of cities throughout the world with more complex day-to-day talk between family doctors and their patients from a range of ethnic and linguistic backgrounds (cf. Roberts, 2006). These patients come from very heterogeneous groups and their requirements cannot be dealt with merely in terms of the need for interpreters and how they are used. The reality of many cities in the world is that patients do not come from a small number of well-established ethnic and minority linguistic groups whose health beliefs can be readily summarised and for whom interpreters are easily available. Their ethnic landscape continuously changes as new workers, refugees and asylum seekers enter these cities.

4. CONCLUSION

As has been seen, medical discourse has been analysed from many perspectives: not only from a structural angle, with a focus on the description of the language used in professional contexts and on its evolution throughout the centuries, but also from a comparative standpoint, in terms of how this discourse is employed in cross-cultural/cross-linguistic contexts of usage, as well as from an ethical angle, with an emphasis on the doctor-patient relationship and on the social power relationship. This richness of viewpoints is mainly due to the influence of the results of studies carried out in parallel disciplines and linguistic branches which have promoted a more integrated approach. This interdisciplinary perspective has been favoured by the recent developments of linguistic studies which have

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adopted theoretical approaches and analytical tools typical of various disciplines other than linguistics such as sociology, anthropology and psychology.

Another factor which has greatly influenced recent studies of medical discourse is the fact that in the past 30 years health care in the Western world has increasingly emphasised 'patient-centredness' and patient autonomy in decision making, which imply greater response to the concerns, beliefs and expectations of the patient, with an underpinning assumption that the consultation should be more egalitarian, less bio-medical. Although physicians have gradually been accorded higher status and respect and have been entrusted with the control of access to prescription medicines as a public health measure, this has produced a concentration of power which entails both advantages and disadvantages for specific categories of patients in particular settings.

This change of perspective is reflected in research on medical discourse, which has recently widened its focus taking into consideration areas which were once considered marginal or irrelevant, such as complementary/alternative medicine (Goldbeck-Wood, Dorozinski, & Lie, 1996; Eisenberg et al., 1998; Salager-Meyer, Alcaraz Ariza, & Zambrano, 2003) as well as an interest in the talk of the patients themselves with the analysis of interaction between patients involved in therapeutic sessions. Another recent area of study has been medical expert/non-expert talk with studies of such topics as 'lay diagnosis'. This kind of talk, occurring between non-specialists and 'about medicine', is a growing area of linguistic investigation and reflects the widening scope of health care research in general, a phenomenon which has largely widened the focus of applied linguistics studies (Candlin & Candlin, 2003). This enlargement has also influenced talk involving paramedical personnel, a type of interaction that is particularly important for health service delivery and has become a key site of engagement which needs to be urgently investigated, particularly from an intercultural perspective.

Another field of application of the results of linguistic studies of medical discourse is the training of new professionals and the upgrading of the competences of medical personnel. This pedagogic perspective concerns not only native speakers, but also non-native ones due to the internationalisation of medical encounters involving doctors, nurses and patients from many different ethnic, cultural and linguistic backgrounds. Thus more and more communication materials are being produced for the training sector focusing on the linguistic and metalinguistic features of medical interaction so as to contribute to improved communication and the prevention and repair of misunderstandings.

In conclusion, the present analysis of the main fields of study of medical discourse has highlighted a considerable variety of themes, data and research methods which are clearly representative of the eclectic interest in this specific domain and of the wide range of approaches developed for its investigation. As has been shown, linguistic analysis is applicable to several kinds of multiparty encounters involving multiple interactions and practices, and various kinds of participants, including different health care professionals, trainees and patients.

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There are a number of reasons why linguistic studies are likely to continue to expand in medical fields. Indeed, thanks to their interdisciplinary nature, methodologically adaptable characteristics and applicability to all forms of text, linguistic studies are well placed to keep up with the continuous diversification of health care settings and practices, thus making optimal use of the adaptive ability and linguistic creativity of the medical discourse community.

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References

Acton, C. (2004). A conversation analytic perspective on stammering: Some reflections and observations. *Stammering Research*, *1*(3), 249-270.

Barton, E. (2006). Trajectories of alignment and the situated ethics of end-of-life discussions in American medicine. In M. Gotti, & F. Salager-Meyer (Eds.), *Advances in medical discourse analysis: Oral and written contexts* (pp. 23-42). Bern: Peter Lang.

Becher, T., & Trowler, P. (2001). *Academic tribes and territories. Intellectual enquiry and the culture of disciplines*. Buckingham: The Society of Research into Higher Education and Open University Press.

Bercelli, F., Rossano, F., & Viaro, M. (2008). Different place, different action: Clients' personal narratives in psychotherapy. *Text and Talk, 28*(3), 283-305.

Bhatia, V. K. (1993). *Analysing genre: Language use in professional settings*. London: Longman.

Bhatia, V. K. (2004). *Worlds of written discourse: A genre-based view*. London: Continuum.

Bhatia, V. K., & Gotti, M. (Eds.) (2006). *Explorations in specialized genres*. Bern: Peter Lang.

Bowles, H. (2006). Conversation analysis and health communication: Updating a developing relationship. In M. Gotti, & F. Salager-Meyer (Eds.), *Advances in medical discourse analysis: Oral and written contexts* (pp. 43-64). Bern: Peter Lang.

Boyle, R. (1772). *The works*. Ed. T. Birch, 6 vols. London: J. & F. Rivington; rpt. Hildesheim: Georg Olms, 1965.

Brown, K. (Ed.) (2006). *Encyclopedia of language and linguistics* (2nd ed.). London: Elsevier.

Candlin, C., & Candlin, S. (2003). Health care communication: A problematic site for applied linguistics research. *Annual Review of Applied Linguistics*, *23*, 134-154.

De Martino, M. (2013). Illness narratives: Gender and identity in patients' accounts. In M. Gotti, & C. Sancho Guinda (Eds), *Narratives in academic and professional genres* (pp. 317-339)*. Bern: Peter Lang.

Eisenberg, D., Davis, R., Ettner, S., Appel, S., Wilkey, S., Rompay, M.V., & Kessler, R. (1998). Trends in alternative medicine use in the United States (1990-1997). *Journal of the American Medical Association*, *28*(18), 1569-1576.

Ferguson, G. (2013). English for Medical Purposes. In B. Paltridge, & S. Starfield (Eds.), *The handbook of English for Specific Purposes* (pp. 243-261). Chichester: Wiley-Blackwell.

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Fløttum, K. (2006). Medical research articles in the comparative perspectives of discipline and language. In M. Gotti, & F. Salager-Meyer (Eds.), *Advances in medical discourse analysis: Oral and written contexts* (pp. 251-269). Bern: Peter Lang.

Giannoni, D. (2006a). Evidence of generic tension in academic book acknowledgements. In V. K. Bhatia, & M. Gotti (Eds.), *Explorations in specialized genres* (pp. 21-42). Bern: Peter Lang.

Giannoni, D. (2006b). Book acknowledgements across disciplines and texts. In K. Hyland, & M. Bondi (Eds.), *Academic discourse across disciplines* (pp. 151-175). Bern: Peter Lang.

Giannoni, D. (2010). Metaphoric values and disciplinary identity in English research articles. In G. Garzone, & J. Archibald (Eds.), *Discourse, identities and roles in specialized communication* (pp. 281-299). Bern: Peter Lang.

Goldbeck-Wood, S., Dorozinski, A., & Lie, L. G. (1996). Complementary medicine is booming worldwide. *British Medical Journal*, *13*, 131-3.

Gotti, M. (2006a). Medical discourse, developments (16th and 17th Centuries). In K. Brown (Ed.), *Encyclopedia of language and linguistics* (2nd ed.) (pp. 674-681). London: Elsevier.

Gotti, M. (2006b). Communal correspondence in Early Modern English: The *Philosophical Transactions* network. In M. Dossena, & S. M. Fitzmaurice (Eds.), *Business and official correspondence: Historical investigations* (pp. 17-46). Bern: Peter Lang.

Gotti, M. (2006c). Disseminating Early Modern science: Specialized news discourse in the *Philosophical Transactions*. In N. Brownlees (Ed.), *News discourse in Early Modern Britain* (pp. 41-70). Bern: Peter Lang.

Gotti, M. (2010). A new genre for a specialized community. In H. Dorgeloh, & A. Wanner (Eds.), *Syntactic variation and genre* (pp. 85-110). Berlin: De Gruyter Mouton.

Gotti, M. (2011a). *Investigating specialized discourse* (3rd ed.). Bern: Peter Lang.

Gotti, M. (2011b). The development of specialised discourse in the *Philosophical Transactions*. In I. Taivitsainen, & P. Pahta (Eds.), *Medical writing in Early Modern English* (pp. 204-220). Cambridge: Cambridge University Press.

Gotti, M. (2012). Managing disputes with civility: On seventeenth-century argumentative discourse. In U. Busse, & A. Hübler (Eds.), *Investigations into the meta-communicative lexicon of English. A contribution to historical pragmatics* (pp. 89-109)*.* Amsterdam: Benjamins.

Gotti, M. (2013). The formation of the Royal Society as a community of practice and discourse. In J. Kopaczyk, & A. Jucker (Eds.), *Communities of practice in the history of English* (pp. 269-285). Amsterdam: John Benjamins.

Gotti, M. (2014). Reformulation and recontextualization in popularization discourse. *Ibérica*, *27*, 15-34.

Haakana, M. (2002). Laughter in medical interaction: From quantification to analysis, and back. *Journal of Sociolinguistics*, *6*, 207-35.

Hall, D. (2006). Medical leaflets, empowerment and disempowerment. In M. Gotti, & F. Salager-Meyer (Eds.), *Advances in medical discourse analysis: Oral and written contexts* (pp. 271-288)*.* Bern: Peter Lang.

Heath, C. (2002). Demonstrative suffering: The gestural (re)embodiment of symptoms. *Journal of Communication*, *52*, 597-617.

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Heritage, J., & Maynard, D. (Eds.) (2006). *Communication in medical care: Interaction between primary care physicians and patients*. Cambridge: Cambridge University Press.

Hofstede, G. (2001). *Culture's consequences. Comparing values, behaviors, institutions and organizations across nations*. Thousand Oaks: Sage.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.

Maci, S. (2012). The *Discussion* section of medical research articles: A cross-cultural perspective. In M. Gotti (Ed.), *Academic identity traits: A corpus-based investigation* (pp. 95-120). Bern: Peter Lang.

McKay, S. (2006). The discursive construction of health risk in magazines: Messages, registers and readers. In M. Gotti, & F. Salager-Meyer (Eds.), *Advances in medical discourse analysis: Oral and written contexts* (pp. 311-330). Bern: Peter Lang.

Modaff, D. (2003). Body movement in the transition from opening to task in doctor-patient interviews. In P. Glenn, C. LeBaron, & J. Mandelbaum (Eds.), *Studies in language and social interaction: Essays in honor of Robert Hopper* (pp. 411-422). Mahwah NJ: Lawrence Erlbaum.

Ribeiro, B. T., & Pinto, D. (2006). The psychiatric interview: An insider's perspective. In M. Gotti, & F. Salager-Meyer (Eds.), *Advances in medical discourse analysis: Oral and written contexts* (pp. 155-176). Bern: Peter Lang.

Roberts, C. (2006). Continuities and discontinuities in doctor-patient consultations in a multilingual society. In M. Gotti, & F. Salager-Meyer (Eds.), *Advances in medical discourse analysis: Oral and written contexts* (pp. 177-196). Bern: Peter Lang.

Robinson, J. (1998). Getting down to business: Talk, gaze and bodily orientation during openings of doctor-patient consultations. *Human Communication Research*, *25*, 97-123.

Robinson, J., & Stivers, T. (2001). Achieving activity transitions in primary-care encounters: From history taking to physical examination. *Human Communication Research*, *27*, 253-298.

Sarangi, S. (2010). Reconfiguring self/identity/status/role: The case of professional role performance in healthcare encounters. *Journal of Applied Linguistics and Professional Practice*, *7*(1), 75-95.

Salager-Meyer, F., Alcaraz Ariza, M.A., Pabón, M., & Zambrano, N. (2006). Paying one's intellectual debt: Acknowledgments in scientific/conventional and complementary/alternative medical research. In M. Gotti, & F. Salager-Meyer (Eds.), *Advances in medical discourse analysis: Oral and written contexts* (pp. 407-430). Bern: Peter Lang.

Salager-Meyer, F., Alcaraz Ariza, M. Á., & Zambrano, N. (2003). The scimitar, the dagger and the glove: Intercultural differences in the rhetoric of criticism in Spanish, French and English medical discourse (1930-1995). *English for Specific Purposes*, *22*, 223-247.

Shea, S. (1998). *Psychiatric interviewing. The art of understanding*. Philadelphia: Saunders.

Skelton, J., & Whetstone, J. (2012). English for medical purposes and academic medicine: Looking for common ground. *Ibérica*, *24*, 87-102.

Staples, S., & Biber, D. (2014). The expression of stance in nurse-patient interactions: An ESP perspective. In M. Gotti, & D. Giannoni (Eds.), *Corpus analysis for descriptive and pedagogical purposes: ESP perspectives* (pp. 123-142)*.* Bern: Peter Lang.

23

Stivers, T., & Heritage, J. (2001). Breaking the sequential mold: Answering 'more than the question' during comprehensive history taking. *Text*, *21*, 151-185.

Swales, J. (1990). *Genre analysis. English in academic and research settings*. Cambridge: Cambridge University Press.

Taavitsainen, I. (2001). Evidentiality and scientific thought-styles: English medical writing in Late Middle English and Early Modern English. In M. Gotti, & M. Dossena (Eds.), *Modality in specialized texts* (pp. 21-52). Bern: Peter Lang.

Taavitsainen, I. (2006). Audience guidance and learned medical writing in Late Medieval English. In M. Gotti, & F. Salager-Meyer (Eds.), *Advances in medical discourse analysis: Oral and written contexts* (pp. 431-456). Bern: Peter Lang.

Taavitsainen, I., & Pahta, P. (Eds.) (2004). *Medical and scientific writing in late medieval English*. Cambridge: Cambridge University Press.

Ten Have, P. (1991). The doctor is silent: Observations on episodes without vocal receipt during medical consultations. In B. Conein, M. de Fornel, & L. Quéré (Eds.), *Les formes de la conversation* [Forms of conversation], Vol. 2 (pp. 55-76). Issy-les-Moulineaux: CNET.

Van Berkel, J., & Gerritsen, M. (2012). Patient information leaflets in Flanders and the Netherlands: Unnecessary differences? In P. Heynderickx, S. Dieltjens, G. Jacobs, P. Gillaerts, & E. De Groot (Eds.), *The language factor in international business: New perspectives on research, teaching and practice* (pp. 151-171). Bern: Peter Lang.

Vihla, M. (1999). *Medical writing: Modality in focus*. Amsterdam: Rodopi.

Zemel, A., & Koschmann, T. (2003). Teaching surgery: The achievement of multiple interactional outcomes in the operating room. Paper presented at the International Communication Association Meetings, San Diego, CA.

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