diacrítica
REVISTA DO CENTRO DE ESTUDOS HUMANÍSTICOS
Vol. 35, n.º 2, 2021, pp. 146–171. DOI: doi.org/10.21814/diacritica.622

SPECIALISED DISCOURSE IN MEDICAL RESEARCH ARTICLES: A CROSS-LINGUISTIC COMPARISON BETWEEN ENGLISH AND GALICIAN

O DISCURSO ESPECIALIZADO EM ARTIGOS DE INVESTIGAÇÃO MÉDICA: UMA COMPARAÇÃO LINGUÍSTICA ENTRE O INGLÊS E O GALEGO

María Fernández Zas*
maria.fernandez.zas@udc.es

Due to the enormous development of science and technology in recent times, English has become the leading language for conveying specialised knowledge. Conversely, in Galicia, the study of specialised discourse has remained largely unexplored until the very end of the last century, when Galician achieved the status of co-official language within the Spanish State. This article presents an analytical and descriptive approach to the notion of specialised discourse with three objectives. First of all, it attempts to clarify the aforementioned concept, as well as its distinctive features, in order to identify potential differences and similarities in terms of how experts belonging to the English and Galician-speaking worlds understand and use specific-domain languages. Secondly, it aims to conduct a quantitative and qualitative corpus-based comparison of the most relevant morphosyntactic features in English and Galician specialised discourse, with a particular focus on the field of medical writing. Lastly, this article also intends to fill a significant gap in Galician linguistic studies, where research on specific-domain languages remains a pending issue. To attain these objectives, a corpus-based cross-linguistic comparison of English and Galician specialised discourse is carried out based on twenty-four research articles. By means of which, the most representative morphosyntactic characteristics of specialised texts are analysed, interpreted and discussed in depth for both languages. The results reveal that English and Galician domain-specific languages present far more similarities than might be expected at first, the most notable differences being those inherent to the specificity of each linguistic system.

Keywords: Specialised discourse. Medical writing. Corpus-based research. Cross-linguistic comparison. English. Galician.

Devido ao notável desenvolvimento da ciência e da tecnologia nos últimos tempos, o inglês tornou-se a língua principal para a transmissão de conhecimentos especializados. Pelo contrário, na Galiza, o estudo do discurso de especialidade permaneceu em grande parte inexplorado até ao final do século passado, quando o galego alcançou o estatuto de língua co-oficial dentro do Estado espanhol. Este artigo apresenta uma abordagem analítica e descritiva da noção de discurso especializado com três objetivos. Em primeiro lugar, tenta clarificar o conceito acima mencionado, bem como os seus traços distintivos, a fim de identificar potenciais diferenças e semelhanças em termos de como os especialistas pertencentes aos mundos anglófono e galegófono compreendem e utilizam as línguas de

* ILLA, Universidade da Coruña, Galiza, Spain. ORCID: 0000-0001-9884-4399

especialidade. Em segundo lugar, pretende, baseada em corpus, realizar uma comparação quantitativa e qualitativa das caraterísticas morfossintáticas mais relevantes do discurso especializado em inglês e em galego, com particular incidência no campo da escrita médica. Finalmente, este artigo tenciona também preencher uma lacuna significativa nos estudos linguísticos galegos, onde a investigação sobre as línguas de especialidade continua a ser uma questão pendente. Para atingir estes objetivos, leva-se a cabo uma comparação linguística do discurso especializado em inglês e em galego com base em vinte e quatro artigos de investigação, através dos quais as caraterísticas morfossintáticas mais representativas dos textos especializados são analisadas, interpretadas e discutidas em profundidade para ambas as línguas. Os resultados revelam que as línguas de especialidade em inglês e em galego apresentam muitas mais semelhanças do que seria inicialmente expectável, sendo as diferenças mais notáveis as inerentes às especificidades de cada sistema linguístico.

Palavras-chave: Discurso especializado. Escrita médica. Investigação baseada em corpus. Comparação linguística. Inglês. Galego.

•

1. Introduction

Although the roots of specialised discourse reach back to the Scientific Revolution, it is not until the middle of the last century that situational varieties cease to be regarded as a unified field with precise limits and become instead a multidisciplinary study area that integrates different forms of knowledge. In this vein, as Gotti (2011) emphasises, the last five decades have witnessed "the appearance of a great many articles and books that highlight all types of detail in various disciplinary fields and at every level of linguistic analysis" (p. 11). Nevertheless, despite the significant amount of information and research that has become available in recent times, there are still controversial aspects that need to be clarified; for example, the very concept of specialised discourse or the great number of equivalent terms, including "restricted language" (Wallace 1981), "special language" (Varantola 1986) and "microlanguage" (Voráček 1987).

Needless to say, the multiplicity of terms used to describe the same referent makes it challenging to study specialised communication from a theoretical point of view, whilst suggesting a relation of subordination to general language that is not entirely in line with reality. On the basis of these premises, the expression "specialised discourse" can be defined as "the specialist use of language in contexts which are typical of a specialized community stretching across the academic, the professional, the technical and the occupational areas of knowledge and practice" (Gotti, 2011, p. 15). As pointed out by Gotti (2003), "this perspective stresses both the type of user and the domain of use, as well as the special application of language in that setting" (p. 24). As far as linguistic features are concerned, specialised languages do not possess different lexical, phonetic, morphosyntactic and textual resources from those which are characteristic of general

language, the only difference being their frequency of usage in the construction of specialised texts, which may differ from one variety to another.

Unlike specialised discourses in English, which has been deeply explored from a wide variety of perspectives, in Galicia the study of domain-specific languages of Galician remains a pending issue. It is true that in the last decades some works on this topic have been published, most of which are related directly to the field of terminology, but they are still very inferior to those of English, both in qualitative and quantitative terms. In fact, not only has specialised discourse not been systematically taught in schools and universities, but it has not caught the attention of Galician linguists yet. Therefore, it comes as no surprise that the number of journals and magazines containing specialised texts written in the aforementioned language is minimal, for Spanish remains the language par excellence when committing specialist knowledge to paper. In the absence of any background research that can establish a reference standard, the only course of action available is to conduct a descriptive analysis of the different discourses that are currently being produced by Galician professionals in their respective areas of expertise.

In the light of the preceding considerations, this article will revolve around the notion of specialised discourse so as to carry out a corpus-based cross-linguistic comparison between English and Galician in the particular field of medical writing. Thus, it will primarily seek to clarify this somewhat misleading and confusing concept, as well as its distinctive features, in order to identify potential differences and similarities between the way experts belonging to the English and Galician-speaking worlds understand and use specialised discourse, more specifically, medical discourse. Likewise, to the extent possible, this paper will also intend to fill a significant gap in Galician linguistic studies, thereby contributing to consolidate the development and subsequent use of this minoritized language in specialised fields where it is not present yet.

2. State of the art

As has been said, the roots of specialised discourse go back to the 17th century, more specifically to the Scientific Revolution, which stimulated a new way of conceiving reality and, consequently, also the relationship between language and knowledge. Long gone are the days when Latin was in the top position as the *lingua franca* of European scholars, a position currently occupied by English. Indeed, the process of globalisation has favoured English, making it the language of international communication in most domains, including science, technology, humanities and business, among many others. Over the last decades, the ubiquity of English has led to an increase in the number of both language users and specialised fields. These circumstances have stimulated scholarly discussion and comprehensive theorisation in order to understand and be able to satisfy the communicative needs and requirements of specific communities.

Indeed, specialised discourse is not a static entity, but, on the contrary, it is continuously updated and prone to the pressures of intercultural variation, which reveals how disciplines and professions where this discourse is used evolve (*vd*. Gotti 2009; Gunnarsson 2009). As Ruíz-Garrido, Palmer-Silveira, and Fortanet-Gómez (2010, p. 1) highlight, “there are as many specialised languages as there are professions”, although

any distinction based primarily on lexis would be overly simplistic, for the natural separation between disciplines is rather blurred. Nevertheless, just as general language contains many varieties, "common rules and features of specialized discourse coexist with specific ones separating each variety" (Gotti 2011, p. 17). At present, with the increasing proliferation of new knowledge in the various professional fields

> it is how they write rather than simply what they write that makes the crucial difference between them. (…) Scholarly discourse is not uniform and monolithic, differentiated merely by specialist topics and vocabularies. It is an outcome of a multitude of practices and strategies, where what counts as a convincing argument and appropriate tone is carefully managed for a particular audience. These differences are a product then of institutional and interactional forces, the result of diverse social practices of writers within their fields. (Hyland 2000, p. 3)

Furthermore, it can be asserted that research on specialised languages has investigated discourse features at all linguistic levels, including the use of core grammatical characteristics and terminology, the rhetorical organisation of specialised texts, etc. Nevertheless, leaving aside momentarily the popularity of this line of research in the present, it should be pointed out that interest in English as a language of specialised discourse and communication dates back to the 1920s–1930s, when, according to Gotti (2011, p. 9), "scholars belonging to the Prague school turned their attention to the so-called 'functional style' which characterises scientific and technical discourse". Such an approach is undoubtedly conservative, as it completely separates these varieties of discourses from everyday language. Unlike Gotti (2011), Swales (1990) attributes to Barber's (1962) article, which is entitled "Some measurable characteristics of modern English scientific prose", the beginning of the studies on specialised discourse, for it was able to "show that continuous tenses were so rare in scientific prose that they could be virtually discounted" (Swales 1990, p. 2). As can be seen, early work on specialised discourse was primarily focused on the sentence-level, since researchers gave priority to the analysis of the lexical and syntactic level of specialised texts. However, "the field has developed over the last forty years or so into an eclectic endeavour employing a diverse range of theories, methods and foci of attention", which takes into account issues of pragmatics, functional grammar and discourse analysis (Flowerdew & Gotti 2006, p. 8).

Indeed, specialised discourse has been characterised from its inception by variability, as shown by the name changes this discipline has undergone since its commencement. As set out in the preceding section, "restricted languages", "microlanguages" and "special languages" are some of the names employed to denote "the specific discourse used by professionals and specialists to communicate and transfer information and knowledge" (Mićić 2013, p. 217). In this sense, Sánchez Jiménez (2015) and Nagy (2014) enlarge the number of known denominations, thereby including new labels such as "specialised languages", "specialised communication", "technical English", "scientific English", "English for special or specific purposes-ESP", "English for Occupational Purposes", "Professional English" or, more recently, "Academic and Professional Languages". The above notwithstanding, this article opts for the use of the terms "specialised discourse", "specialised languages" and "domain-specific languages"

to avoid terminological misunderstandings, reserving the name "medical discourse" to refer to a sub-variety of "specialised discourse", as will be seen later.

This lack of consensus among scholars concerning the boundaries of the aforementioned concepts also extends to the linguistic peculiarities of specialised discourse, since it does not seem possible to draw clear boundaries between domain-specific languages and general language. Accordingly, numerous researchers have shown an interest in determining the existing differences, which has led to a rich discussion between authors who believe that specialised discourse has its own lexical, syntactic and pragmatic resources and those who consider that the only difference with regard to standard language is the vocabulary, that is to say, the terminology of a specific field. Notable among the former option are the contributions of Crystal (1987), Swales (1990) and Bhatia (1993, 2008). These researchers affirm that, apart from having a distinctive vocabulary, which is always in the process of renewal, specialised discourse possesses particular grammatical characteristics, i.e. "the large technical vocabulary (...) with a lot of compounds which can be very long, imposing abbreviations for practical use, long sentences with a complex internal structure and the use of passive constructions" (Nagy 2014, p. 265).

Concerning the latter, there are also several researchers that are worthy of mention. In this context, for Varantola (1986, p. 12), it is evident that vocabulary "is both a dominant style marker of SL usage and also a clear indicator of both the field in question and the level of speciality". Conversely, from her point of view, the syntaxes of specialised languages and general language are not two separate and divergent entities, the syntactic choices of the first one being dependent upon their existence in everyday language. Similarly, Blanco Canales (2010) is convinced that "specialised languages are part of the common language, as they use the same linguistic and communicative resources, although with a specific frequency of occurrence, and, consequently, there is a relationship of complementarity and not opposition" (free translation of p. 72). Likewise, Gotti (2011), and Li and Li (2015) state that the features of specialised discourse are somewhat relative than absolute, for they exist in ordinary language as well, although not so prominently in quantitative terms.

In this connection, among all the proposals of classification that have been published to establish the idiosyncratic characteristics of specialised discourse, Gotti's (2011, p. 20) appears to be the most comprehensive and up to date. Indeed, this researcher does not concentrate exclusively "on the pragmatic criteria reflected on the various features of its varieties", which, on the contrary, can be seen in the categorizations provided by Varantola (1986), Nagy (2014) and Bennett (2015). Gotti primarily distinguishes three typologies of linguistic features within specialised discourse: lexical, syntactic and textual. The first one includes characteristics such as monoreferentiality, lack of emotion, precision, transparency, conciseness and conservatism, among others. For its part, nominalization, premodification, sentence length, depersonalisation and lexical density are some of the syntactic features displayed by specialised texts, according to this author. Finally, Gotti focuses on the peculiarities that distinguish these varieties of discourse from the textual standpoint, including, in this case, the use of conjunctions,

textual organisation, anaphoric references, etc. Owing to its great versatility to specialised discourse, this organisational model will be used in the analysis provided in section 4.

Unfortunately, this range and depth of research into English specialised discourse is far from being achieved in Galicia, where studies on this subject are almost non-existent, with the exception of a couple of dictionaries of medical (Real Academia de Medicina e Cirurxía de Galicia 2002) and archaeological and prehistoric terms (Romero Masiá & Arias Vilas 1995), as well as some terminological works in the fields of medicine (Bover 2011; Rodríguez Río 2008), nursing (Souto Fraga 2005), podiatry (Méndez López 2009; Souto Fraga 2005) and physiotherapy (Pereiro Felípez, Pérez Vázquez, Precedo Estraviz, & Seoane Bouza 2008; Souto Fraga 2005). In view of the above, it goes without saying that there is no pedagogical or prescriptive tradition associated with specialised discourse written in Galician, to the extent that this very notion is problematic and difficult to translate.

Although the Galician government is currently developing linguistic policies aimed at strengthening and normalising the role of this minoritized language in various domains of communication, the results are not sufficiently visible yet, which makes it very difficult for both researchers and students to become familiar with the features of these linguistic varieties. In this regard, for Rodríguez Río (2006), universities have a crucial role to play in the production and dissemination of specialised knowledge, as they constitute the space in which many of the future professionals of the different areas of expertise receive their education. Fortunately, this adverse situation is expected to change in the foreseeable future due to the access of Galician to new areas and functions. If successful, paraphrasing Galanes Santos (2010, pp. 62–63), Galician could reverse the time lag of two centuries that kept it away from the specific uses in a historical moment in which most of the languages of neighbouring countries began to develop their respective specialised varieties.

3. Data and methods

As stated in the introductory section, the current article will revolve around the main characteristics of specialised discourse in order to provide a cross-linguistic comparison between English and Galician academic writing. In this connection, I aim at providing both a quantitative and qualitative multidimensional analysis of the most prominent linguistic features that are present in medical research articles so as to determine the divergences and common ground between the two languages. For this purpose, a corpus-based approach constitutes the most suitable option to conduct this comparative study, for it provides for the examination of "the actual language used in naturally occurring texts" (Biber, Conrad, & Reppen 1998, p. 1). Furthermore, as Charles (2012, p. 138) indicates, this sort of analytical methods allows "the observation of repeated patterns in large quantities of data and thus enables evidence-based descriptions of academic registers to be provided".

In this case, the data consists of twenty-four research articles drawn from four medical journals and magazines, all of which are freely available on the Internet. More specifically, the materials were collected from among all the original articles published

between 2003 and 2014 in the *British Medical Journal* (BMJ) and the *New England Journal of Medicine* (NEJM), on the one hand, and in *Cadernos de Atención Primaria* (CAP) and *Revista Galega de Actualidade Sanitaria* (RGAS), on the other. The primary reason for selecting research articles as the subject matter of analysis rather than some of the other genres is that, as Yanoff (1988) affirms, "clinical or laboratory research is the most important genre for academic physicians (...) and the type most frequently discussed in books and articles on medical writing" (p. 392). In addition, since one of the most prominent features of specialised discourse is formality, this decision was also influenced by the fact that formal communication in the field of the medical sciences is primarily carried on through research articles appearing in scientific journals.

Concerning the compilation of materials, the research articles analysed in this study were selected according to different criteria, which differ somewhat depending on the language. On the one hand, given the enormous volume of medical journals that uses English as the language of communication, those samples were randomly chosen from two British journals which have achieved the top ranking in their field. On the other hand, in the case of Galician medical publications, the paucity of texts which could fulfil the essential linguistic and formal requirements made it necessary to skim through the journals and read all the research articles carefully, with particular attention to the language and the internal organisation of the texts.

In this regard, the comparable corpus only includes pieces of research that fit into the so-called macro-structure IMRD. As Yanoff (1988, pp. 401–406) states, this acronym, coined in 1968 by the distinguished editor of the New England Journal of Medicine, Franz J. Ingelfield, stands for the following traditional and still prevalent form: (Abstract), Introduction, Materials and Methods, Results, Discussion (and Conclusions), and References. Nonetheless, it is appropriate to mention that, even though a great formal standardisation is detected both in English and in Galician articles, which is primarily inspired by the influential Anglo-Saxon scientific activity, the internal organisation of the latter texts is clearly more variable and flexible. Thus, a section devoted to exposing the Objectives of the medical investigation is occasionally located between the Introduction and the Materials and Methods section.

Likewise, as can be seen in Table 1, medical research articles written in Galician tend to be shorter than the ones using English to commit information to paper. Be that as it may, rather than being problematic, these divergences merely point to the fact that "there exist certain differences in the organization and the ways of argumentation in academic writing of different languages and cultures" (Yakhontova 2002, p. 21). In other words, specialised discourse "is not at all uniform but varies according to a host of factors, such as language competence, local culture, disciplinary field, community membership, professional expertise, gender and generic conventions" (Yakhontova 2002, p. 61).

In addition to the above-mentioned criteria, and as has been already been mentioned earlier, I also considered it essential to take into account a chronological criterion when collecting the medical texts comprising the corpus, inasmuch as professional writing always mirrors the socio-historical and cultural context in which it is produced. Thus, the reference period selected covers the years 2003–2014, since my study will intend to reflect the most remarkable morphosyntactic features of specialised discourse in a good

number of recent years. Results are this way expected to be more reliable since they will account for the significant growth of the scientific community and the possible changes in the journals themselves.

Having said that, and as far as the corpus size is concerned, the twenty-four aforementioned research articles (hereafter RAs) have resulted in a total of approximately 110,000 words. Additionally, as shown in Table 1, this compilation of medical texts has been subdivided into two sub-corpora with the aim of facilitating the subsequent multidimensional analysis of data:

Table 1. Description of the corpus

	English sub-corpus [ENGRA]	Galician sub-corpus [GALRA]
No. of RAs	12	12
No. of journals from which RAs were taken	2	2
No. of RAs taken from each journal	6	5–7
Length of texts (range)	2,927–7,448	1,782–5,415
Average length of RAs (words)	5,456	3,006
Total number of words	**65,478**	**46,070**

Once that was done, the following step required a thorough reading of both sub-corpora so as to search for the most noteworthy morphosyntactic characteristics and thus provide precise equivalences in the two languages, which was not always straightforward to achieve, as will be examined more closely in the next chapter. As no systems are currently available that perform these tasks automatically with a sufficient level of quality, especially in the case of Galician, it is fully justified to opt for manual labelling to guarantee the quality of the results. Obviously, owing to the length limit of this article, several features of specialised discourse could not be verified and taken into consideration, thereby leaving the door open for further research on this topic.

4. Analysis and Discussion

This section explores morphosyntactic phenomena in domain-specific languages, focusing primarily on English and Galician medical writing. In this instance, contrary to terminology, which may be unknown to the reader and constitute grounds for impeding the comprehension of texts, most of the syntactic features discussed below, including nominalisation and premodification, among others, are present in everyday language as well, although to a lesser extent.

4.1. Omission of phrasal elements

As Gotti (2011, p. 49) rightly points out, specialised discourse is characterised by "its extremely compact syntactic structure, (…) [which] is not surprising but indeed confirms the principle of conciseness discussed earlier". Nevertheless, concision goes far beyond the lexical level, as it is also achieved through syntactic structures. In this vein, the omission of phrasal elements such as articles, prepositions, etc., particularly prevalent in

legal writing and technical manuals, is a conventional "means of communicating most rapidly, … without prejudicing the understanding of a text as the value of the missing elements can be re-established by the specialists" (*idem*, p. 29). Likewise, conciseness can be accomplished by avoiding relative clauses and subordination as well as by making use of complex premodification and nominalisation, as will be seen in later sections.

Regarding the omission of articles and prepositions in medical writing, it should be mentioned that this phenomenon manifests itself rather clearly in English, while in Galician, it is highly unusual, not to say non-existent. In fact, as far as English is concerned, the omission of articles (marked with *) is easily observed in most headlines and in the captions that go with the tables and figures:

(1) Factors increasing * risk of death. ENGRA. 6

(2) Table 3. Hazard ratios (95% confidence intervals) for death in * survivors of an acute myocardial infarction (AMI) after * stepwise addition of risk markers. ENGRA. 6

Conversely, in Galician it is practically impossible to find samples that verify this phenomenon, example 6 being a notable exception in this regard:

(3) Información para *a* planificación da atención ao usuario sociosanitario maior. GALRA. 4

(4) Figura 1. Evolución *das* variables relacionadas coa dispensación da píula postcoital. GALRA. 12

(5) Táboa 1. Asistentes ás charlas segundo * poboación e * sexo. GALRA. 7

By the same token, the explicit omission of prepositions in medical discourse is very rare in English and impossible in Galician. As will be seen in the next sections, premodification is a mechanism that usually involves the reduction of the overall number of prepositions to make the text more compact, but never their omission. To take a concrete example, in 6 two articles and a preposition (marked with ^) are omitted:

(6) The main choice of drug at all * treatment follow-up periods was * combination ^ nortriptyline plus nicotine replacement therapy or placebo plus nicotine replacement therapy. ENGRA. 2

4.2. Expressive conciseness

Expressive conciseness constitutes another linguistic tool that helps to ensure that the sentence is more condensed and compact at a syntactic level. As will be discussed later in this article, English specialised texts, as opposed to the Galician ones, avoid the use of relative clauses to "make the sentence structure lighter" (Gotti 2011, p. 51). An effective way of achieving this is using prefixes and suffixes, which allow the substitution of

relative clauses with adjectives that convey the same semantic content. Table 2 shows the number of cases in which this linguistic device is used:

Table 2. Adjectives obtained by suffixation in the corpus

English sub-corpus [ENGRA]			Galician sub-corpus [GALRA]		
Raw number	Items per article (range)	Items per 1,000 words	Raw number	Items per article (range)	Items per 1,000 words
309	17–31	4.72	76	3–8	1.65

As can be seen from the number of adjectives per 1000 words, this phenomenon is very recurrent in English, while in Galician the percentage of occurrences is very low. Moreover, in the few cases where suffixes are used to avoid relative clauses, the adjective is always postponed to the noun. In this vein, according to Freixeiro Mato (2006, p. 98), the adjective placed before the noun becomes more subjective or evaluative, while postponed it takes on a more objective and specific nature. Therefore, given the specificity and objectivity of specialised discourse, it appears reasonable that adjectives in Galician always go after nouns:

(7) The functional importance of *mutant* alleles. [= The functional importance of the alleles *which mutate*.] ENGRA. 8

(8) O 55% das persoas *asistentes*. [= o 55% das persoas *que asistiron*.] GALRA. 7

Another device often associated with the simplification of relative clauses "containing a passive form consists in omitting its subject and auxiliary" (Gotti 2011, p. 51). This linguistic resource also has a very high occurrence in Galician, as illustrated in Table 3:

Table 3. Omissions of the subject and auxiliary divided by languages

English sub-corpus [ENGRA]			Galician sub-corpus [GALRA]		
Raw number	Items per article (range)	Items per 1,000 words	Raw number	Items per article (range)	Items per 1,000 words
568	36–64	8.67	278	17–29	6.03

(9) Occurrence of symptoms known to be side effects of nortriptyline. [= Occurrence of symptoms *which are known to be* side effects of nortriptyline.] ENGRA. 2

(10) Except angiotensin converting enzyme inhibitors or lipid lowering treatment when *used* alone. [= Except angiotensin converting enzyme inhibitors or lipid lowering treatment when *it is used* alone.] ENGRA. 6

(11) Un estudo retrospectivo *realizado* por Leardini. [= Un estudo retrospectivo *que foi realizado* por Leardini.] GALRA. 5

Furthermore, when the verb of the passive form in the relative clause "does not take a complement, it precedes the noun it specifies and becomes a past participle used with an adjectival function" (Maglie 2009, p. 30). This type of structure does not exist in Galician, since a participle can never precede a noun, but in English, it is pervasive, as the following example demonstrates:

(12) The *estimated* daily mean salt intake was 15,4 g. [= The daily mean salt intake *which was estimated* was 15,4 g.] ENGRA. 5

Likewise, when the agent is expressed, it is placed before the past participle using a hyphen. Once again, this option does not exist in Galician, in which it is impossible to form a compound consisting of substantive plus verb or adverb plus verb. In English, on the contrary, this is a relatively productive strategy to simplify relative clauses, with a total of 34 occurrences in the corpus:

(13) Vector control with insecticide-treated bed nets is a valuable tool. [= Vector control with *bed nets which are treated with insecticide* is a valuable tool.] ENGRA. 11

Another commonly adopted device to make expressions shorter is to exploit "the shared knowledge concerning the negative value of the prefix *un-*" (Gotti 2011, p. 52). As in the previous case, participles in Galician do not admit any type of affixation or modification other than that of gender or number. However, as far as English is concerned, the corpus analysis identifies 41 examples in which this tool is used:

(14) Genomic DNA was extracted from *unfed* dried mosquitoes. [= Genomic DNA was extracted from dried mosquitoes *which were not fed*.] ENGRA. 11

On another note, as Gotti (2011) points out, "when the verb of a relative clause is followed by the adverbial phrase *in this way*, this expression can be substituted by *thus* or *so*, which is placed before the past participle" (p. 53). In the same vein, the adverb *whereby* is also frequently used to avoid relative pronouns and, subsequently, to increase the degree of concision of the sentence. Unfortunately to our analysis, these mechanisms are alien to Galician, as the abundance of this clause typology makes these simplifications unnecessary. In English specialised discourse, on the contrary, these processes are possible, although it is true that the corpus does not offer examples in which *thus*, *so* and *whereby* have the function of simplifying relative clauses.

Nevertheless, *thus* and *so* can be also used to avoid coordinate clauses starting with expressions like *and in this way*. By doing so, the aforementioned "adverbs followed by a gerund gives more conciseness to the clause" (Maglie 2009, p. 31). In Galician, this simplification mechanism is also possible through expressions such as *deste xeito*, as shown in Table 4:

Table 4. Adverbs and expressions in the corpus divided by languages

	English sub-corpus [ENGRA]			Galician sub-corpus [GALRA]		
	Raw number	Items per article (range)	Items per 1,000 words	Raw number	Items per article (range)	Items per 1,000 words
Thus + gerund	3	0–1	0.05	—	—	—
So + gerund	0	0–0	0	—	—	—
Deste modo/Desta maneira/ Deste xeito + gerund	—	—	—	2	0–1	0.04

As can be seen from the results presented above, this strategy is not very productive in any of the languages. Be that as it may, here are a few examples:

(15) Our data sources were observational studies, *thus restricting* our ability to explore fully the influence of unmeasured confounding variables. [= Our data sources were observational studies, *and in this way they restrict* our ability to explore fully the influence of unmeasured confounding variables.] ENGRA. 4

(16) Trátase de deseñar unha proposta que cubra as necesidades profesionais básicas neste campo, *garantindo deste xeito* que o acto clínico reúna tamén os criterios esixibles. [= Trátase de deseñar unha proposta que cubra as necesidades profesionais básicas neste campo, *e que deste xeito garanta* que o acto clínico reúna tamén os criterios esixibles.] GALRA. 6

Another device aimed at reducing the complexity of a sentence "consists in the transformation of the verb of a relative clause into a present participle" (Gotti 2011, p. 53). Likewise, the present participle can be used as an adjective and, as will be seen below, can also be joined by a hyphen to an adverb or noun "when the verb of the relative clause is followed by an object" (*ibidem*). Table 5 shows the range of possible combinations that the present participle allows.

As can be seen in the data provided, the participle in Galician cannot perform the same functions as it does in English, since its use is much more restricted. In fact, this language makes no distinction between present and past participle, thereby having only one participle that would correspond to the English past participle. Examples of the present participle are given following the order of Table 5.

Table 5. Present participle in the corpus

	English sub-corpus [ENGRA]			Galician sub-corpus [GALRA]		
	Raw number	Items per article (range)	Items per 1,000 words	Raw number	Items per article (range)	Items per 1,000 words
Simplification of a relative clause	268	14–27	4.09	—	—	—
Present participle as adjective	51	3–7	0.78	—	—	—
Adverb-present participle	—	—	—	—	—	—
Noun-present participle	16	0–3	0.24	—	—	—

(17) A stepwise adjustment for possible factors *influencing* survival. [= A stepwise adjustment for possible factors *which influence* survival.] ENGRA. 6

(18) Each value plotted represents the moving average for the previous 7 days. [= Each value plotted represents the average *which is moving* for the previous 7 days.] ENGRA. 10

(19) The mean number of *host-seeking* anopheline mosquitoes that were collected. [= The mean number of anopheline mosquitoes *which seek a host* that were collected.] ENGRA. 11

4.3. Premodification

As a result of the simplification and reduction of the relative clauses, the English language shows a marked trend towards premodification. In Galician, long and complex modifiers appear only to the right of the head, for this language relies entirely on left-to-right constructions. The syntactic rules of English, on the other hand, allow without any difficulties right-to-left structures, "which shorten sentences and make the noun phrase especially dense" (Gotti 2011, p. 55). According to Gotti (2011), a distinguishing feature of the right-to-left pattern is nominal adjectivation, i.e. "the use of a noun to specify another with an adjectival function" (p. 55). In English specialised discourse, this results in a high number of compounds comprising several items, which, despite offering advantages in terms of textual conciseness, occasionally poses a great interpretative challenge for readers:

(20) *Excess salt intake* is estimated to cause 30% of all hypertension. ENGRA. 5

(21) The *cardiac arrhythmia suppression trial* reported arrhythmic mortality. ENGRA. 4

In Galician, as Freixeiro Mato (2006, p. 52) notes, the relation between two nouns is expressed more frequently through prepositions, the preposition and the noun to which it accompanies working like an adjective expression. Therefore, the accumulation of several nouns within the same compound is not feasible:

(22) A reducción da colesterolemia produce unha diminución da incidencia e mortandade por cardiopatía isquémica. GALRA. 8

(23) A *realización de consello antitabaco* asóciase a idade, suma de factores de risco e número de cigarrillos fumados. GALRA. 10

4.4. Nominalisation

Nominalisation is another syntactic phenomenon widely and increasingly employed in specialised discourse, although it also occurs in general language, as stated earlier. According to Maglie (2009, pp. 33–34), this process consists in "using a noun instead of a verb to express concepts related to actions and practices", with or without morphological transformation. Table 6 shows the number of deverbal nouns that have been found both in English and Galician texts:

Table 6. Nominalisation in the texts from the corpus divided by languages

English sub-corpus [ENGRA]			Galician sub-corpus [GALRA]		
Raw number	Items per article (range)	Items per 1,000 words	Raw number	Items per article (range)	Items per 1,000 words
4,681	312–437	71.49	2,597	165–299	56.37

Considering the number of items per 1,000 words, English researchers from the area of medicine appear to use more nominalisations than investigators belonging to the Galician-speaking medical community. Despite this, Galician research articles are not exempt from this increasing trend towards nominalisation, as can be seen in the examples below:

(24) Calquera profesional de AP pode levar a cabo non só a *prevención* senón tamén o *diagnóstico* e *tratamento* conservador dos diferentes tipos de IU. GALRA. 2

(25) Before *implementation* of the Scottish legislation, there was concern that it might result in the transfer of smoking activity to homes, leading paradoxically to an *increase* in exposure to environmental tobacco smoke among children. ENGRA. 9

There are several reasons why nominalisation is such a frequently used linguistic resource in medical writing: on the one hand, it places the concept in thematic position, thereby helping emphasise the action expressed by the verb, as well as to make "the communication of information more natural from a condition of new to already known"

(Maglie 2009, p. 34); on the other hand, as Molek-Kozakowska (2015) notes, nominalisation helps simplify the syntactic structures within the sentences and also ensures a higher degree of objectivity to the author's statements, mainly due to its potential for "obscuring or concealing both the agency and the results of the action by removing information about performers and beneficiaries/victims of the act" (p. 140). As will be seen in the next section, "the preference for nominalized forms leads to higher nominal density in specialized texts (…) and to a loss of verbal value" (Gotti 2011, pp. 58–59).

In Galicia, as has already been said, there is no previous study on the features of specialised discourse that makes it possible to compare these figures. However, a plausible explanation for the relatively low rate of deverbal nouns observed in these texts may be the absence of manuals prescribing the specific characteristics of specialised discourse in Galician. Added to this is the limited number of journals where these researchers can publish their findings, which hinders the consolidation of a relatively unified writing model. Notwithstanding the above, it must be stressed that reliance on nominalisation is substantial in both languages, as shown by the fact that even when a verb allows fewer lexical elements, there is a clear preference for the use of deverbal nouns, which infringes the principle of conciseness that governs all sorts of specialised discourse:

(26) Clinical trials for *the treatment* and *management* of acute myocardial infarction [= Clinical trials for *treating* and *managing* acute myocardial infarction] was adopted quickly in Perth. ENGRA. 6

(27) É este un ámbito axeitado para *o diagnóstico* e *tratamento* do paciente. [= É este un ámbito axeitado para *diagnosticar* e *tratar* o paciente.] GALRA. 10

4.5. Lexical density

As a result of the large proportion of nominalisations and other premodifying devices, medical writing exhibits high levels of lexical elements. This, in combination with the more complex organisation of stacked noun phrases, may make the decoding of information rather tricky for non-specialists. In this regard, lexical density is the term "most often used for describing the proportion of content [lexical] words (nouns, verbs, adjectives, and often also adverbs) to the total number of words" (Johansson 2008, p. 65). Indeed, as Gotti (2011) points out, lexical density "is especially high in written texts, where discourse is planned more carefully, without hesitation markers and with less redundancy" (p. 61). In numerical terms, according to Johansson (2008, pp. 66–67), specialised texts often score at around 54% or above, whereas general prose is usually below 50%. As illustrated in Table 7, the results obtained for both languages are within the percentage range established for lexically dense texts, although it is true that the total rate is somewhat higher in the texts written in English:

Table 7. Lexical density in the texts from the corpus divided by languages

English sub-corpus [ENGRA]		Galician sub-corpus [GALRA]	
Overall percentage	Percentage \per article (range)	Overall percentage	Percentage per article (range)
57.47	51.48–61.24	54.33	51.29–57.61

A similar situation can be seen in the detailed breakdown below, which shows the percentages of nouns, adjectives, verbs and adverbs present in the corpus:

Table 8. Breakdown of lexical words found in the corpus

	English sub-corpus [ENGRA]		Galician sub-corpus [GALRA]	
	Overall percentage	Percentage per article (range)	Overall percentage	Percentage per article (range)
Nouns	40.61	34.66–43.81	32.16	28.63–37.90
Adjectives	6.82	5.43–10.31	10.17	9.41–11.52
Verbs	7.82	6.52–12.05	8.99	8.58–9.32
Adverbs	2.19	1.72–4.05	3.12	2.69–3.46

As reflected in Table 8, the percentage of nouns is considerably lower in Galician texts when compared to the result obtained in those written in English, which is not surprising given the different outcomes in terms of nominalisation. Consequently, the proportion of adjectives, verbs and adverbs in Galician research articles is clearly higher. Attention should also be drawn to the overall percentage of verbs in each sub-corpus. In this vein, as it was discussed in the preceding section, "the pervasiveness of nominalisation leads to a loss of verbal value", resulting in a significant decrease in the total number of verbs, which often operate merely as copulas (Gotti 2011, p. 60). This phenomenon is most prominent in texts written in English, while those in Galician frequently use verbs instead of nouns to convey ideas related to actions and processes:

(28) Guidelines on the management of asthma *emphasise* the importance of regular review, and systematic recall *is* integral to the chronic disease management programme. ENGRA. 1

(29) Debido a que o abandono do consumo de tabaco *é* un proceso cíclico *estudáronse* as etapas onde se *atopaban* os profesionais *seguindo* o modelo. GALRA. 1

4.6. Sentence complexity

As stated earlier, a consequence of nominalization is "the simplification of syntactic structures within the sentence, (…) which are minimized into simple patterns of the type NOUN PHRASE + VERB + NOUN PHRASE" (Gotti 2011, p. 63). This process explains the conceptual complexity that characterises noun phrases as well as the relative simplicity of the verb phrases observed in English. Thus, in specialised discourse, it is not uncommon to find highly linear but complex noun phrases, involving very long pre- and

post-modification, accompanied by verb phrases that may simply consist of a copulative verb. Structures of this type are present in both Galician and English, although in the latter language they are far more prevalent. In this vein, as seen in previous sections, the linguistic system of Galician does not tolerate the same degree of pre- and post-modification:

(30) The main choice of drug at all treatment follow-up periods was combination nortriptyline plus nicotine replacement therapy or placebo plus nicotine replacement therapy. ENGRA. 2

(31) O uso de instrumentos estandarizados de valoración multidimensional permite realizar a avaliación simultánea da capacidade funcional. GALRA. 4

Therefore, the primacy of such syntactic constructions in the English language "leads to the predominance of main clauses at expense of subordinate ones" (Maglie 2009, p. 35). Indeed, English specialised discourse generally avoids subordination, contrary to Galician, in which this type of hierarchical relationship between different syntactic constituents is remarkably frequent. Table 9 displays the number of subordinate clauses present in the corpus in relation to the total number of sentences:

Table 9. Subordinate clauses in both languages

English sub-corpus [ENGRA]			Galician sub-corpus [GALRA]		
Overall number of sentences	Subordinate clauses	Percentage rate	Overall number of sentences	Subordinate clauses	Percentage rate
2,329	487	21.09	1,922	764	39.75

As the above findings show, only 21.09% of corpus sentences contain one or more subordinate clauses, while in Galician the figure almost doubles. This result is quite close to that provided by Gotti (2011), who, when analysing English specialised discourse, estimated that only 25% of the clauses revealed some type of subordination. In the case of Galician, as occurred in previous sections, there are no prior studies against which to compare this information.

4.7. Sentence length

The length of the sentence is another factor that may complicate the comprehension of medical research articles, for "these texts are structured in periods which are longer than those of common language (...) so as not to create an information gap or ambiguity" (Maglie 2009, p. 36). According to Li and Li (2015), 21.4 is the average length of EST (English for Science and Technology) sentences, whilst for Gotti (2011) the figure rises to 27.6 words per sentence. The latter result is broadly in line with our findings, especially regarding the research articles written in English, as shown in Table 10:

Table 10. Sentence length divided by languages

	English sub-corpus [ENGRA]	Galician sub-corpus [GALRA]
Total number of words	65,478	46,070
Total number of sentences	2,329	1,922
Average length of sentences (words)	28.43	24.44
Sentences per RA (range)	103–272	78–238

Despite the slight difference in the average length of the clauses in both languages (24.44 vs 28.43 words), long sentences also appear to be common in Galician specialised discourse, although there is no previous study on this subject that can serve as a reference. Nevertheless, the structure of the sentences is quite different, since, as has been previously said, the syntax of Galician implies a high degree of subordination:

(32) Sen embargo, estamos falando dun estudo experimental *no que* a intervención é aplicada en condicións óptimas e ideais, *que* realmente non se pode comparar coas condicións habituais do exercicio da práctica clínica. GALRA. 8

On the contrary, English syntax, which is extremely compact, tends to avoid subordination, preferring, instead, other linguistic devices such as premodification and the omission of phrasal elements:

(33) *Only 8.8 per cent of all coronary-artery bypass operations performed in the United States between January 1999 and January 2001* were performed off pump. ENGRA. 7

4.8. Use of verb tenses and modality

A total of fourteen verb tenses were found in the corpus and their occurrence frequencies are presented in Table 11. Among them, the past simple active tense[1] was the most frequently used verb tense in English, followed by the present simple active tense. In Galician, conversely, it is precisely the opposite:

[1] Due to the differences between both verbal systems, we include within the counting of the simple past tense the Galician "copretérito", "pretérito" and "antepretérito". Likewise, in our analysis, the reflexive passive falls into the scope of the passive constructions.

Table 11. Verb tenses in the corpus divided by languages

	English sub-corpus [ENGRA]		Galician sub-corpus [GALRA]	
	Raw number	Percentage	Raw number	Percentage
Present simple active	817	20.74	1,348	49.96
Present simple passive	154	3.90	437	16.20
Future simple active	9	0.22	74	2.75
Past simple active	2,099	53.28	474	17.61
Past simple passive	597	15.15	306	11.37
Present perfect active	110	2.79	—	—
Present perfect passive	31	0.79	—	—
Present progressive active	8	0.20	34	1.26
Present progressive passive	2	0.05	—	—
Past progressive active	43	1.09	—	—
Past perfect active	65	1.65	—	—
Past perfect passive	31	0.79	—	—
Future simple active	9	0.23	16	0.59
Future simple passive	4	0.10	7	0.26
Imperative	54	1.37	2	0.07
Totals	**3,939**	**100**	**2,698**	**100**

Indeed, the above data are consistent with those presented in Maglie (2009), who stresses that "the past is predominant in medical case reports and research articles written in English, while the reverse situation is observed in review articles, with the predominance of the present tense" (p. 36). In this vein, as Gotti (2011, p. 70) notes, there is a "strong correlation between the results and the type of text considered". This undoubtedly explains the significant presence of the past tense in English research articles, for it "is used to refer to specific events, actions or processes occurring during an experimental study" (Li & Ge 2009, p. 100). More specifically, and in line with the information provided in Maglie (2009, p. 37), the past tense is observed overwhelmingly in "the results and in the methods sections (mainly active in the results and passive in the methods), [whereas] the present is found predominantly in the conclusions" as well as in the captions to illustrations, figures, illustrations, graphics and tables. In the remaining cases, there is no specific distribution pattern.

In Galician, however, the relatively low number of verb tenses stands out. This is related to the fact that in this language, there are no compound tenses and that the

utilisation of periphrastic passive constructions is much more restricted, the reflexive passive ones being far more common. Concerning the distribution of verb tenses, Galician research articles broadly respect what was stated in Maglie (2009), although it is true that in the results and the methods sections the present simple appears frequently. According to Elliston (2008), in medical writing, this tense "is used in reference to stable conditions, generalizations, or facts already known and published" (p. 30). Thus, the abundance of forms present is consistent with the very nature of Galician research articles, since, given the scarce written tradition in this field, they are more focused on description than on research itself.

Concerning modalisation, Vihla (1999) has focused on deontic and epistemic modalities in medical writing, concluding that, given the function and the pragmatic aim of research articles, the latter sub-typology is far more prominent in this genre, for it "is used for expressing attitudes to the truth value of propositions" (Gotti & Dossena 2001, p. 400). In English, modalisation is expressed through modal verbs, lexical verbs and certain expressions. Conversely, although the same procedure is followed in Galician, probability, certainty and obligation, among other aspects, are often transmitted through verbal endings due to the absence of modal verbs. Indeed, the use of epistemic modal markers represents a common form of hedging, as it serves to indicate the writer's uncertainty about the truth of a proposition while emphasising that "what is said should not be perceived as the only possible interpretation" (Ahmad 2012, p. 52).

Regarding the frequency of these markers in both languages, the modal *may* (1.27 per thousand) is the most frequently used modal item in the medical articles written in English, which reflects "the feeling of many researchers that the account they are giving of natural phenomena is often an approximation of the true facts" (Gotti & Dossena 2001, p. 404). *Associated* (1.17 per thousand) and *suggest* (0.65 per thousand) come immediately after *may* and they are used to express caution concerning the statements provided. For its part, *can* (0.83 per thousand) is mostly used for expressing probability, together with adverbs such as *probably* (0.27 per thousand), *likely* (0.29 per thousand), *possibly* (0.09 per thousand), and *commonly* and *frequently* (0.04 per thousand for each). *Should* is used almost exclusively to make recommendations (0.27 per thousand), except for a couple of cases in which *should* indicates predictions (0.07 per thousand) on the part of the authors. Finally, *must*, *have to* (0.05 per thousand for each) and *had to* (0.02 per thousand for each) rarely appear in the corpus, and the occurrences of *be necessary* (0.04 per thousand) and *need* (0.02 per thousand) are also extremely low.

In Galician, the classification is much more challenging, inasmuch as the verbal ending *-ría* can correspond to *would*, *should*, *could*, *had to*, *may* and *might*, the distinction of the last two being impossible in this language. The results obtained vary considerably from one language to another. Thus, the highest number of occurrences of the ending *-ría* would correspond to the modal operator *must* (1.03 per thousand), followed at some distance by *could* (0.51 per thousand), *may/ might* (0.34 per thousand), *should* (0.26 per thousand) and *be necessary* (0.08 per thousand). Concerning adverbs, their frequency of appearance is also very low: *quizais* 'maybe/ perhaps' (0.46 per thousand), *claramente* 'clearly' (0.21 per thousand), *probablemente* 'probably' (0.08 per thousand),

posiblemente 'possibly' (0.04 per thousand), *frecuentemente* 'frequently' (0.04 per thousand) and *razoablemente* 'reasonably' (0.04 per thousand).

Thus, English-speaking writers "present statements with appropriate accuracy, caution and humility, expressing possibility rather than certainty and prudence rather than over-confidence" to gain acceptance within their community (Hyland 2006, p. 694). Conversely, Galician authors do not appear to be overly concerned with avoiding hostile remarks and therefore "are more likely to accept personal responsibility" (Hyland 1998, p. 366). This is probably because the possibility of receiving criticism is considerably reduced as it is a small scientific community with little research tradition.

4.9. Use of the passive and depersonalisation

The passive voice is a distinctive feature of the English language and, when used properly, it is a clear indicator of good writing. As Maglie (2009) points out, the frequent use of this form fulfils "the need for the depersonalization of the discourse by the specialist who is more interested in underlining the effects and results of an action than in stressing who the author of the action is" (p. 39). Nevertheless, according to Elliston (2008, p. 31), whilst is true that the use of the passive "was once an established convention in scientific writing, [...] the active voice is now preferred unless otherwise stipulated". Nowadays, even some prestigious international journals, such as the *BMJ*, provide overt instructions in their "House style" sections on how medical writers should address this issue, thereby encouraging them to "write in the active and use the first person where necessary" (*apud* Minton 2015, p. 1).

In this vein, Seoane and Loureiro-Porto (2005) have reported a considerable decrease in the frequency of *be*-passives during the 20th century with respect to transitive actives in hard science articles, which in turn means that more first-person pronouns are needed. Hyland and Jiang (2017), for their part, have also noted that the use of first-person pronouns has steadily increased over the last decades in academic writing in general and in scientific writing, in particular, namely in multi-authored papers. The aforementioned researchers assert that this slight change of course in specialised texts is related to the decline of the passive voice, as well as to the "changing rhetorical practices which support greater efforts to involve readers in arguments and secure support for their claims through positioning themselves more explicitly in relation to their ideas and readers" (Hyland & Jiang 2017, p. 49). Table 12 shows the global computation of passive forms in the corpus:

Table 12. Passive forms in the corpus

	English sub-corpus [ENGRA]		Galician sub-corpus [GALRA]	
	Raw number	Percentage	Raw number	Percentage
Be-passive	817	20.78	79	2.94
Reflexive passive	—	—	671	24.89
Totals	**817**	**20.78**	**750**	**27.83**

As can be clearly seen, the percentage of passive forms in Galician (27.83%) is considerably higher than in English (20.78%), which is in line with the figures provided by Gotti (2011), who estimates between 26% and 28% the passive forms present in specialised texts from the 1970s and 1980s. Likewise, these figures confirm the considerable decline in the use of the passive voice that has recently been observed in English specialised discourse, as well as the increase of first-person pronouns and adjectives, as will be seen below. In Galician, the frequency of passive forms is higher than expected, even though these data are consistent with the low number of first-person pronoun occurrences. However, as illustrated in the table, this language has two types of passive that exhibit an unequal use. Thus, the reflexive passive, which is formed with the verb in the third person of the singular or plural, proves to be more natural in Galician than the be-passive, even in formal texts:

(34) Os datos f*oron recollidos* mediante os instrumentos. [be-passive] GALRA. 2

(35) *Recolléronse* variábeis que poden influír no control da hipercolesterolemia [reflexive passive] GALRA. 8

On another note, Table 13 shows the number of first-person pronouns and adjectives computed both for English and Galician:

Table 13. Depersonalisation in the corpus divided by languages

	English sub-corpus [ENGRA]			Galician sub-corpus [GALRA]		
	Raw number	Items per article (range)	Items per 1,000 words	Raw number	Items per article (range)	Items per 1,000 words
Nominative (singular)	—	—	—	—	—	—
Nominative (plural)	316	18–32	4.83	—	—	—
Accusative (singular)	—	—	—	—	—	—
Accusative (plural)	2		0.03	—	—	—
Possessive adjective (singular)	—	—	—	—	—	—
Possessive adjective (plural)	152	8–17	2.32	107	4–13	2.32
Possessive pronoun (singular)	—	—	—	—	—	—
Possessive pronoun (plural)	3	0–1	0.04	—	—	—
Reflexive pronoun (singular)	—	—	—	—	—	—
Reflexive pronoun (plural)	—	—	—	—	—	—
Totals		**473**			**107**	

As shown in Table 13, singular forms are non-existent in the medical research articles conforming the corpus, which is primarily explained by the fact that the texts are all multi-authored. Unlike the personal pronoun *we*, the object pronoun *us* appears to be very rare in English research articles. The possessive adjective *our* is, in general, a persistent indicator of the presence of the writers in specialised texts, only surpassed by the pronoun *we*. According to Lafuente Millán (2010, p. 45), in the hard disciplines, the word *our* "is often used to express the authors' ownership of the research being reported or the data or results obtained from this research in expressions such as "our results", "our data", "our findings", etc.. At the same time, however, the use of *our* acts as a shield against possible criticism, thus reducing the responsibility of the authors for their statements.

In the light of the findings of this investigation, Galician research articles are more impersonal, as there is no trace of either the personal pronoun *nós* 'we', the object pronoun *nos* 'us' or the possessive pronoun *noso(s)/a(s)* "ours". The only coincidence in both languages appears to be the use of the adjective pronoun *noso(s)/nosa(s)* 'our', which presents the same occurrences per 1000 words:

(36) *Our* data indicate that even salt policy makers cannot adhere to a low salt diet if they consume the hot lunch at work. ENGRA. 5

(37) O *noso* obxectivo terapéutico primordial debe de ir encamiñado ó alivio da dor, evitar a disfunción e a aparición de incapacidade. GALRA. 5

A plausible explanation for the small incidence of the personal pronoun *we* may lie in the "author's desire to gain persuasive authority and credibility by highlighting the objective and impersonal nature of the research process" (Lafuente Millán 2010, pp. 46–47).

5. Conclusion

In this article, I have examined a wide variety of morphosyntactic features and how they manifest themselves in both English and Galician domain-specific languages. Indeed, this piece of research represents the first attempt to delve into an area of study that has been utterly unexplored until now, as is Galician medical writing. Despite the limited scope of the corpus and the paper itself, which has prevented the inclusion of the lexical and textual features, I nevertheless feel that it has been possible to reach some conclusions on the most notable differences and similarities between English and Galician specialised discourse. The findings show that specialised discourse varies significantly from one language to another, especially with regard to morphosyntax, where the disparities are far more remarkable, particularly concerning premodification and sentence complexity. As seen throughout these pages, a key factor that accounts for these divergences is, without a doubt, the different functioning of the English and Galician linguistic systems. Thus, English privileges the use of pre- and post-modification structures containing very long and complex modifiers, which are, to a large extent, the result of the simplification and

reduction of relative clauses. Conversely, Galician does not allow for the accumulation of several nouns within the same compound and relies almost entirely on subordination when it comes to establishing the hierarchical relationship between different syntactic constituents.

Finally, it is time to confront the limitations of this study, the most significant of them being the relatively small corpus, which makes it unfeasible to draw definitive conclusions. It would be interesting, on the basis of larger comparable corpora, to re-examine these results so as to determine whether they can be extended to the entire medical discourse community. Hence more research is necessary to facilitate subsequent investigations, especially in Galician, for the almost total absence of both research papers and journals devoted to the study of specialised discourse hinders the consolidation of a relatively unified writing model that provides reliable data and, what is more, serves as a model for current and future authors.

References

Ahmad, J. (2012). Stylistic features of scientific English: A study of scientific research articles. *English Language and Literature Studies*, *2*(1), 47–55. https://doi.org/10.5539/ells.v2n1p47

Barber, C. L. (1962). Some measurable characteristics of modern English scientific prose. *Gothenburg Studies in English*, *14*, 21–43.

Bennett, K. (2015). The transparency trope: Deconstructing English academic discourse. *Discourse and Interaction*, *8*(2), 5–19. https://doi.org/10.5817/DI2015-2-5

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

Bhatia, V. K. (2008). Lenguas con propósitos específicos: Perspectivas cambiantes y nuevos desafíos. *Revista signos*, *41*(67), 157–176. https://doi.org/10.4067/S0718-09342008000200006

Biber, D., Conrad, S., & Reppen, R. (1998). *Corpus linguistics: Investigating language structure and use*. Cambridge, United Kingdom: Cambridge University Press.

Blanco Canales, A. (2010). Características lingüísticas, pragmáticas y funcionales de las lenguas de especialidad. Implicaciones didácticas y metodológicas. *Revista Electrónica de Lingüística Aplicada*, *9*, 72–85.

Bover, J. (Ed.). (2011). *Vocabulario multilingüe da sida (catalán-español-francés-galego-italiano-portugués-romanés-inglés)*. Barcelona: TERMCAT & Rede panlatina de terminoloxía. Retrieved from http://www.realiter.net/wp-content/uploads/2013/06/Vocabulari_sida.pdf

Charles, M. (2012). English for Academic Purposes. In B. Paltridge & S. Starfield (Eds.), *The handbook of English for specific purposes* (pp. 137–154). Malden: Blackwell. https://doi.org/10.1002/9781118339855.ch7

Crystal, D. (1987). *The Cambridge encyclopedia of language*. Cambridge: Cambridge University Press.

Elliston, V. A. (2008). Tense and voice in medical writing. *The Write Stuff*, *17*(1), 30–32.

Flowerdew, J., & Gotti, M. (2006). Introduction. In J. Flowerdew & M. Gotti (Eds.), *Studies in specialized discourse* (pp. 7–17). Bern: Peter Lang.

Freixeiro Mato, X. R. (2006). *Gramática da lingua galega. II. Morfosintaxe*. Vigo: Edicións A Nosa Terra.

Galanes Santos, I. (2010). O galego como lingua de especialidade. Usos estratéxicos para a valorización do status de lingua. In G. Sanmartín (Coord.), *Lingua e futuro* (pp. 55–77). Ames: Laiovento.

Gotti, M. (2003). *Specialized discourse. Linguistic features and changing conventions.* Bern: Peter Lang.
Gotti, M. (2009). Specialised discourse in multilingual and multicultural contexts. *ASp*, *45-46*, 5–20. https://doi.org/10.4000/asp.839
Gotti, M. (2011). *Investigating specialized discourse* (3rd ed.). Bern: Peter Lang.
Gotti, M., & Dossena, M. (Eds.) (2001). *Modality in specialized texts*. Bern: Peter Lang.
Gunnarsson, B. (2009). *Professional discourse*. London: Continuum.
Hyland, K. (1998). Boosting, hedging and the negotiation of academic knowledge. *Text – Interdisciplinary Journal for the Study of Discourse*, *18*(3), 349–382. https://doi.org/10.1515/text.1.1998.18.3.349
Hyland, K. (2000). *Disciplinary discourses: Social interactions in academic writing*. Harlow: Longman.
Hyland, K. (2006). Medical discourse: Hedges. In K. Brown (Ed.), *Encyclopedia of language and linguistics* (pp. 694–697). Oxford: Elsevier.
Hyland, K., & Jiang, F. (2017). Is academic writing becoming more informal? *English for Specific Purposes*, *45*, 40–51. https://doi.org/10.1016/j.esp.2016.09.001
Johansson, V. (2008). Lexical diversity and lexical density in speech and writing: A developmental perspective. *Working Papers*, *53*, 61–79.
Lafuente Millán, E. (2010). '*Extending this claim, we propose...*' The writer's presence in research articles from different disciplines. *Ibérica, Revista de la Asociación Europea de Lenguas para Fines Específicos*, *20*, 35–56.
Li, L.-J., & Ge, G.-C. (2009). Genre analysis: Structural and linguistic evolution of the English-medium medical research article (1985–2004). *English for Specific Purposes*, *28*(2), 93–104. https://doi.org/10.1016/j.esp.2008.12.004
Li, X., & Li, L. (2015). Characteristics of English for Science and Technology. *Proceedings of the 2015 International Conference on Humanities and Social Science Research*, *31*, 161–165. https://doi.org/10.2991/ichssr-15.2015.31
Maglie, R. (2009). *Understanding the language of medicine*. Roma: ARACNE editrice S.r.l.
Méndez López, I. (2009). *Profesionaliza a túa lingua: Podoloxía*. A Coruña: Servizo de Normalización Lingüística da Universidade da Coruña. Retrieved from https://www.udc.es/export/sites/udc/snl/_galeria_down/terminoloxiaPodoloxia.pdf_2063069239.pdf
Mićić, S. (2013). Languages of Medicine – present and future. *JAHR – Annual of the Department of Social Sciences and Medical Humanities*, *4*(7), 217–233.
Minton, T. D. (2015). In Defense of the passive voice in medical writing. *The Keio Journal of Medicine*, *64*(1), 1–10. https://doi.org/10.2302/kjm.2014-0009-re
Molek-Kozakowska, K. (2015). Presupposition and nominalisation in headlinese: A critical analysis of framing devices in journalistic discourse. In M. Zabielska, E. Wąsikiewicz-Firlej, & A. Szczepaniak-Kozak (Eds.), *Discourses in co(n)text: The many faces of specialised discourse* (pp. 134–161). Cambridge: Cambridge Scholars.
Nagy, I. K. (2014). English for special purposes: Specialized languages and problems of terminology. *Acta Universitatis Sapientiae*, *6*(2), 261–273. https://doi.org/10.1515/ausp-2015-0018
Pereiro Felípez, M. C., Pérez Vázquez, L., Precedo Estraviz, P., & Seoane Bouzas, N. (2008). *Profesionaliza a túa lingua: Fisioterapia*. A Coruña: Servizo de Normalización Lingüística da Universidade da Coruña. Retrieved from https://www.udc.es/export/sites/udc/snl/galeria_down/terminoloxia/Fisioterapia.pdf_2063069239.pdf
Real Academia de Medicina e Cirurxía de Galicia (2002). *Diccionario galego de termos médicos*. Santiago de Compostela: Dirección Xeral de Política Lingüística.
Rodríguez Río, X. A. (2006). A modernización terminolóxica e o uso so galego en contextos científico-técnicos: O papel das universidades. In Servizo de Normalización Linguística (Ed.), *Lingua e investigación. II Xornadas sobre lingua e usos* (pp. 25–40). A Coruña: Universidade da Coruña.
Rodríguez Río, X. A. (Coord.) (2008). *Vocabulario de medicina: galego-español-inglés-portugués*. Santiago de Compostela: Universidade de Santiago de Compostela.

Romero Masiá, A. M., & Arias Vilas, F. (1995). *Diccionario de termos de arqueoloxía e prehistoria*. Vigo: Ir Indo.

Ruíz-Garrido, M., Palmer-Silveira, J. C., & Fortanet-Gómez, I. (2010). Current trends in English for Professional and Academic Purposes. In M. Ruiz-Garrido, J. C. Palmer-Silveira, & I. Fortanet-Gómez (Eds.), *English for Professional and Academic Purposes* (pp. 1–10). Amsterdam: Rodopi.

Sánchez Jiménez, D. (2015). Variabilidad lingüística en las lenguas de especialidad. *Revista de Investigación Lingüística*, *18*, 115–128.

Seoane, E., & Loureiro-Porto, L. (2005). On the colloquialization of scientific British and American English. *ESP Across Cultures*, *2*, 106–116. Retrieved from https://edipuglia.it/wp-content/uploads/2015/05/ESP_2_2005.pdf#page=108

Souto Fraga, M. (2005). *Profesionaliza a túa lingua: Enfermaría, podoloxía e fisioterapia. Incorreccións e dúbidas máis frecuentes*. A Coruña: Servizo de Normalización Lingüística da Universidade da Coruña. Retrieved from https://www.udc.es/export/sites/udc/snl/_galeria_down/terminoloxia/Lex_Enf_Pod_Fisio.pdf_2063069239.pdf

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

Varantola, K. (1986). Special language and general language: Linguistic and didactic aspects. *Unesco Alsed-LSP Newsletter*, *9*(2), 10–19.

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

Voráček, J. (1987). ESP — Superstructure and microlanguage. *English for Specific Purposes*, *6*(1), 53–56. https://doi.org/10.1016/0889-4906(87)90075-5

Wallace, W. D. (1981). How registers register: Toward the analysis of language use. *International Review of Applied Linguistics in Language Teaching*, *19*(4), 267–286. https://doi.org/10.1515/iral.1981.19.1-4.267

Yakhontova, T. (2002). *English academic writing for students and researchers*. Lviv, Ukraine: Ivan Franko National University Press.

Yanoff, K. L. (1988). *The rhetoric of medical discourse: An analysis of the major genres* (Doctoral Dissertation, University of Pennsylvania, Pennsylvania). Retrieved from https://repository.upenn.edu/dissertations/AAI8 824810

[submitted on 14 September 2020 and accepted for publication on 30 May 2021]