ATLANTIS 27.2 (December 2005): 41–55
ISSN 0210-6124

Specialized Communication and English Studies: Research Proposals on Specialized Lexicography and English for Specific Purposes

Pedro A. Fuertes Olivera
Universidad de Valladolid
Pedro@tita.emp.uva.es

In this article, I intend to marshal evidence in order to advocate the leading role that English philologists are called to play in the analysis of specialized communication. Considering that University Degrees are being adapted to accommodate to Bologna guidelines, English philologists, for example, could incorporate into their more traditional fields of research new analyses of special communication, particularly those focused on specialized lexicography and English for Specific Purposes (ESP). With respect to specialized lexicography, the recent publication of the *Dictionnaire dápprentissage du français des affaires* (*DAFA*) offer interesting insights as to how the works of pedagogical lexicographers suit the needs of specialists, would-be specialists, and the informed layperson. Regarding ESP, two assumptions merit further interest. On the one hand, disciplinary variation is significant, thus paving the way for more incisive and rather different genre analyses. On the other hand, research with special purpose corpora encourages us to think that the tenets of, for example, Discourse Analysis, can be used to investigate the role played by ideology in specialized communication.

Key words: ESP, Genre Analysis, Pedagogical Specialized Lexicography, LSP, Discourse Analysis.

1. Introduction

The term LSP has been coined to designate the kind of language use associated with highly specialized communication in a wide variety of subject areas.[1] In applied linguistics, for example, the term "language for special/specific purposes" has been established as the generic term for the concept of "communication among specialists." The concept of LSP is not uniform. At least two opposing forces have contributed to its diversification. On the one hand, the fact that an LSP presupposes special training in a field, profession or discipline has led to the identification of three main LSP users: (i) the specialist, (ii) the would-be specialist, and (iii) the informed layperson. This implies that special contents may also be popularized

1. This research has been financed by La Junta de Castilla y León (VA127/02). Thanks are due to the Editor of *Atlantis* and to three anonymous reviewers for their useful comments on an earlier draft of this article. Many thanks also to Michael White who has checked the style and language of the manuscript.

for a general audience and thus be transmitted to the non-specialist on a lower level of abstraction and specialism. On the other hand, special communication by means of LSP is a social necessity which has evolved accordingly. Special languages are the result of the historical division of labor which has led to a growing diversification of scientific disciplines and to a specialization of the branches of material production. Both views have contributed enormously to new approaches to the analysis of specialized texts, centered on a number of fields within the framework of applied linguistics: terminology, contrastive linguistics, translation theory, foreign language teaching, LSP stylistics, LSP text linguistics and LSP discourse analysis. In short, these approaches are analyzing the whole spectrum of linguistic means used in written or spoken texts.

Under this framework, research found out that LSP is neither monolithic nor uniform, but reveals a horizontal structuring and a vertical stratification which distinguishes five levels: the language of the theoretical basic sciences; the language of the experimental and technical sciences; the language of the applied sciences and technology; the language of material production; and the language of consumption (see Hoffman 1976). McGroarty (2002) argues that the criteria underlying this stratification of "text levels" include: (a) the interaction of specialists in a particular social setting (i.e. their work environment); (b) the degree of abstraction in dealing with a specific subject (with respect to the addressee's previous knowledge); and (c) the linguistic means and the non linguistic (artificial) symbols or visuals used in an LSP text.

In other words, this new approach to LSP has cast light on the leading role linguists and philologists should play in the analysis of special communication. Hence, English philologists could incorporate into their more traditional fields of research new analyses of special communication, particularly those focused on Pedagogical Specialized Lexicography and English for Specific Purposes (ESP).

2. Pedagogical Specialized Lexicography

Cabré (2000: 37–41) argues that the so-called General Theory of Terminology (GTT) shows some inadequacies. Its most distinctive characteristic is that it focuses on concepts and concentrates its practical applications on the standardization of terms and concepts. Some theorists of terminology, mainly those with a linguistic background, however, reject ingrained principles in use from the early days of Wüster. For example, they reject the reductionist character of GTT, "which makes it unable to explain the complexities occurring in special communication" (Cabré 2000: 39). In short, criticism of GTT has come from social, linguistic and cognitive perspectives (see Gaudin 1990, 1993, 1995; Temmerman 2000; Cabré 2000). Firstly, from a social perspective, the communicative role of terminology has been seen "to have the same importance as the representational role and it has been demonstrated that the social acceptability of terms is more important than their standardization" (Cabré 2000: 40). Secondly, from a linguistic point of view, it has been emphasized that terminology does not belong to artificial language but that it shares the basic features of general language, that traditional theory disregards the syntactic function of terminology and its relevance for discourse studies, and that univocity and monosemy of terms do not occur in real specialized texts. Finally, from a cognitive perspective, the traditional theory regarding the concept has been criticized as being profoundly idealistic. The "presumed universality of the concept and the belief that special subjects, independent of their domains and languages, are uniform, closed and static systems has also been attacked because these premises are very difficult to reconcile with empirical data" (Cabré 2000: 41).

Instead of the GTT, different, more linguistic approaches to terminology have been developed (Temmerman 2000; Cabré 2005). A basic principle is that technical terminologies contain several layers, "such as terms used in pure science, terms used in applied science, terms used in the sphere of production related to a given branch of science and terms used in various trades and occupations" (Heltai 1988: 32). These layers exhibit the characteristics of natural vocabulary to different degrees. Also, there is a wide area of overlap between technical terminology and natural vocabulary: many lexical items function simultaneously as technical terms and as natural vocabulary words. In addition, the lexico-semantics characteristics of individual technical terminologies vary depending on the nature of the given field of study. Heltai (1988: 33) claims that the

> highly standardized terminologies of natural sciences are much less likely to show the characteristics of natural vocabulary than the terminologies of applied sciences, social sciences, commerce, trades and occupations. Such terminologies, especially their most general terms, are subject to a great deal of influence from natural vocabulary, and constitute a legitimate subject for lexicological inquiry.

In addition, it should also be borne in mind that all technical terminologies, even the most highly standardized ones, are also affected by basic lexico-semantic processes, such as the development of polysemy, synonymy and so on. Thus, sources of LSP vocabulary may be everyday words subject to a process of metaphorization. These words acquire a specific meaning and eventually become defined technical terms, as for example *value* or *market* in economics. Further sources of technical or scientific neologisms are word-formation processes with native or Latin or Greek lexical elements, borrowings from foreign languages (including loan translations), and designations by means of figures or artificial symbols. Finally, LSP vocabulary is not limited to defined technical terminology and phraseology, but equally includes nomenclatures,[2] "semi-terms," "professional slang," "trade names" or "trade marks," and "acronyms." The following are some examples extracted from the field of Economics:

(1)	*value*	(metaphorization)
	ex works	(Latin prefix)
	ad valorem	(borrowing)
	buying direct	(semi term)
	dirty floating	(slang)
	Hoover	(trade name)
	WTO	(acronym)

Terminology studies and terminography are mainly concerned with the description of specialist concepts and terms, and their stipulation and standardization for international

2. That is, "sets of lexical items which merely label an individual object within a systematic order, but do not have a defining function. Cf. the nomenclatures of medicine, chemistry, zoology, botany, mineralogy, meteorology, etc." (Asher and Simpson 1994: 2011).

use. Another practical issue is the compilation of technical vocabulary and phraseology in glossaries and dictionaries for the specialists. Specialized dictionaries are adopting a more comprehensive approach, which has led to discarding some terminological principles in favor of a more lexicographical orientation:

(a) The typical terminological approach is onomasiological, i.e. it proceeds from concepts and associates them with existing and potential terms or designations yet to be acknowledged. Instead of the sequential arrangement of the terminological glossary which is structured by conceptual contiguity, recent specialized dictionaries have adopted a semasiological approach. This is not only because they should cater to a new breed of users which makes them pedagogical dictionaries, but also because compilers must cope with the existence of divergent systems. A typical example is the existence of lexical gaps in bilingual lexicography which force compilers to resort to circumlocution or loan borrowings to define a particular term, as example (2) shows:

(2) time buying: *compra de tiempo en emisoras para publicidad.* (Lozano Irueste 1996)

(b) Terminology takes a fragmented view of the lexicon and therefore rarely acknowledges the phenomena of homonymy and polysemy. Again, recent specialized dictionaries accept both phenomena and resort to different signal systems to disambiguate meaning, as example (3) shows:

(3) **charge**^{1} *n/v*: *coste, precio, cargo, gasto, suplemento; comisión, comisión bancaria, etc.; cargar, cobrar . . .* [Exp: charge^2 *adeudo; adeudar, debitar, deducir,* charge^3 COMER *fijar el precio;* charge^4 *carga, gravamen, afectación, garantía de una deuda, exacción; gravar . . .* charge^5 *canon, derechos*; charge^6 *cobrar, cargar,* charge^7 *cargar en cuenta*, charge^8 *encargar, confiar*, charge^9 *acusación . . .*]. (Alcaraz Varó and Brian Hughes 2002)

(c) Terminology is openly selective and prescriptive. Terminological glossaries do not only record existing usage but also recommend use. Some specialized dictionaries, however, tend to be descriptive and different types of specialized corpora are being used in their compilation. For example, Tuck (1993: III) comments that to ensure that the material included in the *Oxford Dictionary of Business English for Learners of English* is authentic and up-to-date, "this dictionary has been compiled with the help of the Oxford Corpus. This is a collection of contemporary written and spoken English taken from a variety of sources and stored on computer. Many examples in this dictionary are corpus-based."

(d) Terminology has a dynamic role which force terminologists to create new terms. In his or her role of linguistic advisor on special subject communication, the terminologist frequently has to provide new terms for new concepts, translation equivalents for terms unknown in one language, or indeed entire vocabulary for a new machine, process or product. Specialized lexicographers, however, do not create but record what the regulatory and creative work of the terminologist has established as current usage.

What emerges from the above discussion is that the segmental dictionary defended by Opitz (1983: 164) has started to adopt a pedagogical lexicographical approach. This connection between pedagogical and specialized lexicography can lead us to produce specialized dictionaries combining the semasiological and onomasiological approaches with some of the practices of electronic dictionaries. For Business/Economics English, for example, the *Dictionnaire d'apprentissage du français des affaires* (*DAFA* 2000) may function as a kind of inspiration. *DAFA*, a dictionary compiled by Binon, Verlinde, van Dyck and Bertels is an innovative learners' dictionary of Business French, presenting and describing 3200 words, about 3000 of which are illustrated by means of examples. Bogaards (2002: 105) claims that all the words are given in the alphabetical list, but are treated in more detail in the context of one of the 135 thematic entries also recorded. In this types of entries, all of which take a noun as their starting point, very complete descriptions can be found of the meanings and uses of the word as well as of related words and concepts. The words in the alphabetical list are presented with an indication of their part of speech and with brief definitions. *Cumul* is a masculine noun that has three meanings. For each of the meanings the translations are given in five languages: German, English, Spanish, Italian, and Dutch. The asterisks between brackets give information about the relative frequency of words: words with four asterisks are the most frequent elements, those with one the least frequent. There are cross-references for each meaning to the page where it is treated within the whole family it is part of. So, *cumul* is treated in one meaning on page 453 (in the thematic entry of PROFESSION, as a synonym of *activité professionnelle*), on page 496 (in the thematic entry REVENU as *le cumul de revenu*), and on page 179 (in the thematic entry DÉFICIT as *le cumul des déficit*). In the same vein, *cycle* refers to CYCLE, which is treated on the same and the next page.

In short, *DAFA* exemplifies an adequate type of a pedagogical specialized dictionary for a number of reasons. Firstly, It is a corpus-based dictionary. Binon and Verlinde (1999) claim that a corpus of journalistic and scientific texts containing some 25 million words have been used in order to establish the frequency of the words. In addition to frequency, teaching experience, learnability and transparency and the point of view of experts in the field have been used as selection criteria (see Bowker and Pearson 2002). This approach has resulted in the 135 thematic entries, which include some 700 basic words of business French. The addition of synonyms, antonyms, hyponyms and hyperonyms has expanded this basic vocabulary, leading to a total number of 3000 words. Several dictionaries and inventories of economic terms have been exploited, among other reasons for the selection of collocations. For example, as a noun ALLOCATION has two senses, each with some collocations: *les allocations des chômage, une allocation de chômage, l'allocation des ressources*, etc. Secondly, the non-economic meanings of words are also given. Bogaards (2002) criticizes, however, that these other meanings are not always included, and that it is not entirely clear according to what type of criterion choices have been made. For example, under CYCLE we find that the educational meaning of this word, *division de certains programmes d'etudes ou de formation* is compiled but that under ACTION, only economic meanings are included. Thirdly, there are a lot of idiomatic expressions included under their specific sense and part of speech. For example, under COTISATION, we are informed that as a noun it can collocate with adjectives (for example, *les cotisations sociales, les cotisations patronales, une cotisation spéciale*, etc.), with noun phrases (for example, *la cotisation de crise, la cotisation de solidarité*), or with a verb (for example, *payer une* *cotisation*). Fourthly, the microstructure includes many terms that are from outside France. For example, in IMPÔT we learn that in Swiss French people speak of *le droit de timbre*, that the Belgians call *le précompte mobilier* to what in France is called le *prélèvement libératoire*, whereas in Quebec people pay *une retenue à la source* as income tax (Bogaards 2002). Fifthly, the accessibility of *DAFA* is, in general, adequate. Bogaards (2002), however claims that although the accessibility of the French words is optimal, that of multiword expressions leaves something to be desired. Most items like *pouvoir d'achat* is lined up under the second noun, whereas others such as *fonds de pension* have to be accessed via the first element, and *le temps vaut de l'argent* is presented under the verb *valoir*. Finally, as a conclusion, it can be maintained that, on the level of usability, syntactic as well as morphological information is plentiful and, especially, indications on the correct use of verbs are abundant. The information about frequency is satisfactory and the number of collocations is overwhelming. Again, the examples are well chosen and can be used by learners as models for their written work. For example, under DÉPENSE we are informed that it can be a feminine noun (*une dépense*), or a verb (*se dépenser*). In addition, it seems interesting to mention that DÉPENSE has 55 collocations with different headwords.

On the other hand, *DAFA* still has to tackle some weaknesses. Firstly, concerning comprehensibility, the definitions given in *DAFA* seem adequate for students who know the concepts in their mother tongue and who have a rather good level of French. However, students with a good level of French but only an elementary knowledge of the subject field tend to find the definitions too abstract or cumbersome because of their exhaustiveness. For example, *une commande* is defined as "ordre, oral ou écrit, par lequel un agent économique (un client: un particulier, une entreprise, l'État — x) demande à un autre agent économique (un commerçant, une entreprise — Y) de lui remettre une marchandise ou de lui fournir un service (z) contre paiement d'une somme d'argent et à certaines conditions (prix, règlement, délai déx'ecution)." Secondly, there are no visual illustrations such as drawings or photographs. Thirdly, on the production side, findability remains a problem, even though it has been solved to a large extent for five languages. But even for these languages, Bogaards (2002) claims that learners have to take three steps before they can find a proper equivalent in French. A second difficulty is that many words in the indexes have several different translations (for example 14 for the English noun *increase*. This means "that a learner who is not capable of immediately choosing the right equivalent may be led to look up many items" (Bogaards 2002: 113).

Furthermore, pedagogical specialized dictionaries should also make explicit the semantic relationships between terms in order to develop *discursive autonomy* in dictionary users, particularly in students and translators.[3] This implies developing an adequate system of cross-referencing ontologically related terms. For example, the bilingual *Harrap's Business Dictionary English French/Dictionnaire Français Anglais* has not considered the importance of developing *discursive autonomy*, as figure 1 (below) shows. It indicates that the categories of the Boston Consultancy Group Matrix (BCG-Matrix)[4] are not cross-

3. By *discursive autonomy* it is usually implied that dictionary users can grasp the subject matter to the point of being able to explain it in their own words. They, then, need to explore *l'univers conceptual d'un terme* (Dancette and L'Homme 2001).

4. *The Boston Matrix* is a well-known tool for the marketing manager. It looks at each individual product in one's portfolio and places it onto the matrix as *dogs, cash cows, problem children* (also

referred to each other nor given a complete and consistent description: only their field label *(marketing)* is compiled, but without making explicit their ontological relatedness; the superordinate *product/produit* is only present in four of them, but not in the term which relates them (the Boston matrix); no sense discrimination or contextual clues are given to relate the meanings of the components of the Boston matrix; only a very indirect relationship between *dog* and *star* is found in a quotation for *dog* (example 4):

Boston matrix	dog	cash	problem child	star
n Mktg matrice *f* BCG	*n Mktg* (*product*) poids *m* mort, gouffre *m* financier	cash cow (*product*) vache *f* à lait	*Mktg* problem child (*company*, *product*) dilemme *m*	*n* (a) *Mktg* (*product*) vedette *f*

Matrice	poids	vache à lait	dilemme	star vedette
(c) *Mktg* matrice BCG Boston matrix	(b) poids mort dead weight; *Mktg* (*produit*) dog, dodo	*nf Fin, Mktg* (*produit, societé*) cash cow	*nm Mktg* (*produit*) problem child	*nf Mktg* (*produit*) star

Figure 1: Visual representation of the Boston Matrix ontology
in *Harrap's Business Dictionary English-French/Dictionnaire Français-Anglais*

(4) For the marketing executive guessing the future is more than a routine parlour game to be indulged in at the beginning of each new year. Getting it right or getting it wrong is the difference between being regarded as a star or a dog.

3. English for Specific Purposes

Hewings (2002: 2) argues that an exploration of the contributions made to the *English for Specific Purposes Journal* over its life should provide a fairly representative overview of the growth of ESP over the last two decades around the world. He found, firstly, that, there has been a steady increase in the percentage of papers originating from outside the US and the UK: in volumes 1–5, some 40% came from the US, 25% from the UK and 35% from other countries. In volumes 16–20, however, the percentages for the US and the UK have halved (to 19% and 12% respectively) and the contribution from other countries has doubled (70%). Hewings offers two explanations. Firstly, ESP work has grown all over the world; secondly, the acceptance of ESP as a recognized academic discipline in Applied Linguistics and the Departments of English. By breaking down the data, Hewings also found that

question mark), and *star*, depending on its relative market share and market growth: *dogs* "are products with a low share of a low growth market" (Temmerman 2003: 123); *cash cows* are "products with a high share of a slow growth market" (Temmerman 2003: 123); *problem children* "are products with a low share of a high growth market" (Temmerman 2003: 123); *stars* "are products that are in high growth markets with a relatively high share of that market" (Temmerman 2003: 124).

future growth areas will be located in China, Hong Kong, and the Mediterranean countries, "particularly Spain, where ESP is becoming a focus of special interest in universities" (Hewings 2002: 3). Secondly, he also found a steady and marked decline in the proportion of papers that look at ESP in general, with a modest increase in papers on English for Occupational Purposes (EOP) (particularly in business contexts), and a more marked increase in English for Academic Purposes (EAP). For example, in volumes 16–20, some 80% of papers reported analysis in the area of EAP. Hewings (2002) claims that a number of possible reasons can be suggested for these trends: (I) the decline in general ESP reflects the tendency for ESP to become more specific; (II) this increase reflects that universities and other tertiary education institutions concentrate on teaching EAP and teaching, research and writing for publication often go hand in hand; (III) although Business English is the main expansion area of ESP, this expansion is not reflected in the reporting of research that can underpin teaching. The explanation may lie in the fact that Business English has started to be taught at universities very recently. Thus, he envisages expansion of this area in the near future. Thirdly, a more detailed breakdown of the topic of the papers identified seven categories: (I) text/discourse analysis; (II) program description; (III) needs analysis/syllabus design; (IV) materials/methods; (V) argument; (VI) testing; (VII) teacher training. He also adds that two main changes will be highlighted. The first is the considerable increase in papers that have text or discourse analysis at their center. This increase seems to reflect two main developments. One is the realization that to "provide convincing and effective ESP courses or materials, we need to know a considerable amount about target situations" (Hewings 2002: 6). The second main change is the relative decline in program descriptions. Optimistically, this might reflect the developing maturity of the discipline. More realistically, however, it is more likely to be a further reflection of the increased specialization of ESP noted above, since as ESP "becomes more specialised it becomes more difficult to write an account of a particular programme that will be of relevance to a wide part of the readership of the journal" (Hewins 2002: 6). Fourthly, analysis of written texts predominate, perhaps as a consequence of the early days of English for Science and Technology (EST), and because of practical reasons: it is easier to analyze written texts. Fifthly, a further division indicates that some of these text/discourse analysis analyze "professional" products, such as textbooks and research articles. Others analyze student's products, such as essays. Sixthly, the main underlying motivation for papers on text/discourse analysis is needs analysis, and needs can be established by examining "targets" (the writing and speech that learners are required to produce and understand in specific contexts) or the gap between what learners are able to do at a particular stage and what will be required of them. The area of Second Language Acquisition (SLA) has studied what learners say and write, paying special attention to grammatical errors. This area of research has been neglected in ESP. Hewings (2002: 8) thinks that "it would be valuable to redress this imbalance, with more attention paid to 'errors' (or however we might wish to label discrepancies between student and professional products)." Seventh, there has been a steady increase in the average number of references, from 14.9 per paper in volumes 1–5 up to 29.2 in volumes 16–20. Several reasons can explain this. As ESP develops as a discipline, publication in most areas within it has grown, and there is more to refer to it in order to contextualize a particular piece of work. Secondly, ESP has drawn more and more from related disciplines such as sociology, psychology, learning theory and rhetoric. In other words, this may be a sign of maturity, which indicates that ESP has become more academically "respectable." In short, ESP tends to become more international, more specialised, and more dependent on the tenets of Genre Analysis, Corpus Linguistics, Second Language Acquisition, and Discourse Analysis.

Alcaraz Varó (2000) and Dudley-Evans (2000), among others, also agree that a much more promising approach to a theory of ESP comes from Genre Analysis, Corpus Analysis and Second Language Acquisition. In other words, they claim that in the same way that teaching procedures of ESP are linked to a view of language and learning, all ESP activity should be linked to a view of text. The Genre Analysis, for example, brought a greater sophistication to text analysis. The "Moves" and "Steps" that Swales (1990) suggested have developed into Applied Genre Analysis based on the idea that genres are not uniform. Thus, the concept of prototypical genres seems an illusion. Dudley-Evans (2000) comments some findings indicating the existence of slight variations in the pattern found in different disciplines: Crookes (1986) found that Social Science articles contained longer introductions, basically to allow writers to produce more than one Move 2 and Move 3 and to follow each new Move 2 with another Move 3; Anthony (1999) found that in software engineering writers wrote longer introductions, not only because writers make extensive use of Move 1–Move 2 cycles (detailed background information and definitions are presented), but also because they added one Step, Evaluation of Research, to Move 3. These variations seem to be justified in software engineering to meet the needs posed by a growing readership, basically formed by new engineers from related branches who are not necessarily up to date in this rapidly developing field. The direction that genre analysis has taken since the early Move and Step analysis shows two main tendencies; one under the influence of sociology of science has been a more detailed analysis of the concept of discourse community, and of actual discourse communities in practice (Swales 1998); the other has been the detailed analysis of specific features of language as used in particular genres, such as hedging (Hyland 1998a), reporting verbs (Thompson and Ye 1991; Thomas and Hawes 1994) or verbs with inanimate subjects (Master 1991). Research in the second of these two tendencies has thrown up interesting differences between disciplines. Firstly, there is variation in the use of hedging between disciplines. The difference in this respect between articles published in journals and versions of those papers published in "popular" journals is well established. Myers (1990) has shown that writers in academic journals tend to make guarded claims about their findings using many hedging statements (*the results suggest that ...*), but will use more confident statements "in popular journals tending to present claims as established facts" (Dudley-Evans 2000: 7). The same phenomenon has been observed in articles and textbooks, with writers of textbooks presenting theories and findings as established knowledge and developing a consensus view of the state-of-play in the discipline (Myers 1992). Secondly, similar differences are also found in the use of epistemic modality (i.e. the degree of commitment one has to a statement being made). Rizomilioti (cited in Dudley-Evans 2000) has found that Archaeology used more downtoners than Biology and Literary Criticism, this last the one with the lowest proportion of downtoners. On the other hand, she also found that the highest occurrence of boosters was in Literary Criticism. Thirdly, variation within the same discipline and the same genre has also being been shown. Bloor and Bloor (1993) have found that in economic articles published in *The Economic Journal* writers were either making claims that were related to the real world (field central claims) or claims that were related to issues within the discipline itself (substantive claims). Bloor and Bloor noted that the substantive claims tended to be hedged while field-central claims were not. Fourthly, Hyland (1999) has also shown that citation practices vary across disciplines and suggest that this results from differences in epistemological and social conventions of the disciplines. In general, he found that social science and humanities writers used more citation than science and engineering writers. With regard to the use of integral vs. non-integral citation structures (an integral structure will name the cited author in the actual sentence), he found that all the disciplines studied, with the exception of Philosophy, preferred non-integral structures. Hyland has also shown that there are differences in the reporting verbs used by the different disciplines, with the science and engineering writers preferring more neutral verbs such as *report, use, develop,* and the humanities and social writers favoring more tentative verbs such as *suggest*. Fifthly, Hyland (1998b), and Fuertes-Olivera, Velasco-Sacristán, Arrinas-Baño, and Samaniego-Fernández (2001), among others, have shown the important role played by metadiscourse in the construction of meaning. Metadiscourse plays a vital role both in organizing the discourse and in engaging the audience, thus becoming an important aspect of persuasive writing. Assuming that metadiscourse is context-dependent and that it is linked to the norms and expectations of a particular setting and genre, Fuertes-Olivera, Velasco-Sacristán, Arrinas-Baño, and Samaniego-Fernández (2001: 1305), for example, have shown that metadiscourse permeates advertising English helping advertisers to achieve covert communication: "textual metadiscourse helps addressees to interpret slogans and/or headlines in accordance with their epistemological understanding and genre expectations; [and] interpersonal metadiscourse allows copywriters to adopt a kind of balance between informing and persuading."

From the above research it can be concluded that disciplinary variation is very significant. Hence, it seems adequate to "devise a theory that goes beyond the idea of prototypicality to acknowledge that variation in the discourse structuring of genres reflecting different epistemological and social practices in disciplines is a key factor in genre theory" (Dudley-Evans 2000: 9).

For establishing this theory, Bathia (2002: 5) goes beyond applied linguistics in an attempt to extend the scope of genre theory and to redefine the conventional boundaries of Applied Linguistics. Under this framework he claims that the main goals of genre theory are:

— to represent and account for the seemingly chaotic realities of the world;
— to understand and account for the private intentions of the author, in addition to socially recognized communicative purposes;
— to understand how language is used and shaped by socio-critical environment; and,
— to offer effective solutions to pedagogical and other applied linguistic problems.

By so doing, Bathia discusses two of the most recurring myths of recent times about the use of genre theory in language pedagogy, which are that genre theory encourages simple reproductions of discourse forms, and hence represent a rather simplified view of the world, and that genre-based descriptions are static and hence their pedagogical and other applied linguistic applications discourage understanding and use of creativity and transfer of skills across other discourse forms. To begin with, he emphasizes that genre theory is applied, versatile and dynamic in nature, essentially explanatory, narrow in focus but broad in vision and has a natural propensity for innovation and exploitation. Finally, he raises the most important question in applied genre analysis, that is, "Is generic description a reflection of reality or a convenient fiction invented by applied linguists for pedagogical and other purposes?" (Bathia 2002: 6).

He answers the above question indicating that genre description reflects reality only if it takes into consideration four different and yet interacting perspectives on discourse. Firstly, the real world perspective: the real world of discourse is complex and chaotic due to factors such as *register variation*, *disciplinary variation*, *different generic systems within professional communities*, *mixed and embedded genres*, and *colonies of genres*. For example, in Business English there are "memos," "reports," "case studies," "letters," "presentations," "meetings," etc. Secondly, the writer's socio-cognitive perspective: genres are also notorious for encouraging expert genre writers to appropriate rhetorical resources and other generic conventions across genres. For example, cross-cultural variation and mixed forms occur in many promotional genres such as "advertisements." Thirdly, the analytical perspective: analysis of discourse as genre often incorporates the use of a range of research methods, some of which are of relatively recent origin in the context of discourse and genre studies: corpus studies and critical and ethnographic analysis. Finally, the pedagogical perspective relates with "managing disciplinary conflicts"; "raising of rhetorical and genre consciousness"; "providing tactical space" and "integrating process, product, purposes and participants in genre construction"; "ownership of genres," etc.

These perspectives can be combined by using corpus linguistics as a methodology. Bowker and Pearson (2002) claim that special-purpose corpora are being compiled to help learners to cope with the characteristics of specialized language. Hunston (2002: 198), for example, comments that for "the teacher of English for academic purposes, the issue of 'what to teach' (as opposed to 'how to teach') is of particular significance." In her view, for example, LSP corpora can be assembled to, say, teach students to write an essay, a thesis, or an academic paper. In looking at some of the works in this area, she comments on the work by Luzón Marco (2000) who takes Renouf and Sinclair's notion of "frames" and examines the most frequent occurring frames in a corpus of medical research articles. One of these is *the … of*, which is used with nouns expressing meanings such as "measurement and quantification" (e.g. *the amount of, the extent of*), "medical procedures" (e.g. *the addition of, the administration of*), "qualities or properties" (e.g. *the ability of, the abnormality of*), "existence or non-existence" (e.g. *the absence of, the lack of*), "a moment of time in a process" (e.g. *the beginning of*), and "focus on an aspect of the research" (e.g. *the cause of, the effect of*). A more detailed analysis of the research conducted in this area reveals that a lot of articles are being devoted to untangle interpersonal meaning in special communication. Hyland (1998a), for example, studies the broad semantic category of "hedging" in a corpus of Biology research articles, compared with a more general corpus of scientific English and the academic components of the Brown and LBO corpora. His quantitative studies of modal auxiliaries (*may, might, could,* etc.), epistemic lexical verbs (*suggest, indicate,* etc.), and epistemic adjectives, adverbs and nouns (*possible, possibly, possibility,* etc.) suggest that hedging is all-pervasive in research articles. Poos and Simpson (2002) also embark on a cross-disciplinary comparison of hedging. They analyze the Michigan Corpus of Academic Spoken English linking the study of gender and hedging with that of hedging in written academic discourse. They conclude that "in the domain of academic speech, there is no significant gender-related effect on speakers' hedging frequencies, but rather that there is a noticeable difference in hedging frequencies depending on the academic division" (Poos and Simpson 2002: 20). In other words, they maintain that, first, hedging is not necessarily a gender-based phenomenon, and second, that hedges such as *kind of* and *sort of* "are not merely, and indeed not always, indicators of tentativeness" (Poos and Simpson 2002: 21). Oakey (2002) analyzes formulaic language in English academic writing. By investigating the functional and formal variation of the lexical phrases *it is/has been (often) asserted/believed/noted that x* in a subset of the British National Corpus containing 91 texts from the Social Sciences, 23 texts from medicine, and 18 texts from Technical/Engineering, he concludes that this lexical phrase is used in academic writing performing more varied functions that originally specified. In addition to "topic priming," instances "have been found in all three sub-genres where this phrase has been used for attributed and non-attributed support, negatively evaluated statements, and reference within the text" (Oakey 2002: 127). Finally Csomay (2002) analyzes variation in academic lectures. He selected 176 academic lectures from the T2K-SWAL Corpus, a "2.7 million word corpus of spoken and written academic discourse collected at four universities in the United States (Biber et al. 2001)" (Csomay 2002: 205). In his view "both degree of interactivity and level of instruction have an impact on the linguistic features present in lectures" (Csomay 2002: 221). Hence, he concludes that (a) academic lectures are always delivered under time-constraints and in a spoken mode, and (b) there is variation in the ways the discourse is patterned in classes of different levels: low interactive classes reflect features of academic prose; highly interactive classes resemble oral discourse most in terms of their involvement.

Furthermore, special-purpose corpora are also being used for understanding some key aspects of Business English. Connor, Precht, and Upton (2002), for example, seek to demonstrate the value of combining the traditional textlinguistic tools of genre analysis, such as the identification of rhetorical moves, with a genre-specific corpus to make broader statements about how different writers approach writing for a specific purpose. For that, they use the Indiana Business Learner Corpus (IBLC), which comprises job application letters and résumés of business students from the US, Belgium and Finland. The goal of the corpus project is to study language use, accommodation, and genre acquisition of native and non-native speaking students in an undergraduate business class. Specifically, the corpus project plans:

— to build an advanced EFL learner corpus of letters of job applications, with a native English speaker comparison group
— to make interlanguage comparison possible among learners of different L2s
— to identify the genre thoroughly, with simulated letters of application as a genre, to produce a prototype and then describe variation based on L2, business background, etc. (Connor, Precht, and Upton 2002: 179)

For the study reported, they examined ninety-nine learner generated letters of application from Belgium, Finland and the US from 1990, 1991, 1993, 1994, 1996, 1997, and 1998. The Belgian and Finnish participants were non-native speakers of English who had had at least six years of English instruction. The Belgian students were majors in business administration, while the Finnish learners had a double major in Business and English. The American learners had mixed majors: some were English majors, others business majors. The results obtained suggest "a remarkable consensus on the moves which are central and which are optional in the genre" (Connor, Precht, and Upton 2002: 185). Thus, Move 1 (indicating source of information), Move 2 (applying for the position), Move 3 (arguments for the position) and Move 4 (requesting contact or an interview) "seemed to be obligatory in all countries, with all three countries using these moves on average 91% of the time. . ." (Connor, Precht, and Upton 2002: 185–86). On the other hand, Move 5 (expression of appreciation), Move 6 (offering further information), and Move 7(reference to attached resume) were clearly optional moves "as they were used on average only 33% of the time" (Connor, Precht, and Upton 2002: 186).These results "show not only that the frequencies are similar, but that the cultures share a similar concept of which moves are central and which are optional to the genre" (Connor, Precht, and Upton 2002: 186).

Finally, special-purpose corpora may also be used for discarding some entrenched theories on the nature of an LSP. Contrary to some assumptions, it can be argued that gendered practices permeate specialized discourse. In particular, Fuertes-Olivera, Velasco-Sacristán and Samaniego-Fernández (2003) have examined two basic components of the English gender system: the lexical and the grammatical. The former has shed light on the lack of "gender sensitivity" in the coinage of terms, not only because the terms analyzed—i.e. *man, master, paymaster,* and *seigniorage* or *seignorage*—showed male denotations, but also because the contexts where they were used and explained indicated male connotations reinforcing gender stereotypes, such as "man as provider," "woman as dependent," "man as professional or would be professional," "woman as silence," and "woman as frail." The latter showed that gender reference in English is in a state of flux: different grammatical devices are used for giving generic reference: "generic *he*," "generic *she*," "generic *it*," and "generic *they*." In their view, these different grammatical devices indicate that language planning has gained acceptance, at least in very institutionalized texts, such as the United Nations Conventions analyzed: in the 1978 texts, only uses of "generic *he*" were found, whereas not a single use of "generic *he*" was found in the texts produced since 1995.

4. Concluding remarks

The approaches to special language described have cast light on the leading role linguists and philologists should play in the analysis of special communication. Considering that university degrees are going to be adapted to European guidelines, and that many English philologists, especially those engaged in ESP teaching, must accommodate their research activities, I have intended to marshal evidence in order to advocate the leading role that English philologists are called to play in the analysis of specialized communication, particularly, on lexicography and ESP. The former derives from two recent approaches: (I) the General Theory of Terminology no longer explains the complexities occurring in special communication. Hence, terminology must adopt social, linguistic and cognitive perspectives which, somehow, equate the workings of terminologists and linguists; (II) the segmental dictionary should adopt a pedagogical approach, particularly because they should serve a new breed of users: students, would-be professionals, and translators. ESP is concerned with two assumptions: (I) disciplinary variation is very significant; (II) contrary to the description of specialized discourse as impersonal, objective, ideologically neutral and emotionless, research with special purpose corpora is demonstrating that ideology also plays an important role in special communication.

Works Cited

Alcaraz Varó, E. 2000: *El inglés profesional y académico*. Madrid: Alianza.

Alcaraz Varó, E., and B. Hughes 2002: *Diccionario de términos económicos, financieros y comerciales Inglés–Español/Spanish–English*. 3rd ed. Barcelona: Ariel.

Anthony, L. 1999: "Writing Research Articles Introductions in Software Engineering: How Accurate is a Standard Model." *IEEE Transactions on Professional Communication* 42: 38–45.

Asher, R. E., and J. M. Simpson, eds. 1994: *The Encyclopedia of Language and Linguistics*. Oxford: Pergamon.

Bathia, V. K. 2002: "Applied Genre Analysis: A Multi-Perspective Model." *Ibérica* 4: 3–19.

Biber, D., R. Reppen, V. Clark, and J. Walter 2001: "Representing Spoken Language in University Settings: The Design and Construction of the Spoken Component of the T2K-SWAL Corpus." *Corpus Linguistics in North America*. Ed. R. Simpson and J. Swales. Ann Arbor: U of Michigan P. 48–57.

Binon, J., and S. Verlinde 1999: "La contribution de la lexicographie pédagogique á l'apprentissage et à l'enseignement d'une langue ètrangère ou seconde (LES)." *Etudes de Linguistique Appliquée* 116: 447–63.

Binon, J., S. Verlinde, J. Van Dyck, and A. Bertels 2000: *Dictionnaire d'apprentissage du françaos des affaires*. Paris: Didier.

Bloor, M., and T. Bloor 1993: "How Economists Modify Propositions." *Economics and Language*. Ed. W. Henderson, T. Dudley-Evans, and R. Backhouse. London: Routledge. 153–60.

Bogaards, P. 2002: "*DAFA*: An Innovative Learners' Dictionary of Business French." *International Journal of Lexicography* 15.1: 105–16.

Bowker, L., and J. Pearson 2002: *Working with Specialized Language: A Practical Guide to Using Corpora*. London: Routledge.

Cabré, M. T. 2000: "Elements for a Theory of Terminology: Towards an Alternative Paradigm." *Terminology* 6.1: 35–57.

——— 2005: "Estado actual de la investigación en terminología." *Lengua y sociedad: investigaciones recientes en lingüística aplicada*. Ed. Pedro A. Fuertes Olivera. Valladolid: Universidad de Valladolid.

Connor, U., K. Precht, and T. Upton 2002: "Business English: Learner Data from Belgium, Finland and the U.S." *Computer Learner Corpora, Second Language Acquisition, and Foreign Language Teaching*. Ed. S. Granger, J. Hung, and S. Petch-Tyson. Amsterdam: John Benjamins. 175–94.

Crookes, G. 1986: "Towards a Validated Analysis of Scientific Text Structure." *Applied Linguistics* 7: 57–70.

Csomay, E. 2002: "Variation in Academic Lectures: Interactivity and Level of Instruction." *Using Corpora to Explore Linguistic Variation*. Ed. R. Reppen, S. M. Fitzmaurice, and D. Biber. Amsterdam: John Benjamins. 203–24.

Dancette, J., and M.-C. L'Homme 2001: "Modélisation des relations sémantiques dans un dictionnaire specialisé bilingue." *Journées scientifiques de L'AUPELF-UREF,* Beyrouth. *Méta* 385–99.

Dudley-Evans, T. 2000: "Genre Analysis: A Key to a Theory of ESP?" *Ibérica* 2: 3–11.

Fuertes-Olivera, P. A., M. Velasco-Sacristán, A. Arrinas-Baño, and E. Samaniego-Fernández 2001: "Persuasion and Advertising English: Metadiscourse in Slogans and Headlines." *Journal of Pragmatics* 33: 1291–307.

Fuertes-Olivera, P. A., M. Velasco-Sacristán, and E. Samaniego-Fernández 2003: "Gender Sensitivity in Specialized Communication: A Preliminary Corpus-Based Study of the LSP of Economics." *Ibérica* 6: 65–87.

Gaudin. F. 1990: "Socioterminology and Expert Discourses." *Terminology and Knowledge Engineering: Proceedings of the Second International Congress on Terminology and Knowledge Engineering*. 2 vols. Ed. H. Czap and W. Nedobity. Frankfurt: Universität Trier/TKE. 2: 631–41.

——— 1993: "Socioterminologie: propos et propositions épistémologiques." *Le language et l'homme* 28.4: 247–58.
——— 1995: "Champs, clotûres et domaines: des langues de la spécialité à la culture scientifique." *Meta* 40.2: 229–37.
Heltai, P. 1988: "Contrastive Analysis of Terminological Systems and Bilingual Technical Dictionaries." *International Journal of Lexicography* 1.1: 32–40.
Hewings, M. 2002: "A History of ESP through 'English for Specific Purposes.'" *English for Specific Purposes World*. Electronic Journal: 1–11.
Hoffmann, L. 1976: *Kommunikationsmittel Fachsprache: Eine Einführung*. Berlin: Akademie-Verlag.
Hunston, S. 2002: *Corpora in Applied Linguistics*. Cambridge: Cambridge UP.
Hyland, K. 1998a: *Hedging in Scientific Research Articles*. Amsterdam: Benjamins.
——— 1998b: "Persuasion and Context: The Pragmatics of Academic Metadiscourse." *Journal of Pragmatics* 30: 437–55.
——— 1999: "Academic Attribution: Citation and the Construction of Disciplinary Knowledge." *Applied Linguistics* 20: 341–67.
——— 2000: *Disciplinary Discourse: Social Interactions in Academic Writing*. Harlow: Longman.
Lozano Irueste, J. M. 1989: *Diccionario bilingüe de Economía y Empresa inglés–español/español– inglés*. Madrid: Pirámide.
Luzón Marco, M. J. 2000: "Collocational Frameworks in Medical Research Papers: A Genre-Based Study." *English for Specific Purposes* 19: 63–86.
Master, P. 1991: "Active Verbs with Inanimate Subjects in Scientific Prose." *English for Specific Purposes* 10: 15–34.
McGroarty, M. 2002: "Language Use in Professional Contexts." *The Oxford Handbook of Applied Linguistics*. Ed. B. B. Kaplan. Oxford: Oxford UP. 262–74.
Myers, G. 1990: *Writing Biology: Texts in the Social Construction of Scientific Knowledge*. Madison: U of Wisconsin P.
——— 1992: "Textbooks and the Sociology of Scientific Knowledge." *English for Specific Purposes* 11: 3–18.
Oakey, D. 2002: "Formulaic Language in English Academic Writing: A Corpus-based Study of the Formal and Functional Variation of a Lexical Phrase in Different Academic Disciplines." *Using Corpora to Explore Linguistic Variation*. Ed. R. Reppen, S. M. Fitzmaurice, and D. Biber. Amsterdam: John Benjamins. 111–29.
Opitz, K. 1983: "Special-Purpose Lexicography: Dictionaries for Technical Use." *Lexicography: Principles and Practice*. Ed. R. R. K. Hartmann. London: Academic. 163–80.
Poos, D., and R. Simpson 2002: "Cross-Linguistic Comparison of Hedging: Some Findings from the Michigan Corpus of Academic Spooken English." *Using Corpora to Explore Linguistic Variation*. Ed. R. Reppen, S. M. Fitzmaurice, and D. Biber. Amsterdam: John Benjamins. 3–23.
Swales, J. M. 1990: *Genre Analysis: English in Academic and Research Settings*. Cambridge: Cambridge UP.
——— 1998: *Other Floors Other Voices: A Textography of a Small University Building*. Mahwah: Erlbaum.
Temmerman, R. 2000: *Towards New Ways of Terminology Description: The Sociocognitive Approach*. Amsterdam and Philadelphia: John Benjamins.
——— 2003: "Innovative Methods in Specialised Lexicography." *Terminology* 9.1: 117–35.
Thomas, S., and T. Hawes 1994: "Reporting Verbs in Medical Journal Articles." *English for Specific Purposes* 13: 129–48.
Thompson, G., and Y. Ye 1991: "Evaluation of the Reporting Verbs Used in Academic Papers." *Applied Linguistics* 12: 365–82.
Tuck, A., ed. 1993: *Oxford Dictionary of Business English for Learners of English*. Oxford: Oxford UP.