The Metalexicographical Contribution of Pedro A. Fuertes-Olivera and Ascensión Arribas-Baño's *Pedagogical Specialised Lexicography*: A Critical Review

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Abstract: This article attempts to give a critical review of Pedro A. Fuertes-Olivera and Ascensión Arribas-Baño's *Pedagogical Specialised Lexicography*. It evaluates the book in view of the available metalexicographical literature as well as current trends in practical LSP lexicography in the wake of rapid technological and information developments. The article appreciates both the methodological and theoretical frameworks within which the book identifies, investigates and addresses lexicographical problems. The approaches make the book an important academic contribution with critical insights for metalexicographers, especially in the area of dictionary criticism. The theoretical insights provided in the book further possess the potential to accomplish exactly what metalexicography ought to accomplish, i.e. to facilitate the production of user-friendly dictionaries which meet both the reference needs and reference skills of the targeted users. A few concerns are, however, raised mainly regarding the technical aspects of the book. While these may have a negative impact on the reader, they are not severe enough to discredit the rigour with which the book was conceived.

Keywords: METALEXICOGRAPHY, PEDAGOGICAL SPECIALISED LEXICOGRAPHY, MONOLINGUAL LSP DICTIONARY, BILINGUAL LSP DICTIONARY, MEANING REPRESENTATION, DICTIONARY STRUCTURES, DEFINITIONS, EQUIVALENCE, EXAMPLES, DICTIONARY CRITICISM

Opsomming: Die metaleksikografiese bydrae van Pedro A. Fuertes-Olivera en Ascensión Arribas-Baño se *Pedagogical Specialised Lexicography*: 'n Kritiese beskouing. Hierdie artikel probeer om 'n kritiese beskouing van Pedro A. Fuertes-Olivera en Ascensión Arribas-Baño se *Pedagogical Specialised Lexicography* te gee. Dit beoordeel die boek met betrekking tot die beskikbare leksikografiese literatuur, sowel as huidige neigings in praktiese TSD leksikografie in opvolging van die vinnige tegnologiese en inligtingsontwikkelinge. Die artikel het 'n waardering vir sowel die metodologiese as teoretiese raamwerk waarbinne die boek die leksikografiese probleme bepaal, ondersoek en aanpak. Die benaderings maak die boek 'n belangrike akademiese bydrae met kritiese insigte vir metaleksikograwe, veral op die gebied van woordeboekkritiek. Die teoretiese insigte wat in die boek verskaf word, besit verder die moontlikheid om

dit te bewerkstellig wat metaleksikografie behoort te bewerkstellig, d.i. om die voortbrenging van gebruikersvriendelike woordeboeke te vergemaklik wat sowel die naslaanbehoeftes as die naslaanvaardighede van die teikengebruikers bevredig. 'n Paar bedenkinge word egter geopper hoofsaaklik betreffende die tegniese aspekte van die boek. Alhoewel hulle 'n negatiewe uitwerking op die leser kan hê, is hulle nie ernstig genoeg om die noukeurigheid aan te tas waarmee die boek beplan is nie.

Sleutelwoorde: METALEKSIKOGRAFIE, OPVOEDKUNDIGE GESPESIALISEERDE LEK-SIKOGRAFIE, EENTALIGE TSD-WOORDEBOEK, TWEETALIGE TSD-WOORDEBOEK, BETE-KENISAANBIEDING, WOORDEBOEKSTRUKTURE, DEFINISIES, EKWIVALENSIE, VOOR-BEELDE, WOORDEBOEKKRITIEK

1.   Introduction

This article is a critical review of Pedro A. Fuertes-Olivera and Ascensión Arribas-Baño's (2008) book, *Pedagogical Specialised Lexicography*. Although lexicography has reached a stage where some of its practitioners and academics strongly claim its disciplinary status, literature about it is still limited when compared to other disciplines, even those closely related to it like linguistics. Of course, there are now lexicographical associations, accredited journals and courses in lexicography. However, book length publications such as this one are less common. This makes it important to evaluate each new publication in view of its predecessors in order to appreciate the formulation and application of methodological and theoretical insights. The discussion aims to put the book into the perspective of the challenges and visions of lexicography in the era of rapid knowledge development, the increased needs for access to information and efficient communication.

The authors of the book appear to be experts and experienced in specialised lexicography and related fields. Fuertes-Olivera, for example, is a professor of English for Specific Purposes, Applied Linguistics and Translation (http://www.pedrofuertes.net), which implies a direct academic interest in both pedagogical and specialised lexicography. The book already bears, as part of its blurb, recommendations by another two fine LSP lexicographers. Enrique Alcaraz Varó was a professor and the co-author of ten bilingual English–Spanish/Spanish–English LSP dictionaries (http://www.aedean.org/), the main objects of analysis in this book. Sven Tarp is the co-editor of the ground-breaking *Manual of Specialised Lexicography*, editor of seven LSP dictionaries (http://www.aedean.org/), author of numerous articles and book chapters on lexicography and also a professor of lexicography.

2.   A Brief Synopsis of the Book

This section aims to provide an overview of the six chapters into which the book is structured. The chapterisation of the book has been respected in out-

lining its contents. However, caution has been taken to avoid reproducing the outline of the book given by the authors at the end of the first chapter.

Chapter 1, the "Introduction", clears the field for the analyses undertaken in the subsequent three chapters and raises issues conclusively addressed in the final chapter. Firstly, a background is provided for the linguistic concept of "Language for Specific Purposes" (LSP), which is the presupposition for LSP lexicography. By references to the works of well-known lexicographers, namely Atkins (1996), Worsch (1999) and Hartmann (2001), a clear indication is given that the subsequent chapters are conceived within a (meta)lexicographical framework. The authors delineate their scope of study, identifying the analysis of the representation of meaning in selected business English and Spanish LSP dictionaries as their main aim (p. 10). Also explained is the methodology of selecting the dictionaries for the study and the materials subjected to scrutiny in the book. The chapter ends by providing a brief overview of the remaining chapters. Although the outline offered in the book was used as the basis for this section, it should be borne in mind that additional information is given here for the benefit of the readers who are still unfamiliar with the book.

Chapter 2 is entitled "The macrostructure, mediostructure and access structures of business dictionaries". The authors show their awareness of various types of dictionary structures. They explain that their focus on the three selected types of dictionary structures is based on their view that meaning is distributed across these three. The chapter thus explores possible structural configurations of dictionaries resulting from the lexicographers' procedures of treating meaning information. The attention is mainly focused on the implications of homonymy and polysemy for the structure of dictionary articles and the user-friendliness of selected dictionaries.

Definitions are the subject of analysis in Chapter 3 entitled "Definitions in business dictionaries". The authors, concurring with many writers, show that the definition is the most widely used method of explaining meaning in dictionaries (p. 47). Accordingly, three main kinds of definitions are identified, namely terminological, encyclopaedic and semantic definitions. Before examining their employment and assessing their user-friendliness in the selected business dictionaries, the authors draw from other scholars to test the validity of the distinctions among the identified types of definitions. Having noted that the three types of definitions are distinguished according to the nature of dictionaries, the authors proceed to identify further types of definitions according to the contents of dictionaries and also according to users' needs. Consequently, the authors discuss the definition by intention, the definition by extension and the partitive definition before exploring the conceptual, the rational and the functional (also called encyclopaedic) definitions. The discussion of definitional styles brings the Cobuild definition to the fore.

Entitled "Equivalence in business dictionaries", Chapter 4 deals with the generally problematic phenomenon of equivalence in bilingual lexicography. The cultural factor and interlingual anisomorphism are identified as the pri-

mary challenges of bilingual lexicography. The chapter explores the approaches adopted to convey meaning information in their sample of bilingual LSP dictionaries. Inter alia, these are providing translation equivalents of lemmata, translating examples, collocations or idioms and sense discrimination. As will be noted in section 3.4, this chapter contributes not only to LSP lexicography but also to bilingual lexicography.

Chapter 5, with the title "Examples in business dictionaries", defines and categorises the notion of an example as a data category with a multi-functional role in conveying meaning information in dictionaries. The authors attempt a typology of lexicographical examples and explore the extent and effect to which meaning information is treated by means of this data category in the LSP dictionaries of the sample. In this respect, a triple distinction of invented examples, examples from a corpus without edition and examples from a corpus with edition is made. The criteria of arranging examples in articles in the same dictionaries are also explored.

In the sixth and final chapter, conclusions are drawn on the three areas of study which the authors identify. These are: (a) the representation of meaning in some monolingual business dictionaries; (b) the representation of meaning in some bilingual English–Spanish/Spanish–English business dictionaries; and (c) the construction of pedagogical LSP dictionaries (p. 133). The first two are covered in section 3.2 of this article while the third one is dealt with in section 3.1.

3.   Arguments and Contributions Regarding Problems of LSP Lexicography

Although there has been a significant increase of metalexicographical literature pertaining to LSP lexicography, especially following the publication of Bergenholtz and Tarp (1995), LSP lexicography still faces challenges of a practical and theoretical nature (see, for example, Tarp 2000). Some of the challenges are not peculiar to LSP lexicography but affect lexicography in general. This makes it important to evaluate each new publication on this subject according to the extent to which at least one of these challenges is addressed. For the purpose of this article, focus will be firstly on the general theoretical insights provided for LSP lexicography and secondly on the insights the authors bring regarding their main objective, i.e. the analysis of the representation of meaning in LSP monolingual and bilingual dictionaries. Accordingly, this section is divided into two subsections.

3.1   On Problems Relating to the Theory of Lexicography

There seems yet to be no consensus whether lexicography is an independent scientific discipline or not. However, lexicography has over the years estab-

lished its identity which enables metalexicographers to reach a consensus on what it is *not*. Most significantly, Wiegand (1984: 13) argues:

> Lexicography is *not* (my italics) a branch of so-called applied linguistics. … Lexicography is, at all events, more than the application of linguistic theories and philological findings. In a frequency dictionary, for example, the methods of statistics play the major role, and just imagine if linguistic knowledge alone were to be taken into account in a technical medical dictionary.

The argument advanced by Wiegand indicates that LSP lexicography would be in a nebulous position if lexicography is not granted its distinct identity from the other fields. LSP lexicography would be part of each and every field in which LSP dictionaries are compiled. Tarp's (2000) summation of the situation as absurd would have no effective equal in this regard. Tarp (2000) extracts an article from a dictionary of gene technology and convincingly argues that it could be written better by an expert in the field of gene technology without linguistic training than a trained linguist without the input of an expert. This effectively nullifies theoretical linguistics as an absolute qualification for lexicographical practice. At the same time, Tarp (2000) points out the limitation of the subject-field expert in practical LSP lexicography, indicating that some special lexicographical training is a prerequisite for producing a well-structured article. To explain the limitations of one of the dictionaries they review, Fuertes-Olivera and Arribas-Baño notably use the fact that the compiler is a subject-field expert lacking lexicographical training.

The main challenge of practical lexicography is to produce appropriate and user-friendly dictionaries, and the challenge of metalexicography is to provide practical lexicography with useful insights in this regard. The growth of metalexicography in the past half century or so has effectively established an identity for lexicography by indicating the extent of its relations with linguistics and many other diverse fields. In order to consolidate its identity, lexicography remains with the task of introspection, taking into account its own practical and theoretical elements. While issues of lexicographical qualifications which have already been explicated remain relevant, it is now a question of how established lexicographical institutions and trained lexicographers address specific problems in their quest to provide users with appropriate dictionaries. In the field of LSP lexicography, advances in science and technology, as well as globalisation imply an increased need for knowledge acquisition and dissemination, the challenges of which may be solved using LSP dictionaries. From this position, one may appreciate Fuertes-Olivera and Arribas-Baño's book as a significant theoretical contribution to LSP lexicography and lexicography in general.

As noted previously, the authors signal their adoption of a lexicographical approach in the first chapter. The reader is promptly reminded that "the content and design of a dictionary are determined by the needs of its users" (p. 2). The importance attached to the user-perspective is well-advised, given that it is

the utility value of dictionaries and the users' ability to use dictionaries whose concern distinguishes lexicography from other related fields. This is crucial for a student of lexicography who needs proper theoretical orientation. More significantly, the authors do this fully aware of the bigger picture of lexicography when they state that they "combine dictionary research and linguistics knowledge" because, although lexicography is an independent scientific discipline, it is connected to many related fields such as lexicology, syntax, corpus linguistics, contrastive linguistics and lexical semantics (p. 10). Thus one is reminded that while focus should be on the user needs many other external factors such as "the cost of material and staff; the selection of equipment and formats for corpus data, word-processing, printing and publishing; the planning and the designing of the layout; factual knowledge; dictionary research and knowledge of linguistics" need to be considered (p. 10). This is particularly important for aspiring lexicographers and many other subject-field experts who, noting the potential value of dictionaries within their fields, may aspire to venture into LSP lexicography. In South Africa, for example, the need to nurture multilingualism into the education curriculum currently sees a lot of activities of an LSP lexicographical nature in the form of the compilation of multilingual "specialised glossaries" which include the indigenous languages. This book may provide the necessary insights to practitioners involved in such work.

The theoretical position established in the first chapter largely prevails throughout the book, not disappointing the reader with a keen lexicographical interest. The analysis of the representation of meaning is firmly based on the user-perspective and evidently grounded in the so-called "modern" theory of lexicographical functions (Bergenholtz and Tarp 2003, Tarp 2008). This theory effectively enables the authors to analyse the representation of meaning information in the selected dictionaries in terms of the information needs of specific users (learners) in specific situations of learning business English LSP. As will be noted in the next section, the reader would realise that the criticism of some dictionaries and recommendations regarding them are validated within such a theoretical framework. They state that LSP dictionaries "should only include data on the basis of their respective functions" (p. 7). Given this, one could even suggest that reference to the works of Bergenholtz and Tarp among other proponents of the theory of lexicographical functions would have sufficed when the authors refer to "the new lexicography" and the pivotal determining role of users regarding the contents and design of dictionaries (p. 2). A reader familiar with the publications of the Danish metalexicographers will even wonder whether translators or professional interpreters and LSP learners deserve mention as new additions which are carefully crafted to complete a statement of user characterisation within the theory of lexicographical functions, given that they have already been considered in publications such as Bergenholtz and Tarp (1995) and Tarp (2000, 2002, 2004). The book is certainly a good example of an excellent application of the theory of lexicographical functions which has mainly been popularised first through the publication of Bergenholtz and Tarp (1995).

Another theoretical issue which Fuertes-Olivera and Arribas-Baño consider and give insight into, regards the relationship between LSP lexicography and terminology. The authors content themselves with the position established by their predecessors such as Bergenholtz and Tarp (1995), Tarp (2000) and Bergenholtz and Nielsen (2006) who adopt a lexicographical approach. This approach "maintains that the often quoted distinction between LSP lexicography and terminology is of no practical use" (p. 8; cf. Bergenholtz and Nielsen 2006). Likewise, Fuertes-Olivera and Arribas-Baño point to a "methodological confluence between LSP lexicography and terminography" (p. 8) which has been embraced by scholars in the field of terminology, particularly Sager (1984, 1996). As indicated by the authors, the descriptive dimension of terminology now places a term rather than its represented concept at the centre of the general theory of terminology. Not only do they articulate this lexicographical position by making reference to scholars such as Temmerman (2000), they also proceed by indicating how the position determines the arrangement of lemmata in the macrostructure (see section 3.1) and even the formulation of definitions (see section 3.2). As will be seen in sections 3.1 and 3.2, the consolidation of the confluence between LSP lexicography and terminology offers more opportunities for LSP lexicographers and terminologists alike to provide users with user-friendly tools which are not based so much on the preservation of distinct identities of the two fields but mainly on the functional value of the products. It is significantly befitting that the book, which is a recent release in the series *Terminology and Lexicography Research and Practice,* pays attention to this debate in a conciliatory way, thereby contributing simultaneously to both LSP lexicography and terminology.

That lexicography has recourse to theories devised from other fields, to which Fuertes-Olivera and Arribas-Baño also concur, has been demonstrated, among others by Wiegand (1984), Tarp (2000) and Hartmann (2005). Among these, linguistic theories evidently dominate although it needs to be emphasised that they are not the only ones influencing lexicography. Accordingly, Fuertes-Olivera and Arribas-Baño consider their knowledge of linguistics as an important element of their theoretical framework. Meaning and its relations of polysemy, synonymy, antonymy, homonymy, hyponymy and hyperonymy are all linguistic phenomena, the analysis of whose representation in dictionaries would be impossible without a proper knowledge of linguistics. The Sapir-Whorfian hypothesis, a sociolinguistic theory, provides a framework for the analysis of meaning representation in the form of translation equivalents in dictionaries. Corpus linguistics also contributes to Chapter 5 in which corpus-based examples are considered. There is thus abundant evidence that the influence of linguistics needs not to be downplayed in lexicography (Hartmann 2001, Gouws and Prinsloo 2005), although it does not exhaustively address lexicographical issues. As will be shown in the next section, for Fuertes-Olivera and Arribas-Baño, a lexicographical approach which is also based on linguistic knowledge facilitates an effective analysis of the representation of meaning in

business dictionaries. While this enables the authors to fulfil their endeavour, it also contributes to the theory of LSP lexicography or lexicography in general by validating and elaborating on the theoretical pursuits of other scholars in the field.

The foregoing are the major highlights of how Fuertes-Olivera and Arribas-Baño engage with the main problems and theoretical issues in the area of lexicography. Within this theoretical framework, they sum up their arguments and proposals towards the compilation of pedagogical LSP dictionaries in the last chapter of their book. While this article has not given individual consideration to these proposals, the general framework within which they are made seems to be productive in such a way that readers may be rewarded when they put the proposals into practice, be it in the compilation or evaluation of dictionaries.

3.2   On the Representation of Meaning in LSP Dictionaries

The representation of meaning in English and Spanish business dictionaries is the main subject of Fuertes-Olivera and Arribas-Baño's book. The analysis is effected within the parameters of dictionary structures, definitions, equivalence and examples, each of which is reviewed from subsection 3.2.1 to 3.2.4. The objective of the review is to highlight the practical and theoretical contributions of the book regarding the treatment of meaning information in LSP dictionaries.

3.2.1 Dictionary Structures

In modern-day lexicography, practising lexicographers do not only have to consider the types of data they need to include in their dictionaries but also the structuring of the dictionary components and the spreading of the data across the various components. Elaborating on McArthur's (1986) view of dictionaries as containers of knowledge, Gouws (2004) sees such an approach as observing not only the knowledge contained in dictionaries but also dictionaries as containers — this thanks to Wiegand's metalexicography, especially his theory of lexicographical texts (Wiegand 1984, 1996).

Accordingly, Fuertes-Olivera and Arribas-Baño do not only single out meaning as the content of dictionaries but also consider dictionary structures as accommodating and conveying meaning. They focus on the macrostructure, microstructure, mediostructure and access structure, arguing that meaning is basically distributed within these structures. However, the authors' understanding of these types of dictionary structures seems to be somewhat confusing. Subsequently, their appreciation of the role of these dictionary structures regarding the representation of meaning will also be found inadequate.

The consideration and treatment of the linguistic phenomenon of homonymy as an element of meaning information in dictionaries mainly corresponds

to the macrostructure. Fuertes-Olivera and Arribas-Baño aim to determine whether the compilers of the selected business dictionaries took homonymy into account. This constitutes checking if some lemmata in the macrostructure are homonymous: "Dictionaries tend to treat homonyms in separate entries on the grounds that native speakers regard them as different words …" (Hartmann and James 1998: 69). The authors of the book observe that only one out of their sample of six dictionaries deals with homonymy by entering homonyms as separate lemmata and indicating their grammatical categories. The example of *price* being both a noun and a verb, and hence having separate meanings, is given. This captures the lexical structure of the subject field by showing that, contrary to the dominant practice of lemmatising nouns only in LSP dictionaries (p. 135), other word categories such as verbs and adjectives have a special designation and are legitimate lemma candidates in LSP dictionaries (L'Homme 2003). For LSP learners, it assists in the conveyance of meaning information. Thus, the failure of the five evaluated dictionaries to provide information on homonymy is deservedly condemned. The minimalist approach of the *Oxford Dictionary of Business English* (1993) is recommended "because of the scarce relevance of etymological and/or semantic criteria for the student of business English" (pp. 21-22). This means that for some LSP dictionaries, etymological and semantic criteria should be used to complement the formal criterion in the treatment of homonymous lemmata.

Fuertes-Olivera and Arribas-Baño discuss the arrangement of lemmata under Section 2.4 which is entitled "The form of the lexicographical article in business dictionaries". As far as dictionary structures are concerned, this section is potentially confusing. The title suggests that the microstructure is the main subject of this section. On the contrary, the word *microstructure* does not appear anywhere in it. Apparently, it is the mediostructure which dominates the first two paragraphs of this section. Yet the reader is reminded that the section focuses on "the structuring criteria of the lemmas and sub-lemmas inside the dictionary article" (p. 22). Clearly, this concerns the macrostructure more than the mediostructure, but the criteria used in the former may determine the latter through what is referred to as "cross-reference conditions" (Nielsen 1999, Tarp 1999). The following statement of the authors of the book should be read the other way round: "the type of mediostructure to a considerabl[e] degree determines the synthetic or analytic character of the macrostructure" (p. 30). It is actually the macrostructure and the data distribution structure in general, which determines the relevance and employment of a mediostructure.

In spite of the above concerns, the reader will find that the authors' approach to the two main methods of arranging lemmata especially in LSP lexicography is consistent with the principles of modern lexicography on the subject (see McArthur 1986, Pederson 1995). The two main methods are an alphabetic and a thematic arrangement. The point of departure usually lies in acknowledging the strengths and weaknesses of each method before opting for one that would best assist the users with particular skills in consulting the dic-

tionary. This pertains to easy access to lemmata and easy establishment of conceptual, semantic, morphological and etymological relationships between lemmata. In their analysis, Fuertes-Olivera and Arribas-Baño note that all the dictionaries studied employ an alphabetic, but not a thematic macrostructure. Although they rightly argue that this is an easy method for the lexicographer who is also familiar with the users, they further demonstrate that it affects the inner cohesion of the subject field. This is particularly noted in the case of monolingual English or Spanish business dictionaries which adopt a straight alphabetical macrostructure. Niche-alphabetic arrangement and non-strict alphabetic arrangement principles observed mainly in the bilingual business dictionaries are to a certain extent bridges between the alphabetic macrostructure on the one hand and the thematic macrostructure on the other which the authors recommend: "Both of them allow space saving, and increase the pedagogical value of the dictionary, given that they permit the grouping of lexical units with semantic, morphological and etymological relationships" (p. 23). However, the authors suggest that the morphosyntactic attributes of a particular language should be considered in selecting criteria for arranging lemmata and their sublemmata:

> The conceptual bond between them (lemmata and sublemmata) is sufficiently solid to legitimate the rejection of an alphabetical arrangement in the case of the English–Spanish part ("non strictly-alphabetical arrangement principle'), whereas, because of the morphosyntactic characteristics of the Spanish language, the arrangement of sublemmas in the Spanish–English part will have to be alphabetical.

By recommending a "half-way position" (p. 43) which consists in using both, even including a thematic introduction to the specific subject field and employing cross-references, the authors show their awareness of the need to restore lexicographical as well as terminological principles in LSP lexicography. This means facilitating easy access to lemmata and data retrieval necessary to perform both receptive and productive tasks with a clear view of the internal conceptual and terminological cohesion of the field in question.

Within the parameters of dictionary structures, the authors also deal with the linguistic phenomenon of polysemy and its treatment in the selected business dictionaries. They are quick to advise (p. 30) that:

> Although scholars such as Svensén (1993) claim that polysemy should be analysed in relation to microstructure, we have opted for dealing with this linguistic issue in this chapter (Chapter 2).

This statement suggests that the treatment of polysemy is not analysed in relation to the microstructure. It also suggests that the microstructure does not constitute part of Chapter 2 of the book, although it has already been noted that the discussion on the "form of the lexicographical article" to some extent pertains to the microstructure. In a similar way, the discussion of the structure of

the entry (Subsection 2.5.1 of the book) also deals with some aspects of the microstructure, namely the arrangement of meaning and senses within articles. The same actually applies to the remainder of the chapter where sense differentiation and ordering in the articles corresponding to polysemous lemmata are microstructural aspects. It may be noted that what has been referred to as micro-architecture (Steyn 2004; Gouws and Prinsloo 2005) applies to some extent here. Therefore, for the authors to suggest that they analyse the treatment of polysemy in a different way is somewhat confusing. Of course, it is true that they do so within the parameters of the access structure, but the microstructure also falls within the domain of access structures, particularly the inner access structure.

Focusing on the treatment of polysemy as an element of meaning information in dictionaries, the authors identify sense discrimination and sense ordering as important lexicographical procedures which may increase the pedagogical value of LSP dictionaries. For sense discrimination, a distinction is made between old and modern lexicographical methods. The old method employs punctuation marks such as commas or slashes between the different senses in the semantic subcomment of the lemma. Because it does not provide any information on the usage of the different senses, this technique is not preferred. Instead, as modern method the authors recommend the use of numbers or letters for sense discrimination which clearly indicate the identified senses for each lemma. They are therefore called *polysemy indices* (p. 38). The use of letters or numbers would also indicate the order of the senses, which the authors regard as very important. Although there are various criteria for ordering the senses, the authors note that the limitations of each of these criteria necessitate that lexicographers combine them. The readers should be reminded that this would depend on the attributes of the lemmata being treated.

3.2.2 Definitions

As noted earlier, definitions are identified as the most widely used lexicographical data to explain meaning in dictionaries. Thus, it may be said that they are of great importance as far as meaning representation is concerned. Chapter 3 of the book deals with definitions. Three kinds, namely terminological, encyclopaedic and semantic definitions, are discussed. It would appear from this chapter that the definition types on their own are not of ultimate importance. Firstly, "there are no notable formal differences between the semantic definition and the purely terminological one", both being intentional (p. 54). Similar or even the same basic concepts are used in defining the same term in the selected dictionaries (p. 70). Secondly, some scholars dismiss the very existence of encyclopaedic definitions, as highlighted by the authors' reference (p. 57) to De Bessé (1990, 1997) who speaks of the fallacy of the encyclopaedic definition. What is otherwise more important is the content and style of the definition. In this regard, Fuertes-Olivera and Arribas-Baño (p. 57) criticise

the definition extracted from the terminological database, TERMIUM Plus, on the grounds that its selection of the hyperonym and conceptual characteristics is very poor. However, although they do not necessarily indicate preference for the other types of definitions, they mention the Cobuild definitional patterns for the "simplicity of their formulation, the high amount of information communicated, and the incorporation of the linguistic and situational environment into the definition" (p. 68). This should be read against the background of it being criticised for redundancy and lack of precision especially in highly technical terms.

From a metalexicographical point of view, it is necessary to comment on the theoretical orientation of the analyses and conclusions made in this chapter. There is a clear call for lexicographers to depart from the traditional defining principles. LSP lexicographers are also advised to escape from the trappings of the general theory of terminology which prefers the so-called terminological definition. The analysis of a definition from TERMIUM Plus also highlights that terminological products can be made more user-friendly if they adopt some lexicographical principles. Finally, lexicographers are encouraged to formulate definitions which satisfy the needs of the users for whom a particular dictionary is intended. This is clear when Fuertes-Olivera and Arribas-Baño (p. 70) recommend the Cobuild definitional formula for LSP dictionaries on the grounds that it "lends support to offering more and better syntactical and collocational information, and being of more help to students of specialised languages". For other LSP dictionaries, the needs may be different, but the analyses in *Pedagogical Specialised Lexicography* illustrate the appropriate procedures of meeting the specific needs.

3.2.3   Equivalence

As noted in section 2, Chapter 4 of the book deals with equivalence, which is central to meaning representation in bilingual dictionaries. Accordingly, it was stated that through this chapter, the book contributes to LSP lexicography as well as to bilingual lexicography. The dictionaries of a sample are not just analysed as LSP dictionaries, but also according to the principles of bilingual lexicography which are (bi-)directionality and bi-functionality. Thus, this chapter is somehow unique from the rest of the book because it may also be useful to readers who are more concerned with bilingual lexicography than with LSP lexicography.

The chapter is put into perspective by brief highlights of the interrelationships that constitute bilingual LSP lexicography. Section 4.2 deals with culture and lexicography while Section 4.3 deals with terminology and translation. It is in these sections that the authors conceptualise the challenges encountered in bilingual LSP lexicography. The implications of cultural disparities between two languages covered by a bilingual dictionary are crucial for bilingual LSP lexicography, especially in the so-called culture-dependent subject fields. Busi-

ness studies is one such field alongside others such as, for example, law, music and politics. In these fields, lexicographers usually encounter challenges in establishing equivalence owing to the differences between the systems underlying a particular subject field in two language communities. Specifically, these challenges relate to terminology and translation, whose activities are of great significance in bilingual LSP lexicography.

The main approach to the representation of meaning in bilingual dictionaries is through the provision of translation equivalents of lemmata. The other approaches analysed in the book are examples (translated and untranslated), translated collocations or idioms and meaning discrimination, whose relevance is underscored for the active part of the dictionary. While translation equivalents are essential, they are by no means sufficient in the realisation of all the functions of bilingual dictionaries. This also applies to the pedagogical function of assisting users with the LSP of a foreign language, which underlies the book.

To shed light on the problems associated with lexical equivalence, Fuertes-Olivera and Arribas-Baño (p. 79) refer critically to Neubert (1992) and Duval (1990) who respectively speak of the "triple fiction" and the "fallacy" of equivalence. As indicated earlier, the problems which stem from linguistic anisomorphism and cultural disparities clearly indicate that bilingual lexicography should transcend the notion of equivalence from the lexical level to the functional and pragmatic levels. This is reminiscent of the arguments by other metalexicographers that the mere inclusion of translation equivalents does not automatically make a dictionary bi- or multilingual (Gouws 2004a, Burkhanov 2004). Depending on the functions of a specific dictionary, other data types need to be considered. In the book, meaning discrimination receives the greatest attention, occupying half the space of the entire chapter. It is an important data category, especially on the active part of the dictionary on which the authors focus to evaluate the pedagogical potential of the dictionaries in assisting Spanish-speaking students of business English (p. 73). This also reminds the reader that two parts of a bilingual dictionary are of unequal importance to the respective speakers of the two languages covered by the dictionary. As already noted, this chapter is an important contribution to LSP lexicography as well as bilingual lexicography. As far as bilingual lexicography is concerned, the reader is advised to read yet another recent monograph in the series *Terminology and Lexicography Research and Practice*, namely Yong and Peng's (2007) *Bilingual Lexicography from a Communicative Perspective*.

3.2.4   Examples

Examples are the final type of data category studied in terms of meaning representation in *Pedagogical Specialised Lexicography*. In order to place the discussion into perspective, the authors begin by drawing a dichotomy between explicit and implicit information, already established by other scholars such as Bergenholtz and Tarp (1995). Examples are regarded as data categories which provide

implicit information. Explicit information would be provided by definitions and translation equivalents of lemmata. Significantly, the authors hasten to dismiss claims of superfluity attributed to implicit information, especially given that it exists alongside explicit information. They argue and demonstrate by means of articles extracted from the sample of business dictionaries that examples have a multi-functional role. The following functions are illustrated in the book:

— the meaning in the corresponding sense,
— grammar aspects, either morphological or syntactic,
— phraseology, particularly with regard to collocational information on the lexical items,
— stylistic and, more generally, pragmatic aspects,
— cultural and encyclopaedic aspects, the latter being of particular importance in the case of specialised dictionaries, and
— ideological elements, principally in the philological dictionary.

In addition to the above, Fuertes-Olivera and Arribas-Baño (p. 114) point out that examples in bilingual dictionaries may also facilitate translation. Apparently, the last section before the conclusion of the chapter deals with the role played by examples in bilingual dictionaries. It emerges that bilingual lexicography requires different considerations from monolingual lexicography regarding the use of examples. The compiler needs to be clear whether examples should be provided to illustrate lemmata, equivalents or both and whether they should be provided in both the active and the passive parts of a bilingual dictionary. In this regard, lexicographers are reminded (p. 114-115) that:

> In the bilingual dictionary for active use only the equivalents need to be exemplified, since the person consulting the dictionary is a native speaker of the original language. On the other hand, users of the passive bilingual dictionary require no illustration of the equivalent, given their condition of native speaker of the target language. Nonetheless, what may be needed are contextual variants of the equivalent, and it is in the example where this information finds its most suitable mode of expression.

From the foregoing, it may be noted that Fuertes-Olivera and Arribas-Baño effectively underscore the importance of examples as a form of representing meaning in dictionaries. Importance is also attached to the principle which guides the types, sources, presentation and arrangement of examples. It is the general policy regarding examples which seems to be limited, with the authors observing that the compilers of the dictionaries analysed "adhere to very unsystematic lexicographical practices" (p. 133).

In the light of this, the authors make some recommendations regarding the use of examples to represent meaning information in LSP dictionaries. Significantly, the recommendations would seem valid for lexicography in general. It is proposed that a typology of lexicographical examples be established. First-

ly, it is noted that while a quotation and an example are both used for illustrative purposes, they, however, serve quite different purposes. Secondly, examples may be in the form of either sentences or phrases, with the authors preferring the former since it would convey more appropriately the meaning of the lemma. Thirdly, a distinction may be made between invented examples, unedited corpus examples and edited corpus examples. In this connection, the role of a corpus as a source of authentic examples for LSP lexicography is explored and the authors observe that its impact has thus far been very little. Probably this applies to the role of corpora in LSP lexicography in general. While corpora have proven to be the most legitimate sources of lexicographical evidence (Atkins and Rundell 2008), LSP corpora for lexicographical purposes have thus far had a limited appeal, with leading LSP lexicographers arguing that it is unremittingly labour intensive and costly (Bergenholtz 1995: 94). Finally, the authors recommend that lexicographers establish specific criteria for arranging and presenting examples in their dictionaries. This is important, for users have to identify them and relate them easily to the illustrated data categories. The notion of micro-architecture may also be applied here.

4.   Technical Aspects of the Book

This discussion of the technical aspects of the book will focus on issues enhancing or inhibiting effective conceptualisation of the problems and presentation of the results, arguments and conclusions of the research presented. These mainly pertain to the scope and methodology of the research as well as the arrangement of the chapters and their sections.

Chapter 1 gives evidence that the book is the result of rigorous academic research. As an introduction, it situates the study within a metalexicographical framework which is cognisant of the latest developments in lexicography as well as other closely related fields. As noted earlier, a clear statement that the study is based on the theory of lexicographical functions is strangely absent, given that the works of Bergenholtz and Tarp, the proponents of this theory, populate the bibliography more than the other references. This indicates an unexpressed acknowledgement towards the theory of lexicographical functions which guides the arguments in the book.

The introduction also gives the reader the perspective of the book by outlining its aims. Although the reader may not be familiar with or even interested in Spanish–English dictionaries, an outline of the aims of the book is enough to gain some insights into the issues addressed. Apparently, practical LSP lexicographers and students of lexicography would find that the issues are of broader relevance to other fields and languages in which LSP dictionaries may be compiled. The representation of meaning is undoubtedly a topic of interest to anyone occupied with lexicography. Undertaking a book-length study of meaning representation is justified by the importance which dictionary consultation attaches to this information.

The methodology the authors employ seems to have been effective for their study. The choice of six dictionaries, all being business dictionaries, is enough to facilitate comparisons and allow for generally acceptable observations and recommendations. Dedicating a chapter to each of the relevant data categories yields more thorough analyses of the issues involved than elsewhere in the available literature. The arguments and conclusions are based on clearly presented data in the form of articles from the selected dictionaries. This methodology is the major technical strength of the book and although only business dictionaries are used as major references, the analyses and conclusions seem to apply to the entirety of LSP lexicography in a way that validates the title of the book.

Unfortunately there are some instances where data are presented to substantiate arguments, yet no elaboration is given to demonstrate how the data clarify arguments. Some sections and chapters, including the very last one, end with dictionary articles presented as examples. Some readers may have problems in relating such examples to the arguments, no matter how sound these are.

The ordering of sections and chapters of a book is also of great importance for the reader to follow all the arguments and relate issues raised in the different parts of the book. Illogical ordering may present readers with serious challenges which may lower the substantial impact of a book. As regards Fuertes-Olivera and Arribas-Baño's book, Chapters 4 and 5 may present problems for readers, but this would depend on how much readers need or require from the book or the chapter. Since the notion of equivalence is central in Chapter 4, it would perhaps have been better if the discussion in Section 4.5 was brought in much earlier. Sections 4.2 and 4.3 would have been deferred as their content provide the broader context of the challenges of dealing with the notion of equivalence, to which the reader is yet to be introduced at this point in the book. The same may be said of Section 5.6 in Chapter 5 which would be more helpful had it been presented earlier to acquaint the reader with the types of examples before discussing their functions, given that some functions may be relevant exclusively to certain types. A logical ordering of chapters and their sections in a book would allow for both selective reading and cover-to-cover reading. While the contents of the book warrant the reading of the book from the first to the last chapter, the reader is likely to have problems as illustrated above.

Finally, referencing is yet another weak technical point of the book. Firstly, in-text referencing reveals an error which needs to be corrected should there be a reprint or second edition of the book. Consider the following quotation (p. 23):

> On many occasions the difference between non-strict alphabetical articles and "niche articles" is irrelevant. (Nielsen 1994: 200) Both of them allow space saving.

In this case, it is not at first glance clear which statement is attributed to Nielsen (1994). The bibliographical information is given outside the first sentence. A

second look will show that the reference to Nielsen is meant to refer to the first statement. There are numerous such instances, which undoubtedly are errors, trying the understanding and patience of the reader.

Another referencing issue pertains to the use of footnotes in the book. Footnote 1 is used on page 38. At this point, it does not matter whether it is the first one for Chapter 2 or for the entire book because Chapter 1 does not have any footnotes. When another footnote 1 occurs on page 63 (Chapter 3) and another one on page 84, followed by footnote 2 on the next page (Chapter 4), the reader may think that footnotes are used chapter by chapter. However, on page 144, the reader struggles to realise that footnotes 11 up to 22 belong to the same sequence as footnote 10 on page 103. Footnote 10 is used in Chapter 4 while footnotes 11 up to 22 are used in Chapter 6. On their own, the footnotes may not be a problem until the reader attempts the futile task of searching for note 11, not only in the list of footnotes but also in the illustrative dictionary articles which the footnotes seek to explain. It would also appear that the use of these footnotes does not help the reader very much as Example 60(b) does not have them, leaving the reader confused as to whether the article of the passive side (Example 60(a)) and the one of the active side of the bilingual dictionary should have exactly the same features. While the authors explain and illustrate the contrary in the book, following the principles of bilingual lexicography, they unfortunately miss it technically at this point. Regarding such technical weaknesses which may affect the reader, one could perhaps draw the attention of the authors to the importance of the lexicographical notion of user-friendliness, repeatedly emphasised in the book, but questioned by some (meta)lexicographers who prioritise functionality!

5.   Conclusion

The length and detail of this article may have failed to unequivocally describe Fuertes-Olivera and Arribas-Baño's book better than Prof. Sven Tarp's blurb on the back cover of the book. In spite of the concerns raised in the article about some issues as well as the seemingly minor technical aspects, it remains "a scholarly theoretical rigorous account" of the representation of meaning in English and Spanish business dictionaries. It is certainly meant for every lexicographer, especially those working on LSP dictionaries, students of lexicography and all those involved in LSP pedagogy and translation studies. In particular, metalexicography is likely to draw theoretical and methodological insights from it for research on other lexicographical topics.

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