Fuertes-Olivera, Pedro A., and Sven Tarp. 2014. *Theory and Practice of Specialised Online Dictionaries. Lexicography versus Terminography*. Berlin/Boston: De Gruyter. ISBN: 9783110348835

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Introduction

The aim of this book is to advance the theory and practice of specialised online dictionaries by reinforcing the independent status of specialised lexicography through the application of the Function Theory of Lexicography (FTL) and by providing a critical view of existing specialised online dictionaries. The authors emphasise the role of user needs and situations as well as that of information science technologies.

Structure of the contents

The book has ten chapters. In what follows, relevant aspects are discussed from a terminology-based perspective. The Introduction is the authors' manifesto in favour of the democratic theory and practice of specialised lexicography. From the opening line ("Something is rotten in the Kingdom of Lexicography") to the closing statement ("The Kingdom of Lexicography is fascinating"), the authors highlight their motivation for writing this book, namely, what they regard as an absurd schism in Lexicography.

The book acknowledges that "different approaches and confrontation of ideas should be viewed as normal and healthy phenomena within any discipline aspiring to make further progress. But attempts to exclude, ignore or denigrate an important part of the discipline, with whatever excuse, have no place in such a democratic culture (p. 3)". Despite this statement of intent, the rest of the book appears to foster a new (equally senseless) schism between lexicography and terminography.

Chapter 2 "What is Specialised Lexicography?" focuses on the definition of specialised lexicography and specialised online dictionaries. After a rather exhaustive comparison of definitions and designations of specialised lexicographic

resources, specialised lexicography is finally defined as "the branch of lexicography concerned with the theory and practice of specialised dictionaries, i.e. dictionaries, encyclopaedias, lexica, glossaries, vocabularies, and other information tools covering areas outside general cultural knowledge and the corresponding Language for General Purposes" (p. 7). The authors then zero in on e-lexicography, classifying specialised online dictionaries in five categories, depending on their use of technologies: (1) *Copycats* (scanned copies of former paper-based dictionaries); (2) *Faster Horses* (static articles with more or less advanced search and link techniques allowing faster consultation); (3) *Stray Bullets* (new visions and new techniques offering users more or less data); (4) *Model T Fords* (use of information science techniques like user profiling, filtering, and adaptive hypermedia); and (5) *Rolls Royces* (individualised and personalised tools).

According to the authors, Stray Bullets "suffer from *lexicotainment*" ("fancy lexicographical products that may entertain their users without providing better solutions to their real problems", p. 15). They are said to be "an inevitable and, hopefully, temporary aberration on the long road towards the future" (p. 17). One example of this category is EcoLexicon, a multilingual environmental database. Not surprisingly, the only resources evaluated as Model T Fords are the *Accounting Dictionaries* (written by the authors themselves). Rolls Royces are the future of lexicography, and an empty category since no dictionary has as yet achieved this status.

In Chapters 3 "Academic Status of Specialised Lexicography" and 4 "Concept of Lexicographical Theory", the authors defend the independent status of specialised lexicography and the development of a coherent theory (p. 38). Despite the fact that certain lexicographical principles and methods can be traced back to different disciplines, such as philosophy, linguistics, etc., the authors prefer to view lexicography as "an independent discipline with a great interdisciplinary vocation" (p. 21). One of the arguments justifying that lexicography is not part of applied linguistics is the fact that there are good specialised dictionaries created by subject-field experts (p. 25) without recourse to linguistic theory (p. 26). However, one might ask how this foments the independent status of lexicography when, on the contrary, it seems to further its annihilation. At this point, the authors prefer to praise subject-field expertise rather than to explain why linguistic approaches are not an added value for the dictionary-making process.

When the authors compare lexicography to terminology, they complain that "terminologists have been very eager to point out the differences" between both disciplines (p. 28), and then add their own harsh critical evaluation of Terminology. On a somewhat more positive note, this book seems to foster a closer alliance between lexicography and information science, based on the fact that both disciplines deal with issues such as information organisation and retrieval. Thus, the authors maintain that lexicography is closer to information science than to

linguistics. It is true that information science can help to develop different methods of classifying, retrieving, and visualising information. Nevertheless, as merely formal technological advantages, the authors seem to forget that this is only the frosting on the cake, and not the cake itself. As is well known, lexicography deals with the description of words and concepts, and when it comes to dictionary contents and data categories, the role of linguistics cannot be disregarded.

After defending the independent status of lexicography, Chapter 4 focuses on its scientific status by discussing the different notions of *science* and *theory*. The authors highlight the fact that there are certain disciplines that are not considered sciences in Anglo-Saxon countries but are regarded as such in others (e.g. Denmark), where cultural or religious studies are called "cultural science" and "religious science". Although this debate is somewhat less relevant to the book's main objective, the authors seem to ignore the polysemic nature of the word *science* in the context of education.

The vision of a coherent theory of lexicography defended in this book is mainly based on the generalisation of statements which the authors claim are at the core of lexicography (i.e. design of utility tools that can be quickly and easily consulted to meet punctual information needs for specific types of users in specific extra-linguistic situations, p. 39). Although it goes without saying that lexicography should have an underlying theory, the authors' approach seems to be closer to a methodology than to a theory.

Chapter 5 "General Theory of Specialised Dictionaries" is the central part of the book. It discusses and reformulates the FTL in consonance with (i) its independent status within information science; and (ii) the technological changes that may be employed "to produce, present, and make use of lexicographical products" (p. 44). The main postulate of the FTL is that lexicographical works are utility tools. Thus, user needs, rather than linguistic theories, are the starting point of the theory, since linguistic approaches by themselves "do not determine the concrete user needs to be solved by a particular dictionary" (p. 45).

The authors provide a critical overview of the methods employed in lexicographic practice to determine user needs. One of them is user research studies, which are considered of little value and a waste of time and money because they are often not statistically significant. As a more effective methodology, the authors suggest dissecting user needs into their smallest meaningful components: the characteristics of the concrete person in need of information; and the social situation or context where the needs occur (p. 49). This specification of user characteristics is based on an open list of function-related questions (i.e. the user's mother tongue, general cultural and encyclopaedic level, etc.) and consultation-related questions (i.e. the user's experience of lexicographical consultations, access to electricity and electric light, ability to distinguish right from left, etc.).

Some of these questions respond to an attempt to cover all potential users in the world. However, what is most striking are the three methods proposed for creating the end user profile: (1) survey of an amorphous group of potential users with questionnaires (not recommended because of problems of statistical significance); (2) selection of a well-defined group of potential users and consultation of someone with an intimate knowledge of the group; (3) definition of the user group by a lexicographer who answers the questions himself/herself. The third method is the one preferred by the FTL since it "has been applied by supporters of function theory and yielded good results" (p. 51). Unfortunately, since this affirmation is not supported by any arguments or references, the reader must wait for the authors to explain how this objective profiling of user types is actually accomplished. What apparently determines the relevance of these issues is the communicative, cognitive, operative or interpretive situation in which these needs occur.

Only after the user and situation types have been defined, can user needs be determined. The authors again specify three methods for this purpose: (1) by means of questionnaires, interviews, etc.; (2) by means of observation; (3) by means of deduction, where lexicographers in collaboration with subject-field experts can deduce the relevant types of need. Once more, the third method is regarded as most appropriate by the FTL. After a long debate on falsifiability, on the lack of statistical significance in many social sciences studies, and an unclear distinction between deduction and introspection, one would have expected the presentation of a more rigorously designed methodology. However, this is not the case.

After defining user needs, lexicographers need to decide which data categories to include and how this should be done. In this section the authors limit themselves to clarifying their position on the use of corpora. Although they do not deny their value for certain tasks (i.e. collocations), they do not engage in what they refer to as the "chorus of blind and passionate love songs devoted to the corpus revolution" (p. 59). In their opinion, corpora have often been used as a way to avoid responsibility towards user needs. Moreover, they claim that building a useful corpus is a time-consuming task when there are easier ways to provide material for specialised dictionaries. Nevertheless, the authors never mention what these "easier ways" are.

In the FTL, the role of corpora is replaced by subject-field experts. Unfortunately, although the cooperation of experts is valuable, readers might wonder whether this cooperation is sufficient in itself. Perhaps because of technical inexperience, the authors seem to be unaware that corpora can be queried in many different ways in order to acquire knowledge, and not only to collect data on purely linguistic phenomena such as collocations. It is also true that a time-consuming task at an initial stage can often save a great deal of time later on. In this regard, a specialised corpus can be infinitely more informative than one or

two experts, since it represents the knowledge of thousands of them, and may thus be statistically more significant.

In Section 5.4, lexicographical functions are defined as "the satisfaction of the specific types of punctual information need that may arise in a specific type of potential user in a specific type of extra-lexicographical situation" (p. 62). These are specified in accordance with user situations. The same dictionary may have either one or various functions, which gives rise to four possible types of online dictionaries: (1) purely mono-functional; (2) multi-functional allowing for mono-functional data access; (3) mono-functional allowing for individualised data access; and (4) multi-functional allowing for individualised data access. The first two categories represent Model T Fords and the last two, Rolls Royces.

In Section 5.5, the authors apply their methodology to the design of a translation dictionary as an introduction to Chapter 9. They analyse potential users, situations, and needs according to pre-translation, translation, and post-translation phases. The conclusion is that certain types of information should be offered in the form of a monolingual or bilingual solution. In this way, the authors say that users should be provided with different types of access to the same dictionary (i.e. reception, knowledge, translation, phrases, etc.). This can be accomplished thanks to available technologies and should always avoid information overload and additional look-ups. If done properly, this can be useful in terms of search costs. Nonetheless, the authors do not take into account that translation is a complex activity where phases are constantly revisited. Thus, gaining access exclusively to collocations or their translation equivalents (p. 93) might interfere with the process and actually double the amount of queries and time invested.

They then devote a section to language policy and two more to the lexicographical process, firstly, from the lexicographer's perspective, and secondly, from the user's perspective. In these sections, the concepts of production cost and time are discussed and user research is again criticised in terms of statistical significance. Generally speaking, this section is rambling, and often repetitive. Even though user types, situations and needs should be addressed systematically, the authors seem to do this to the virtual exclusion of all else.

In Chapter 6 "Special Problems Related to Online Dictionaries", the authors examine different techniques to overcome current online dictionary problems, namely information overload, consultation and access time, and *lexicotainment*. These techniques can be used to reduce or expand the data to be shown on screen. The first technique is data filtering, which can be implemented by providing monofunctional data access; interactive fill-in options, where users supply profile data; or article modelling, where users design their own master article.

In regards to providing additional data, the authors propose the following: (i) an adaptive presentation in the form of pop-up windows; (ii) an index and

abstracts to navigate through the content; (iii) annotation, so that users can add personal comments to specific articles without modifying the original; and (iv) reuse of external data through linking, such as corpora and the Internet. Finally, the authors propose online two-way communication between the lexicographer and the user in order to receive feedback as well as shorten the access route to data through intelligent applications connected to e-dictionaries.

Paradoxically, the content of this chapter seems to clash with that of the previous one. On the one hand, the authors reject the use of technology (corpora, ontologies and knowledge engineering) to facilitate the work of the lexicographer. However, on the other, they propose a system where different options appear in a pop-up window on user demand, and where the text is automatically replaced as necessary (p. 103). The authors do not realise that the automatic customisation of such a dictionary would evidently entail an intelligent system that would make suggestions, select, filter, highlight, and link relevant information in each situation. Although cutting-edge technologies can make this possible, at least to a certain degree, the architecture of the system must still be designed by human beings. Unfortunately, for the FTL, it would also have to be based on robust premises of knowledge representation, which the authors currently regard as too complex and time consuming. Consequently, FTL-based Rolls Royces will always remain a chimera unless there is a reconciliation with computational linguistics and artificial intelligence.

In Chapter 7, different theories of terminology are analysed and criticised in terms of their suitability for the design and production of specialised dictionaries. Before examining contemporary theories, the authors point out the "erroneous interest" shown by terminologists in concepts and conceptual relations. They argue that users like translators "are not in a position to understand specialised concepts and concept relations" (p. 109).

This assertion is somewhat flawed. Apart from the fact that translators are trained in terminology during their studies, they do not translate words but ideas (concepts). Furthermore, they must rebuild the conceptual structures underlying specialised texts if they want to fully understand the source text and recreate the same in the target text. For this to occur, they need to know the way in which concepts relate to each other and identify the possible conceptual gaps and terminological mismatches in the source and target languages and cultures. Moreover, all terminology management tools used in conjunction with computer-assisted translation (CAT) are concept-oriented rather than word-oriented, because translation correspondences are evidently concept-based.

The authors analyse terminology theories as though they were rival approaches instead of the theoretical continuum represented by the logical evolution of descriptive terminology, where each of the approaches provide different –and

often complementary– insights into concepts and terms. When reviewing Cabré's Communicative Theory of Terminology, the authors insist on the fact that meanings cannot be located exactly within a conceptual structure. They claim that the Spanish synonyms *amortización* and *depreciación* cannot be located in a conceptual system since, when translated into English, their equivalents refer to different concepts (p. 111–112). However, the answer to this imaginary dilemma is simple. There would be two concepts in the system and the entry of one would have two synonyms.

According to the authors, Temmerman's Sociocognitive approach is "out of touch with real lexicographical problems" (p. 116). They challenge Rosch's Prototype Theory showing a certain lack of familiarity with categorisation and lexicalisation processes. Finally, they criticise the funding received by *termontography* because neither of its projects has produced specialised information tools. Here, the authors should be reminded of the fact that terminology-based tools are often devised for artificial users as well. In fact, the exploitation of such tools is often wider than those for human users.

Faber's Frame-based Terminology is said to rest on very unstable foundations because it does not offer "a solution to practical terminological work" (p. 119). Secondly, the authors criticise this theory because of its emphasis on corpora. Finally, terminology is also analysed with regards to knowledge engineering, "the new buzzword in the field" (p. 121).

Chapter 8 "An Analysis of Specialised Online Dictionaries" reviews a selection of online dictionaries. The authors believe that dictionary criticism usually shows certain deficiencies, such as the lack of purpose and guidelines, or the tendency to highlight certain dictionary components and ignore the rest. In their opinion, dictionary criticism should "be based on a theory of lexicography, be mostly evaluative, focus on users' needs in user situations, pay attention to the dictionary in its totality and complexity, and make use of a list of criteria that guide the process" (p. 132). These criteria are the following: (1) author's view; (2) function; (3) access routes; (4) Internet technologies; (5) lexicography; (6) production costs; (7) information cost; (8) updating; (9) experts; and (10) data selection.

Although most of these are reasonable criteria, it should also be remembered that the resources analysed were created under very different circumstances and for different purposes, as acknowledged by the authors (p. 130). This signifies that the analysis of heterogeneous tools based on the same set of criteria may result in a rather biased estimate of dictionary quality. Moreover, the authors seem to have fallen into some of the traps that they so harshly criticise. More concretely, the book does not provide sufficient data for the reader to know whether their analysis covered more entries than a minimal fraction or whether the dictionaries have been considered in their "totality and complexity". The authors' review of

these lexicographic resources is not objective or well balanced, since they seem to have a preconceived idea of what a good dictionary is, regardless of any contextual constraints.

For instance, when analysing the IATE, the authors are particularly concerned about European taxpayers' money (pp. 159, 162) and forget about the context in which it was created. The authors overlook the fact that this resource was never conceived as a lexicographical dictionary, but rather as a tool for institutional terminology management, which ensures consistent and faster translations. Furthermore, the IATE is currently freely available in TBX format so that any translator can make use of it in conjunction with CAT tools, which also saves both time and money. Therefore, what has been "the world's most expensive lexicographical work ever" (pp. 15, 162) should be regarded as a long-term investment.

Other examples of flawed analysis include the review of CercaTerm. The authors highlight the "one-to-one relationship between concept and term that characterises specialised discourse" (p. 165) as one of its advantages. First of all, this is not how CercaTerm was envisioned. Polysemy and synonymy are represented, thus rejecting the 1:1 relationship between concepts and terms. On the other hand, it is a mistake for the authors to embrace this view, especially since their own examples from the accounting dictionaries do not naturally fit into a monosemic approach to specialised discourse (p. 210). Not surprisingly, the resources that are most highly rated are the *New Palgrave Dictionary of Economics Online* (a subject field that the authors know well) and *Musikorbogen* (a resource developed at the Centre for Lexicography in the Aarhus School of Business).

The authors also criticise EcoLexicon, which actually possesses most of the features of the Rolls Royce category. They focus on the definition of WATER and suggest different types of basic information that should have been included. However, most of this information is already in the conceptual network of the concept or in the term entry. Furthermore, the problem of the overload of conceptual information, mentioned by the authors, was solved long before the publication of this book and has been the topic of numerous publications that the authors seem to have overlooked (Faber et al. 2014; León-Araúz et al. 2013; Faber 2011; León-Araúz et al. 2009, to mention a few).

The authors' criticisms of EcoLexicon also show a lack of familiarity with the resource. Patently false statements include the following: (1) it does not target specific users (even though target users are specified on the homepage); (2) retrieving data takes several minutes (when data retrieval really takes seconds); (3) it is not regularly updated (when the statistics and charts on the website show otherwise); (4) it does not include many lemmas (though it contains 3,540 concepts and 19,660 terms); (5) it employs primitive and time-consuming search systems (when really it provides quick term and concept searches, alphabetical index, corpus-based

concordance search, etc.). According to the authors, EcoLexicon only complies with two of their criteria: author's view and data selection, which is rather surprising given the FTL's rejection of corpus-based information extraction. If the authors had taken the time to access EcoLexicon before analysing it, they would have discovered its many dynamic features guided by user needs, data filtering, and individualised customisation.

Also worth mentioning is a user research study conducted by Giacomine (2014: 81–82), where EcoLexicon was used in a translation setting. According to the author, the experiences of the participants did not match the findings of the authors' book. According to this study, EcoLexicon actively supported all states in the translation process and it turned out to be a remarkably efficient tool requiring little effort from the user and presenting a highly customisable visualisation of the knowledge base.

Chapter 9 "Designing, Making and Updating Specialised Online Dictionaries" shows how the FTL guided the authors' practice of lexicography, as reflected in screenshots and examples from the *Accounting Dictionaries*. During the pre-compilation phase, the lexicographical project is designed for potential user needs and situations. Human and financial resources are then evaluated so that the product can be ready in two or three years. During the compilation phase, the data types are selected based on their function: explaining meaning (definitions and equivalents); restricting meaning (homonymous and polysemous indices; grammatical data, lexicographic notes); contextualising meaning (collocations and examples); and offering more choices (synonyms, antonyms, internal and external cross-references and proscription notes). During the post-compilation phase, lexicographers observe how users interact with the dictionary and update it accordingly.

Data selection is based on different texts: well-known general accounting texts, private texts and a 3,000 word in-house corpus. Nonetheless, what is not specified is whether the corpus is monolingual or multilingual. Furthermore, other than expert cross-checking, the authors do not disclose their methodology for analysing or interpreting these texts. They only mention that data selection is based on the concept of relevance rather than frequency, which is how linguistics-conceived corpora are supposedly exploited (p. 230) and which may explain why so many terminological projects fail despite their continuous and generous funding (p. 204).

Instead of going on discrediting other approaches, the authors could have described and specified in greater detail their own methodological proposal. Rather surprisingly, after denying the usefulness of "linguistics-conceived corpora", they document terms, equivalents, examples, etc. through somewhat naive Google searches (despite the fact that they are said to be cross-checked by subject-field experts, p. 201–202). Consequently, this chapter is disappointing and does not

respond to reader expectations, since it should have outlined a sound innovative methodology for the elaboration of specialised dictionaries. Unfortunately, this is not the case. The authors only provide a long list of examples, reflecting the classical challenges in lexicography.

In the Conclusion, the authors summarise the main points of their position, which are the following: (1) there is an underlying theory to lexicography that can guide the practice of designing, constructing, and updating specialised online dictionaries; (2) terminology takes for granted user needs and includes irrelevant data regarding conceptual relations; (3) dictionary production requires lexicographers, subject-field experts, and information science experts; (4) lexicographical data must be relevant; (5) dictionaries are not static but dynamic.

Final critical assessment

The main contribution of this book is of a practical nature, as reflected in its emphasis on user needs and the technological advances that may aid in fulfilling them and improving dictionaries. The book, though clearly intended for readers with a background in lexicography who wish to know more about the FTL, is disappointing since it does not contribute new theoretical advances within the framework of this model. Although the authors lament that advocates of the FTL are usually regarded as "intruders" (p. 2 and 23), they seem to rejoice in their role as outsiders because it provides them with an opportunity to create needless controversy. In this regard, the text does not take a constructive approach to specialised lexicography, but rather sends a destructive message to scholars (especially terminologists) who do not follow the tenets of the FTL. Furthermore, the authors do not seem to realise that a new theoretical proposal cannot be defended and validated on the basis of value judgements and arguments that are not supported by objective data. It goes without saying that for science to progress, theories need to be constantly questioned, but this can only be done by offering robust alternatives. Perhaps one day the authors will be able to successfully address this challenge.

References

Faber, P., P. León-Araúz, and A. Reimerink. 2014. "Representing Environmental Knowledge in EcoLexicon." In *Languages for Specific Purposes in the Digital Era, Educational Linguistics 19*, ed. by E. Bárcena, T. Read, and J. Arhus, 267–301. Berlin, Heidelberg: Springer. DOI: 10.1007/978-3-319-02222-2_13

Faber, P. 2011. "The Dynamics of Specialized Knowledge Representation: Simulational Reconstruction or the Perception–Action Interface." *Terminology* 17 (1): 9–29. DOI: 10.1075/term.17.1.02fab

Giacomine, L. 2014. "Testing User Interaction with LSP e-Lexicographic Tools: A Case Study on Active Translation of Environmental Terms." In Proceedings of the 12th edition of the Konvens Conference, 77–85. Hildesheim, Germany.

León-Araúz, P., P. J. Magaña, and P. Faber. 2009. "Building the SISE: An Environmental Ontology." In *European Conference of the Czech Presidency of the Council of the EU TOWARDS eENVIRONMENT Opportunities of SEIS and SISE: Integrating Environmental Knowledge in Europe*, ed. by J. Hrebícek, J. Hradec, E. Pelikán, O. Mírovský, W. Pillmann, I. Holoubek, and T. Bandholtz, 16–23. Brno: Masaryk University.

León-Araúz, P., A. Reimerink, and A. G. Aragón. 2013. "Dynamism and Context in Specialized Knowledge." *Terminology* 19 (1): 31–61. DOI: 10.1075/term.19.1.02leo

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