

**Pedro A. Fuertes-Olivera.** *A Guide to Practical Online Lexicography*. 2025, 334 pp. ISBN: 978-1-032-73154-4 (Hardback), ISBN: 978-1-032-73153-7 (Paperback), ISBN: 978-1-003-42699-8 (eBook). Abingdon, UK/New York: Routledge. Price: US\$ 53.98 (Hardback), US\$ 41.79 (eBook).

The publication of Pedro A. Fuertes-Olivera's *A Guide to Practical Online Lexicography*, just seven years after he edited *The Routledge Handbook of Lexicography*, is a telling sign of the field's radical transformation. Seven years was once an insignificant period in dictionary-making in the age of index cards or slips, but now it is long enough to necessitate a new state-of-the-art volume to document the field's rapid and profound changes, since lexicography has been experiencing "a Cambrian explosion" driven by the coming of age of the Internet (Fuertes-Olivera 2016). The book also offers a persuasive response to concerns about AI displacing lexicographers and makes a compelling case for the evolving role of the lexicographer, demonstrating that their expertise is not supplanted by AI but is elevated to a new role managing the complex AI-driven workflows of modern lexicography.

This book firmly establishes itself as the most up-to-date contribution to the field, compared with those publications on practical lexicography, such as Piet van Sterkenburg (2003), Thierry Fontenelle (2008), and Atkins and Rundell (2008). It differs from the three publications in the following aspects. Theoretically, it takes function theory of lexicography (Bergenholtz and Tarp 2003; Tarp 2008; Fuertes-Olivera 2018) as the guiding principle and recognizes lexicography as an independent science. It advances the concept of a "lexicographic square" (p. 2) comprising four interrelated elements that collectively inform lexicographic practice in the age of the Internet. This contrasts with earlier works that often situated lexicography primarily within the broader domain of linguistics, where the focus was predominantly on describing and analysing lexical items within a language system. Practically, this book has focused on generating multi-purpose lexicographic data, while the others took dictionaries as the final products. Technologically, this book has taken a data-driven perspective in dictionary-making, incorporating innovative tools like Large Language Models (LLMs), while the others took a corpus-driven paradigm for dictionary making. Generally, it can be considered as the realization of producing personalized or customized lexicographic data (Dziemianko 2018) through "using the web for lexicographic purposes" (Ooi 2018: 684), which are termed as the future of lexicography just seven years ago (Fuertes-Olivera 2018).

This book consists of nine chapters, each with "further reading," "practical activities and questions for discussion," and a self-contained reference list, effectively guiding the interested reader to further exploration.

The introductory chapter lays out the foundational principles underpinning the entire book. Fuertes-Olivera positions his work as a departure from traditional lexicography guidebooks by shifting the focus from finished dictionaries to a lexicographic square: data, users, access and presentation, and usage. This shift

is grounded in three observations about the contemporary information environment. First, the Internet has destroyed reference monopolies. Dictionaries must compete with browsers, search engines, and AI chatbots to meet users' information needs. Second, such competition forces lexicographers to accept market rules. The author wisely argues that lexicographers should target quality rather than quantity. Third, there are both verbal and non-verbal lexicographic data, reinforcing the book's conviction that lexicography is an interdisciplinary and independent discipline rather than a branch of linguistics. It also provides a concise summary of each subsequent chapter, offering readers a panoramic yet structured overview, and allowing them to navigate directly to chapters most relevant to their interests.

Chapter 1 establishes the theoretical foundation. The author vigorously argues for lexicography's status as an independent science. Taking function theory of lexicography as the guiding theory, he defines e-lexicography as "a science concerned with the creation and/or validation of lexicographic data that can be stored in the database slots of the lexicographic editing software, and be ready for different types of access and presentation, as well as for performing different usages so as to meet different users' punctual needs in the most straightforward and fastest way possible" (p. 18). Data, user, access and presentation, and usage are mutually related and comprise the main pillars of e-lexicography. This framework is notably innovative in two respects. First, it explicitly recognizes non-human agents, such as algorithms and AI-based tools, as legitimate "users" of lexicographic data. Second, it shifts the lexicographer's primary focus from a final "dictionary" to the underlying, dynamic data structure. This shift from a product-oriented to a data-oriented mindset is the book's most profound contribution and underpins the subsequent chapters.

Chapters 2, 3 and 4 tackle the planning stage. Chapter 2 deals with the topics of budgeting and creating a user profile, which are often superficially discussed or even omitted in practical guides. It starts with budgeting considerations for the three most common dictionary types in the digital era: academically-driven, commercially-driven, and small-scale dictionaries. It proceeds to introduce three methods for investigating users' needs: analysing dictionary use, introspection on potential user needs, and a hybrid approach. Notably, the author critically assesses the strengths and limitations of each method, offering a balanced appraisal that informs subsequent decision-making. The chapter concludes with a practical list of questions to guide lexicographers in constructing user profiles, offering hands-on, actionable advice that directly supports the planning process.

Chapter 3 focuses on the creation of lexicographic evidence. The author argues for a broad and pragmatic definition of a lexicographic corpus as any data used for creating or validating lexicographic data. Compared with the corpus-linguistic tradition of Atkins and Rundell (2008), the definition distinguishes itself in advocating for a more inclusive spectrum of data sources, including existing reference works, the Web, and generative AI chatbots, for different lexicographic purposes. Such a forward-thinking approach is exemplified in a demonstration

of using ChatGPT to generate lexicographic data, illustrating how objective LLM output and subjective lexicographer expertise can work together efficiently.

Chapter 4 outlines the iterative process of establishing data types for a lexicographic database through initiation, enlargement, and consolidation. Using the DIDES project as a case study, the chapter provides a practical framework for this process. A key insight is the identification of a user "search pattern" to guide the initiation and development of a project. The chapter then offers a comprehensive evaluation of modern lexicographic resources, from linguistic corpora to generative AI, weighing their advantages and disadvantages. The author concludes by advocating a robust methodology for combining diverse resources: integrating subjective and objective sources, prioritizing familiar data, and rigorously double-checking automatically generated information to enhance overall productivity and reliability.

The author emphasizes the independent status of lexicography without undermining the influence of linguistic theory on lexicography. Chapter 5 and 6 deal with the lexicographic data on which linguistic theories exert a profound influence. Chapter 5 deals with two basic components of a lexicographic structure, lemmas and meanings. It expands the concept of lemmas to include both lexical (verbal) and non-lexical (non-verbal) words and symbols. The chapter then delves into the treatment of meaning, demonstrating the use of generative AI for crafting definitions. The chapter's pivotal contribution lies in its analysis of the "meaning structure" (monolingual) and "equivalent structure" (bilingual). By adopting the neutral "object/auxiliary" language instead of the directional "source/target" language, the author argues that these two structures are functionally similar and can be converted into one another with minimal effort using AI-driven translation tools. By integrating the two structures within a single, flexible database, lexicographers can significantly enhance productivity and create a more adaptable resource.

Chapter 6 provides a practical framework for handling auxiliary lexicographic data: grammar and sense relationships. The chapter is intensely practice-oriented by providing actionable methods. For grammar, the author suggests a list of recommendations for how to work with grammatical data in lexicography and exemplify with excerpts from dictionaries. For sense relations, the chapter goes beyond defining these relationships to offer step-by-step methods and specific prompts for using Natural Language Processing (NLP) tools and generative AI to implement these relationships. Ultimately, the chapter functions as a hands-on guide, offering a concrete workflow for integrating grammatical and semantic data into a modern lexicographic database.

Chapters 7, 8 and 9 present a comprehensive technological blueprint for implementing the book's vision. Chapter 7 tackles the critical issue of user burden, proposing four actionable practices to achieve the core lexicographic goal of satisfying user needs "in different situations in the most straightforward and fastest way possible" (p. 1). These practices include lemmatizing all word combinations, including "context" and "co-text" as linked data and examples, replacing

specialized codes with plain language, and adhering to principles of cultural and linguistic sensitivity. The discussion moves beyond theory, as each practice is substantiated with concrete examples from the DIDES project.

Chapter 8 focuses on four elements that highlight the strong connection between lexicography and information science: usability, access structures, specialized editing software, and search universe. The chapter is distinguished by its rigorous practice-orientation, using the DIDES project to demonstrate how these elements operate in a live environment. A particularly compelling argument is its advocacy for tailor-made software, illustrated with the Valladolid-UVa project, demonstrating how a custom-built system offers distinct advantages for managing complex data. This chapter provides a comprehensive technological blueprint, arguing that sophisticated software and intelligent information techniques are essential for creating effective and retrievable lexicographic projects.

Chapter 9 positions the lexicographer as a post-editor in an era where NLP is fundamentally reshaping the discipline. Its most significant contribution is a structured methodology for integrating generative AI in lexicography. Moving beyond mere demonstration, it addresses the critical issue of AI reliability by importing computational concepts like semantic entropy, lexical entropy, and multi-agent systems to reduce hallucinations and errors. This is exemplified through dialogues with ChatGPT and Claude for tasks like lemma list selection, meaning selection, and grammatical and contextual data collection, which offers a tangible workflow for lexicographers to collaborate with AI tools.

This practical oriented book serves as a guide for the lexicographic work in the 21st century. It features new perspective on lexicography and presentation of up-to-date methods and technologies for creating online lexicographic resources.

Throughout the book, the author has defended lexicography as an independent and interdisciplinary science rather than a sub-discipline of linguistics. It means that lexicographers need not be confined within linguistic theories about frequency, typicality, or authority when making practical decisions. Instead, they can draw on multiple disciplines, such as linguistics, information science, computer science, and others as resources.

Another profound theoretical contribution is the introduction of the "lexicographic square" (p. 19), which comprises four interrelated elements: lexicographic data, users, access and presentation, and usage. This framework replaces the traditional focus on dictionaries as finished products. As the author states, e-lexicography "comprises four main elements that constitute a lexicographic square" (p. 18) and these elements "are mutually related, and therefore the design of any reference tool must be symmetrical, i.e. not focusing on any of them at the expense of the other three" (p. 19). This theoretical shift means that lexicographers should no longer think primarily about creating static dictionaries but rather about creating lexicographic data that can be stored, accessed, and presented in multiple ways for different users and usage situations. The dictionary becomes just one possible product among many others. This forward-looking perspective is a significant evolution from earlier guidebooks.

The book also excels in its practice-oriented approach. It moves beyond describing abstract concepts to provide actionable frameworks, guiding the reader through the entire process of a lexicographic project, from planning, through data creation, to access. This practice-oriented approach is most evident in its treatment of technology. Rather than just listing NLP tools, the book provides a critical and practical methodology for integrating Generative AI and LLMs into the lexicographic workflow. While acknowledging the advantages of these up-to-date tools like ChatGPT and Claude, he emphasizes that human lexicographers must remain "the masters" who post-edit and validate the automatically generated content. The consistent use of the DIDES project as a real-world case study is another major strength. It transforms abstract principles into tangible practices, demonstrating how the theoretical framework and technological tools integrated to create a practical product.

The book is also practical in its engagement with economic realities, which has rarely been explored in other guidebooks. Its honest recognition that lexicographic work depends on funding, as the introduction states "no money, no lexicographic project" (p. 6), grounds the discussion in economic reality. This grounding gives rise to several key ideas. The introduction of "post-editing lexicography" (p. 7) describes a smart balance between using automation to generate content quickly and keeping human experts in charge of quality control, thereby increasing productivity, and reducing costs. This economic awareness also supports a conceptual shift: dictionaries should be viewed not as finished products but as ongoing services that can adapt to users' needs, built from reusable data rather than fixed pages. The suggestion that lexicographic data can be treated as tradeable commodities, sold individually or in combinations depending on user needs, exemplifies this service-oriented mindset and opens possibilities beyond traditional publishing models. By addressing budgeting and exploring alternative revenue models, such as advertising, subscriptions, data sales, the book also provides practical guidance for sustaining lexicographic work in challenging times.

While the book features minor editorial oversights (e.g., a sentence fragment on p. 163, a grammatically awkward sentence on p. 277), these do not detract from its substantial contribution. It has enriched the practice of modern lexicography. It not only documents the current state of the art but also provides a clear and actionable path for practical lexicography in the digital age. The book will be essential reading for lexicographers seeking to adapt their practice to digital environments, for researchers interested in the interaction between lexicography and information science and natural language processing, and for students preparing for careers in a field that is undergoing fundamental transformation.

In an era when anyone with an internet connection can access language data through search engines and AI chatbots, the question "What do lexicographers contribute?" has become urgent. This book offers a compelling foundation for ensuring lexicography remains relevant in the digital age. However, much work

remains to realize this vision. This book equips lexicographers to take part in that effort.

### Acknowledgements

This study is supported by the Fujian Province Social Science Fund Project (福建省社会科学基金项目) (Grant No. FJ2023BF019).

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