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PEDRO A. FUERTES-OLIVERA
A GUIDE TO PRACTICAL ONLINE LEXICOGRAPHY
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Abstract

A Guide to Practical Online Lexicography, authored by Pedro A. Fuertes-Olivera, provides a structured, up-to-date guide to digital lexicography, combining contemporary theoretical insights with practical, workflow-oriented guidance. The volume provides a systematic overview of the key stages involved in developing lexicographic data capable of meeting the needs of both human and machine users quickly and effectively. Unlike earlier practical lexicography manuals, it moves beyond dictionary-centric approaches and adopts the concept of the *lexicographic square*, a model composed of four interdependent components — lexicographic data, users, access and presentation, and usage — advancing the argument that lexicography should be recognised as an autonomous discipline and enabling a new conceptual perspective. The volume discusses various types of lexicographic data and existing online dictionary models, examines the relationship between technology, users, compilers, and funding models, and provides a detailed case study of the *Diccionario Digital del Español (DIDES)*, an online dictionary of Spanish edited by the author. Supported by further reading suggestions, practical exercises, and discussion questions, and grounded in more than twenty years of international academic and professional experience, the volume functions as a comprehensive and authoritative resource for students, scholars, and practitioners in e-lexicography.

Keywords: DIDES, digital dictionaries, e-lexicography, lexicographic square, LLM-assisted lexicography, user-centred lexicography



Review

A Guide to Practical Online Lexicography offers a timely and valuable contribution to contemporary lexicography, particularly as it responds to the realities and demands of a fully digital information ecosystem and helps to bring lexicography into the twenty-first century. The book is organised into nine chapters, each of which includes an abstract, a separate reference list and two additional pedagogically valuable sections titled *Further reading* and *Practical Activities and Questions for Discussion*, which enhance both academic depth and practical engagement.

The introductory chapter, simply titled *Introduction*, outlines the core foundations of the volume by asserting that lexicography should be regarded as an independent and interdisciplinary scientific discipline rather than merely a branch of linguistics. This claim is contextualised through observations about the contemporary information environment in which the Internet has “eliminated the monopoly on reference by dictionaries, encyclopaedias, and similar works” (p. 1) and where users increasingly rely on browsers and AI-driven systems for immediate access to information. In such a landscape, lexicographers must recognise that they are competing with powerful digital technologies and that the notion of the *user* now encompasses both humans and machines, thereby requiring a stronger emphasis on quality, usability, and intelligent data presentation rather than on quantity alone. In line with this shift, the author proposes a broader conceptual model that moves beyond dictionary-centred production and is instead based on the *lexicographic square*, consisting of four interdependent components: lexicographic data, users, access and presentation, and usage.

Chapter 1, *e-Lexicography – Its Nature, Definition, and Relevant Characteristics*, offers a definition of e-lexicography and clarifies its essential features and scope, while also explaining why the author regards lexicography as an independent scientific discipline. The chapter argues that various reference resources, such as dictionaries, encyclopaedias, glossaries, lexicons, and knowledge bases, share a fundamental common basis, and that this shared foundation provides evidence for a coherent theoretical framework that justifies lexicography’s status as an autonomous discipline with its own concepts, methods, and theories. In line with this perspective, the author provides a definition of e-lexicography grounded in the idea that all reference tools, regardless of nomenclature, rely on lexicographic data and therefore belong to a unified and inherently interdisciplinary field.

The emergence of the Internet further reinforces this claim, demonstrating that reference works contain data that require well-designed access routes to be retrieved effectively—fulfilling a function parallel to macrostructures in printed dictionaries. On this basis, the author advocates replacing the traditional lexicographic triangle with the concept of the *lexicographic square*. The chapter thus outlines the structure of the lexicographic square and its four interrelated dimensions—lexicographic data, users, access and presentation, and usage—and shows how these components guide the preparation of data that can function across multiple formats and serve different types of users, including both humans and machines.

Chapters 2 and 3 focus on the *Pre-Lexicography stages*, specifically on *Planning the Budget of the Project and Its User Profile* and *Lexicographic Evidence* respectively.

Chapter 2 provides an analysis of budgeting models and distinguishes between academically-driven, commercially-oriented, and small-scale dictionaries. The author adopts a critical view of academically-driven dictionaries, noting that although they retain prestige, they may no longer align with contemporary lexicographic needs (p. 39). In contrast, commercially-driven and small-scale dictionaries have experienced profound changes due to the rise of the Internet. Commercial dictionaries are typically financed through subscriptions, advertising, sponsorship, the commercialisation of database content, and strategic partnerships (p. 40). Small-scale dictionaries, usually produced by part-time lexicographers, are characterised by limited scope, specialised focus, target-specific audiences, and a need for careful content validation, particularly when integrating AI tools, due to potential risks and inaccuracies. Both models view lexicographic data as tradable assets. Overall, the chapter offers an up-to-date overview of current lexicographic practice and highlights the growing role of AI as an increasingly relevant support tool for lexicographers.

Chapter 2 further examines the notion of the user profile, emphasising that lexicographic development requires informed decisions about who the potential users are, including their characteristics and specific needs, which may be investigated through three methodological approaches: analysing actual dictionary-use behaviour, reflecting on anticipated user needs, or combining empirical data and introspection. To illustrate this, the author presents a mixed-method approach that integrates introspection and deduction with the analysis of empirical data such as log files, corpora, and interactions with Large Language Models (LLMs), demonstrating its practical application in establishing the initial lemma list for the *Diccionario Digital del Español (DIDES)*.

Chapter 3, *Pre-Lexicography stages: Lexicographic Evidence*, introduces the concept of lexicographic evidence and identifies a range of possible evidence sources, while Chapter 4, *Methods and Resources for Writing Lexicographic Data*, shows how these sources can be used to compile and store lexicographic data, defined as information supporting definitions, usage notes, grammatical information, and other lexicographic components. The chapter also presents the concept of lexicographic data types, which replaces the traditional notion of lexicographic typology. These are structured units stored within dedicated database slots of lexicographic editing software and are organised according to lexicographic (i.e., lexical) ordering principles that replicate the structure of dictionary entries and similar reference works. Importantly, they can be applied not only to dictionaries but also to other lexicographically oriented tools and machine-readable applications. Their practical application in the DIDES project, grounding theory in practice through detailed examples, is also demonstrated.

Chapter 5, *Lexicography Comes into Contact with Linguistics: Selecting Words, Signs and Senses*, and chapter 6, *Auxiliary Lexicographic Data Types: Describing Grammar and Sense Relationships*, explore the relationship between lexicography and linguistics, with particular emphasis on classical components such as the lemmas, meaning, grammar, and sense relations that must be incorporated in the dynamic database of the lexicographic editing software (LES). This discussion underscores a key feature of digital lexicography: the ability to develop dynamic, flexible and customisable databases that allow lexicographers to organise and exploit data in multiple ways, while supporting diverse access solutions that enable users to retrieve the information needed in a specific usage situation. Importantly, the author not only presents the theoretical foundation for these claims but also illustrates them with concrete, practice-based

examples from the *DIDES* project. A particularly noteworthy argument in these chapters is that in e-lexicography all word combinations should be lemmatised, that definitions should avoid “dictionarese” and use clear, accessible language, and that context and co-text must be integrated into databases to reduce the cognitive burden placed on users.

Chapter 7 *Eliminating the User Burden: Principles and Practice*, builds on Chapters 5 and 6 and addresses the concept of user burden in lexicography, defined as any cognitive, temporal, practical, or emotional difficulty users encounter when searching for or interpreting lexicographic information, and proposes a set of strategies aimed at reducing it. Grounded in the view that language is a social construct whose full meaning emerges only in context, the author recommends lemmatising multiword expressions, embedding meaning and usage in authentic contexts and co-texts, simplifying lexicographic metalanguage, and demonstrating social and cultural sensitivity. The chapter emphasises that digital lexicography, unlike printed works limited by space and format, can reduce user burden by offering richer contextual data, multimodal resources, and clearer, more user-oriented presentation.

In Chapter 8, *Lexicography Comes into Contact with Information Science*, the author explains why digital lexicography must be closely aligned with information science, particularly in relation to the tools, methods, and technologies required to locate data, including “hidden data”, i.e. information users may be unaware of, unable to recall, or uncertain about in its exact form. The chapter outlines four elements connecting lexicography and information science. The first concerns usability, presenting requirements and principles that should guide the development of lexicographic data for digital environments. The second and fourth relate to access structures, noting that online reference works differ from printed dictionaries because they do not rely on traditional macrostructures. The third focuses on lexicographic editing software, highlighting the benefits of in-house systems for improved customisation.

The final chapter, *Lexicography Comes into Contact with Natural Language Processing: Working with Large Language Models*, examines the growing reliance of digital lexicography on Natural Language Processing (NLP) tools and argues that the future of the field lies in a model of post-editing lexicography, where automatically generated lexical data are refined and validated by human experts. The author situates this development within two decades of technological progress in automated corpus analysis and semantic processing while highlighting the disruptive impact of Large Language Models (LLMs) such as ChatGPT, which have prompted debate about their potential role as lexicographic agents. While acknowledging the limitations and risks of LLM-generated content, particularly hallucinations, the chapter proposes a methodological framework combining semantic entropy, lexical entropy, and multi-agent systems to enhance reliability and integrate LLM output into lexicographic databases, including that of *DIDES*. Ultimately, the chapter views technological advancement as an opportunity to increase productivity, reduce costs, and improve the quality and usability of lexicographic data.

Concluding Remarks

The *Guide to Practical Online Lexicography* presents a forward-thinking and methodologically rich exploration of lexicographic practice in the digital age. Its emphasis on the lexicographic

square constitutes a clear shift towards a process-oriented and user-centred approach that mirrors contemporary digital information behaviour. The combination of theoretical insight, practical guidance, and extensive illustration from real-world lexicographic projects makes this volume highly valuable not only for lexicographers but also for scholars and practitioners across digital humanities, information science, and language technology. By advocating a shift from dictionary-centred thinking to database-driven, user-oriented design, and by recognising the growing role of NLP and LLM-supported post-editing, the book provides a timely and pragmatic roadmap for the future of e-lexicography. The limitations and challenges involved in digital lexicographic work, particularly when integrating AI-based tools, are realistically acknowledged and AI is positioned not as a threat but as an opportunity for sustainable and cost-efficient lexicographic practice.

Its practical orientation further distinguishes it from seminal works in the field, with each chapter including practical activities, further reading, and dedicated reference lists that support its use in both academic and professional training contexts. These features also make the volume suitable for course adoption and self-instruction. The continuous integration of DIDES as an applied case study significantly strengthens the book's credibility, demonstrating that its theoretical principles have been tested and refined through real-world practice. Overall, this book makes a significant contribution to contemporary lexicographic discourse, offering both a conceptual reframing and a practical toolkit for shaping the next generation of digital lexicographic projects.

Izveček

A Guide to Practical Online Lexicography avtorja Pedra A. Fuertes-Olivere je priročnik, ki na strukturiran način predstavi sodobno digitalno leksikografijo. V njem najdemo najnovejše teoretične in praktične vsebine. Priročnik nam sistematično predstavi ključne faze pridobivanja leksikografskih podatkov, ki bodo koristili raziskovalcem in raziskovalkam pri tradicionalni kot tudi pri strojni uporabi. Za razliko od prejšnjih priročnikov za praktično leksikografijo ta priročnik presega pristope, osredotočene na slovarje in uvaja nov koncept tako imenovanega modela leksikografskega kvadrata, ki ga sestavljajo štiri medsebojno odvisne komponente: leksikografski podatki, uporabniki, dostop do podatkov ter njihova predstavitev in uporaba. S tem potrjuje tezo, da je treba leksikografijo priznati kot samostojno disciplino, ki predstavlja nov konceptualni vidik. Priročnik obravnava različne vrste leksikografskih podatkov ter obstoječe modele spletnih slovarjev, obenem pa preučuje razmerje med tehnologijo, uporabniki, sestavljavci in modeli financiranja, vključuje pa tudi poglobljeno študijo primera spletnega slovarja španščine *Diccionario Digital del Español (DIDES)*, ki ga ureja avtor priročnika. Priročnik vsebuje predloge za nadaljnje branje, praktične vaje in diskusijo. Priročnik, ki temelji na več kot dvajsetih letih mednarodnih akademskih in strokovnih izkušenj, je namenjen študentom in študentkam, raziskovalcem in raziskovalkam ter uporabnikom in uporabnicam na področju e-leksikografije.

Ključne besede: DIDES, digitalni slovarji, e-leksikografija, leksikografski kvadrat, leksikografija s pomočjo velikih jezikovnih modelov, uporabniško usmerjena leksikografija