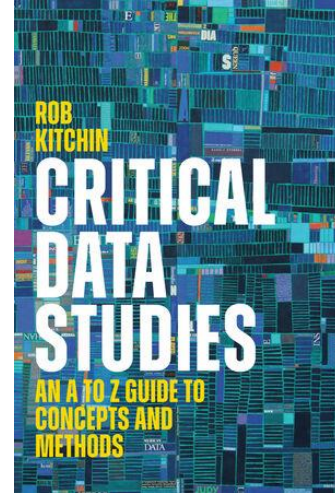


Rob Kitchin, **Critical Data Studies: An A to Z Guide to Concepts and Methods**, Cambridge, UK: Polity Press, 272 pp., \$24.95 (softcover), \$69.95 (hardcover).

Reviewed by
Ivo Furman
Istanbul Bilgi University



Critical Data Studies: An A to Z Guide to Concepts and Methods by Rob Kitchin is a reference work that provides an accessible entry point into an interdisciplinary field that has expanded significantly in recent years. Rather than advancing a sustained argument, the book brings together 413 alphabetically organized entries, each offering concise definitions, short explanations, and cross-references to related terms. Developed as an output of the European Research Council–funded project “Data Stories” (Grant No. 101052998), it responds to a context in which data play an increasingly prominent role in science, governance, and everyday life yet are often approached as neutral or technical rather than as objects of critical inquiry. The book extends beyond a simple glossary by contributing to an effort to organize and clarify key concepts and approaches associated with Critical Data Studies (CDS).

Kitchin outlines three main objectives for the book (p. 3). The first is to map the conceptual and methodological terrain of CDS in a way that is broad but still selective. The second is pedagogical, aiming to help students and researchers make sense of terms that appear frequently in academic and professional contexts but are not always defined in detail. The third is to support exploration, with cross-referencing and flexible navigation enabling readers to trace connections between concepts and engage with the material in a nonlinear way.

The intended audience is correspondingly broad. The book will be particularly useful for students and researchers working across disciplines who require a shared vocabulary to engage with data-related topics, especially in fields such as communication studies, where scholars often encounter data infrastructures, metrics, and algorithmic systems without a fully shared conceptual framework. At the same time, the book reflects the evolving nature of the field it documents, with many concepts still developing and several methods remaining in an experimental phase. It is therefore best read as a guide to an emerging area of study rather than as a definitive account.

To illustrate how the book functions in practice, this review focuses on four entries: “algorithm,” “computational social sciences” (CSS), “Critical Data Studies,” and “data.” These terms are frequently encountered in communication research, particularly in work on digital platforms, data infrastructures, and algorithmic systems.

Algorithm: The book defines an algorithm as “a set of defined steps structured to process instructions and data to produce a desired output” (p. 10). The entry extends this definition by outlining the role of algorithms in everyday processes such as search, recommendation, and decision making.

From a CDS perspective, the entry emphasizes that algorithms are not neutral tools. Instead, they are developed within particular contexts and serve specific purposes, which means they can reflect existing forms of power and influence. The entry also points to practical challenges in studying algorithms, such as limited transparency, the interaction of multiple systems, and the fact that algorithms are often updated over time. These features make empirical analysis more complex and require careful methodological consideration. The entry directs readers to further work on these issues, including research on the ethical dimensions of algorithms and critical approaches to their analysis (Amoore, 2020; Kitchin, 2017).

Computational Social Sciences: CSS are defined as “a form of social science research that uses machine learning and data analytics to undertake statistical analysis and modelling of social phenomena” (p. 34). The entry places this approach within the broader history of quantitative social science, while noting how increased computational capacity has expanded the scale and scope of analysis.

At the same time, the entry presents both supportive and critical perspectives. While CSS methods enable large-scale and more dynamic analysis, critics argue that they can reproduce reductionist tendencies and overlook aspects of social life that are not easily captured in data. It also notes that these methods can be used within different epistemological frameworks rather than being tied to a single approach. The entry directs readers to further work on these issues, including overviews of CSS as a field and discussions of its methodological foundations and applications (Alvarez, 2016; Engel et al., 2021).

Critical Data Studies: The book defines CDS as “a field of study that focuses on the nature, production, and use of data” (p. 40). The entry clarifies the meaning of “critical” by moving beyond the idea of data as neutral representations of reality. Instead, CDS approaches data as contingent and shaped by social, political, and institutional conditions.

The entry also situates CDS as a relatively recent interdisciplinary formation, formally named in 2014, while noting its connections to longer-standing traditions concerned with knowledge production and technology. CDS is presented as consolidating existing lines of inquiry rather than introducing an entirely new field. For communication research, this framing is useful in that it draws attention to how data are produced and used within media systems, rather than assuming their transparency. The entry directs readers to further work on these issues, including discussions of data power and its ambivalences, as well as critical analyses of data infrastructures and their societal implications (Hepp et al., 2022; Kitchin, 2022; Richterich, 2018). These works also engage with the ethical and political dimensions of data practices, offering broader perspectives on how data are embedded in systems of governance and knowledge production.

Data: Data are defined as “representative measures of phenomena captured through some form of measurement or observation, or derived or inferred values produced through calculations such as

statistics or modelling" (p. 45). The entry challenges the idea that data are simply "given," instead presenting them as produced through processes of selection, measurement, and interpretation. By emphasizing how data are selected, generated, and interpreted, the entry presents them as constructed rather than purely discovered. This shifts attention to the conditions under which data are produced and used. For communication research, this approach supports a more detailed examination of how data function within media environments, including how they are collected, processed, and mobilized in different contexts. The entry directs readers to further work on these issues, including analyses of how data are produced in practice and how they shape social and institutional life (Kitchin, 2021).

Taken together, these entries show how the book operates as both a reference tool and a conceptual guide. One of the book's main strengths lies in the clarity of its purpose and the consistency of its design. The dictionary format aligns closely with its stated aims. It supports quick orientation, makes it easier to navigate across terms, and encourages exploratory reading through cross-references. A second strength is its critical orientation. Even within the limits of short entries, it consistently draws attention to the social, political, and contextual dimensions of data, algorithms, and computational methods. In doing so, it moves beyond a simple definition and offers a perspective on how these terms can be approached analytically.

Building on these strengths, the book can be understood as providing a form of conceptual infrastructure for the field. By clarifying key terms and establishing points of connection between them, it supports further engagement with theoretical and empirical work. At the same time, the features that make the book accessible also introduce certain limitations. The most evident is the compression of complexity. The brevity of entries means that theoretical debates, empirical examples, and methodological detail are only addressed in a limited way. Readers seeking deeper engagement will need to follow the cross-references and suggested readings provided. A related limitation is the minimal use of in-text citations, which is consistent with the format but can make it harder to trace specific sources.

In comparative terms, the book differs from monographs and edited collections that develop sustained arguments or structured debates across chapters. Instead, it prioritizes accessibility and navigability. For this reason, it is best understood as a complementary resource that supports, rather than replaces, more extended forms of theoretical engagement. The book is particularly useful as an entry point into CDS, while also supporting more advanced engagement through its conceptual organization and suggested readings.

References

- Alvarez, R. M. (Ed.). (2016). *Computational social science*. Cambridge, UK: Cambridge University Press.
- Amoore, L. (2020). *Cloud ethics: Algorithms and the attributes of ourselves and others*. Durham, NC: Duke University Press.

- Engel, U., Quan-Haase, A., Lin, S. X., & Lyberg, L. (Eds.). (2021). *Handbook of computational social sciences*. London, UK: Routledge.
- Hepp, A., Jarke, J., & Kramp, L. (2022) New perspectives in Critical Data Studies: The ambivalences of data power—An introduction. In A. Hepp, J. Jarke, & L. Kramp (Eds.), *New perspectives in Critical Data Studies* (pp. 1–23). Cham, Switzerland: Palgrave Macmillan.
- Kitchin, R. (2017). Thinking critically about and researching algorithms. *Information, Communication & Society*, 20(1), 14–29.
- Kitchin, R. (2021). *Data lives: How data are made and shape our world*. Bristol, UK: Bristol University Press.
- Kitchin, R. (2022). *The data revolution: A critical approach to big data, open data, and data infrastructures* (2nd ed.). London, UK: Sage.
- Richterich, A. (2018). *The big data agenda: Data ethics and critical data studies*. London, UK: University of Westminster Press.