final three chapters, the approaches become more experimental and playful (especially in the case of the YouTube chapter), and the tools less well-established, perhaps testifying to new frontiers to be explored by digital methods, but also to an increasingly challenging access to data, treated by Rogers through his reflections on the development from the early DMI scraping techniques, to current reliance on APIs offered by platform owners. In the last chapter, Roger summarizes the merits of digital methods across thematical research areas and specific platforms and services.

An essential read for students and scholars keen to learn the techniques of digital methods, while retaining strong emphasis on methodological reflection, critical assessment of ontological and epistemological implications of tools and data, the book is comprehensive and exemplary in its approach and guidance on doing digital methods research.

Berth Danermark, Mats Ekström and Jan Ch Karlsson
Explaining Society: Critical Realism in the Social Sciences, 2nd edn., Routledge: Abingdon, 2019; 228 pp.: £34.99. ISBN: 9781138497818

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In *Explaining Society: Critical Realism in the Social Sciences*, Danermark, Ekström and Karlsson discuss the methodological implications of a critical realist approach to the social sciences. The book consists of two parts: in the first, critical realism is introduced, and the second explores the methodological implications for the social sciences, specifically the debate on structure and agency, generalization and scientific inferences and the role of theory in science. Throughout the book, they explain key critical realist concepts such as abduction, retroduction and double hermeneutics, and in chapter 7 they introduce the concept of 'critical methodological pluralism', in which they argue that while all methods are possible in the social sciences, not all methods are equal, and are dependent on the object of study.

This is the second edition of *Explaining Society: Critical Realism in the Social Sciences*, in which the authors attempt to transform the more philosophical texts on critical realism into a text for social science researchers. They argue that like all meta-theories, the basic idea of critical realism informs how to understand the nature of reality and how to gain knowledge about it, and as such 'make a difference in regard to issues such as generalization, scientific inferences, explanation, the role of theory and so forth' (p. 1). In this updated edition, the authors pay 'more attention to and discuss critical realism's relation to social constructionism and the hermeneutic tradition' (p. xii). They have also dedicated a new chapter on the social science question of structure and agency and have added a section on interdisciplinary research.

The first part of the book – chapters 2 and 3 – are devoted to introducing critical realism, in which the authors cover the origin of the philosophy and position it against the positivist and social constructivist approach to science, teasing out the relevant ontological and epistemological claims. The book starts by explaining how in the critical realist philosophy reality is differentiated, stratified and open. Differentiated as from a critical

realist perspective, the domain of the real exists independently of people's knowledge of it. The events or phenomena that are produced by the real become visible in the domain of the actual, and when these are experienced, they become observable in the domain of the empirical. The methodological implications of this differentiation for social sciences are that researchers are confronted with double hermeneutics, the observations happen in the empirical and as such research is interpreting the interpretations of others. It also implies that if one wants to explain the world, the object of study lies in uncovering the underlying causal mechanisms and structures in the real, not only in the empirically observable events.

The authors continue to explore how reality is not only differentiated but also stratified, depending on whether the object of study belongs to the natural sciences or the social sciences. Acknowledging these different strata is important for a critical realist understanding of open and closed systems. While the natural sciences are researching more closed systems, in which mechanisms are operating independently from other mechanisms that allow for research to take place in artificial experiments, the nature of social science is that it happens in more open systems, where events and phenomena are the results of interacting mechanisms that are ever-changing. As the authors put it, 'it is the nature of the object under study that determines what research methods are applicable and also what knowledge claims one might have' (p. 65).

The second part of the book – chapters 4–8 – continues to discuss the methodological implications of critical realism for social science. The authors start chapter 4 with the question: if society is complex, ever-changing, and consists of many mechanisms, structures and events, how can one research such a mess? In this chapter, the authors discuss the critical realism debate on structure and agency through the lens of different theorists. They explore the different approaches to understanding how structures and mechanisms create conditions for people to have the ability to act, reproduce and transform these structures and mechanisms. This book follows Archer's argument about analytical dualism that argues that social science methodology and 'theory need a model that does not endeavour to unite, but overcome the contradictions and regard agent and structure as two separate but connected phenomena' (p. 79). This suggests treating structure and agency as separate entities with their own powers and properties in order not to reduce one to the other but rather study the links between them over time.

In chapter 5, the authors discuss how critical realism's ontology and epistemology should guide social science research practice. As such this chapter explores the fundamental methodological arguments of generalization, methods of inference and the methodological approaches that can contribute to achieving the aim in social science research, namely explaining society. The authors argue that while all science should have generalizable claims, it is important to distinguish between empirical and theoretical generalizations. The former are based on the assumption that knowledge can be derived from observing a limited number of events and extrapolating this to a larger population, while the latter is based on generalizations of knowledge that 'identifies and conceptualizes fundamental properties and structures, in which abstraction is a central method' (p. 100). This chapter continues to discuss the differences between deductions, induction,

abduction and retroduction, and why from a critical realist perspective the latter two are important modes of interferences as they allow 'individual phenomena or events to be understood as embedded in, and an outcome of, social structures' (p. 117).

The role of theory and conceptualization in social science is explored in chapter 6. The authors start by revisiting the key concepts explained in part one and how these relate to a critical realist understanding of the relationship between theory and observation. They argue that when reality cannot be directly observed in the empirical domain, theoretical concepts are needed to understand the mechanisms and structures that caused observable events. Critical realists argue that the real is not observable, there is no ground-truth and theories are ever-changing and fallible, as the social sciences continue to explore events in their specific contexts. The authors continue to explore how general theories can be integrated into research practices as an interpretive framework, which allows researchers to recontextualize the same data by starting from two different theories or applying established theories to party new empirical fields.

In chapter 7, the authors discuss the relationship between critical realism's ontological and epistemological positions and methodological choices. The authors argue that it is fruitless and misleading to create a dichotomy between quantitative and qualitative methods and explore the need for and implications of mixed methodology research. Here, no method can be excluded beforehand; instead, a combination of methods can be beneficial to uncover the structures and mechanisms that create the conditions for events to materialize. The authors introduce critical methodological pluralism to make the point that while all methods go, not all are equally suitable. The choice of methods depends on the meta-theory that informs the research.

In chapter 8, the authors discuss the relationship between social science and practice and argue that contrary to the idea that one has to 'dumb down' research for practitioners (p. 199), social theories that explain certain structures and mechanisms can be very beneficial to practitioners. For this to manifest, critical realists need to explore different forms of collaboration between researchers and practitioners than is currently the case such as engaged social research, action research or barefoot historical research – methodologies that allow both practitioners and scientists to engage with theory and knowledge production.

They end the book with a chapter summarizing the core concepts of critical realism and their methodological consequences.

This book explains not only the fundamental principles of critical realism as a meta-theory but also the methodological consequences of understanding society from this perspective. As such, it is an invaluable contribution to anyone wanting to learn more about critical realism and how it applies to the study of society or social phenomena. To scholars of technology and society, this book offers an understanding of how critical realism can contribute to researching the relationship between data and society by approaching it both as a product of larger structures and underlying social mechanisms as well as something that in return influences and shapes such structures and mechanisms.