

Daide Bennato

Il computer come macroscopio. Big data e approccio computazionale per comprendere i cambiamenti sociali e culturali. [The computer as a macroscope. Big data and computational approaches to understand social and cultural changes], Milano, Angeli, 2015, pp. 148

Tommaso Venturini *Université de Lyon, Inria, ENS Lyon, CNRS, UCB Lyon I*

The Computer as a Macroscope is interesting book with a well-defined angle. Rather than delivering the umpteenth prophecy on how digital technologies will affect social life, the book describes how they already started to affect social research. Such angle (discussed in the first chapter of the book) allows Davide Bennato to steer clear of the vast and often shallow debate about the “digital age” and focus instead on the specific approaches and techniques of computational social sciences.

In its second chapter, the books focuses in particular on seven among the main approaches of computational social sciences: 1. analytical sociology (i.e. the effort to explain how global and long lasting structures are produced by local and ephemeral interactions); 2. network sciences and social network analysis (i.e. the investigation of the associations connecting individual in complex collective patterns); 3. social simulation (i.e. the struggle to understand social mechanisms by modelling them through agent-based models); 4. mimetics (i.e. the study of the ‘viral’ spreading of cultural items through media and especially social media); 5. cliometrics (i.e. the quantitative study of long-term historical trends); 6. behavioural economics (i.e. the use of experimental games, sometime in a digital form, to investigate or predict dynamics of cooperation or competition); 7. culturonomics and distant reading (i.e. the study of cultural and artistic phenomena through the analysis of large corpora).

The third chapter introduces four examples, allowing the readers to gain a deeper understanding of this emerging approach. The cases discussed include several influential studies. It is a pity, however, that all the examples concern traces extracted from social media (Facebook and Twitter in particular) and analysed through network models. While this type of studies does represent an important part of computational social sciences, it is far from covering the variety of such field. The richness and diversity of digital research, which is described in chapter 2, is here reduced to its most visible examples. This choice is unfortunate as much of the interest of digital methods comes precisely from their capacity to diversify and open the imagination of social sciences. Against “big data” prophecies, it is not the size of digital datasets that renews our understanding of the collective world, but their richness and variety. While the jungle of digital inscription meets the eye for its extension, its most amaz-

ing feature remains the stunning diversity of the species that it shelters.

The book of Davide Bennato does a good job in portraying the changing field of computational social sciences in a way that is both accurate and palatable. Instead of playing on the hype of big data and on the exoticism of computational research, it describes with plain words and vivid examples the practices of this new discipline. *The Computer as a Macroscope* is not a book for experts, it does not discuss the latest developments of digital techniques or their theoretical consequences. To borrow an expression from computer science, Bennato's book is "breadth first" (rather than "depth first"). Pushing the vanguard of digital sociology or perfecting this or that method is not the purpose of this volume, which strive instead to paint a wide portrait of the landscape of computational social sciences. In this, Bennato achieves the goal: readers searching a quick but exhaustive overview of this emerging research field will not be disappointed. The book touches upon the most important strains of digital scholarship in a way that is sometime rapid, but never inaccurate.

The main critique that could be addressed to *The Computer as a Macroscope*, however, concern its rather positivist view of social sciences. While Bennato introduces his work by observing that, in early modernity, the development of quantification techniques has played key role in the construction of our societies, he does not push his reflection to describe how the new computational research is currently affecting our collective life. He thoroughly describes the way in which digital technologies offers new investigation tools, but does not discusses the societal impacts of these research innovations. He introduced some of the most popular approaches of computational social sciences, but does not clarify which social visions are associated with them.

This is why the metaphor contained in the title of this book is misleading. The concept of "macroscope" risks to convey an idea of digital technologies as mere "observation devices" – instruments allowing researchers to see phenomena invisible to the naked eye. This is true, but also reductive. Besides being scientific instruments, digital technologies are also powerful social actors and mediating infrastructures. They certainly make the social more traceable, but they also do shape it in a variety of intended and unintended ways.

Even when considered specifically under the angle of social sciences (as in Bennato's book), digital technologies are not just observation devices, but also tools through which certain forms of collective coordination are promoted, while other are opposed. This type of observation is presented in an 8th strand of digital research, absent from Bennato's book. Developing a sort of meta-reflection on computational social sciences, a number of researchers coming from the Science and Technology tradition have extensively showed how, far from being neutral, digital methods are associated with specific forms of visibility (cfr. among others, Bowker et al. 2009; Law, Ruppert and Savage 2011; Rogers 2013; Marres 2017).

More than to microscope or telescope observation, computational research resembles to cartography in the 16th century (cfr. Turnbull 2000) or demography in the 19th century (cfr. Desrosières 1993). As geography and statistics supported the rise of the national state in its modern form (cfr. Porter 1995), so the new computational research influences the way in which we live, buy and vote – and such influence will no doubt grow in the next years.

This is why books like *The Computer as a Macroscope* are deeply needed. Describing the emergence of new computational paradigms, they help us reflecting on the many ways in which digital technologies affect scientific research. This a very important contribution, but one that leaves open the most important question of contemporary sociology: do we understand what forms of social organization are we promoting through our computational research? And are we ready to stand by them?

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