



Book Review

Rasmus Grønfeldt Winther *When Maps Become the World*. The University of Chicago Press: Chicago and London, 2020; 336 pp.; ISBN: 9780226674728, US\$37.50, £30.00 (pbk)

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In the last decade, we have witnessed a huge expansion of the field of so-called *map studies*. The definition of the field, as given in the “Manifesto for map studies” (Dodge et al., 2009: 220–243), allowed for a renewed, multifaceted and increasingly transdisciplinary consideration of mapping and cartography, one that reached well beyond the wave of critical deconstructive cartographic thinking that emerged during the 1980s. Indeed, the interest in maps and mapping is advancing consistently within disparate academic fields (Brunn and Dodge, 2017), thus contributing to the reshaping of what we consider as the objects of the study of cartography as an academic discipline (Kent and Vujakovic, 2018). This is due to several factors such as the digital shift in cartography, the pervasiveness of spatial devices in everyday life, the convergence between cartography and other forms of media, and the consequent new status of maps and mapping practices in a particularly rich cartographic culture. Whereas in the past decades, particularly with the *Spatial Turn*, the humanities have started to embrace the map as a feature, we are now seeing the liveliness of a much more variegated realm of *cartographic humanities* that is offering additional research angles from which to consider cartography in all its aspects. In line with this humanistic turn in cartography, *When Maps Become the World*, by Rasmus Grønfeldt Winther, a philosopher of science and Humanities professor at the University of California at Santa Cruz, is a book that makes a sound contribution to the transdisciplinary field of map studies. Like other recent interventions in the philosophy and history of cartography (e.g. Edney, 2019), this book succeeds in bringing new theoretical insights into past cartographic materials and processes, encompassing diverse epochs, practices, and key ideas in map thinking.

Given the breadth of his arguments and wide range of examples throughout the 300+ pages of the book, the author gives a useful suggestion to readers in the preface on how to navigate their way through the diverse sections, depending on their area of expertise, interests or theoretical inclination. Winther provides guidance by categorizing book sections into three reading ‘levels’, namely ‘philosophical deep diving’, ‘philosophical snorkeling’, and ‘easy reading’. This guidance appears in the form of an icon at the beginning of every book section. The book is further divided into two parts, namely ‘Philosophy’ (Chapters 1–5) and ‘Science’ (Chapters 6–9). One of the first basic assumptions of the book is that ‘we map because we have a deep spatial human cognitive and social capacity, and need [. . .] but [that] we also

sometimes perniciously conflate and confuse map and territory’ (p. 3). This nicely captures the author’s attitude toward cartography. Indeed, he ponders on both the limitations and the potential of cartography in a way that helps to retain a more-than-deconstructive and therefore more-than-critical view on maps, which is much valued in current cartographic theory (Perkins, 2018). The second basic notion is that, for the philosopher, maps ‘serve as an apt analogy for theory and model; as a metaphor for how we know’ (p. 3). This notion is crucial for understanding the multiple ways in which cartography is conceptualized in the book, specifically within science.

In Chapter 1, the author introduces *map thinking* (or what he calls *cartology*) as a reflexive, and also imaginative effort which includes four elements: (1) *cartography*, which is the theoretical investigation of the principles and rules of mapmaking and map use; (2) *mapping*, which is the actual making and using of maps (from the primeval deep cognitive impulse to think and communicate spatially to the modern Western mapping tradition); (3) *map studies*, defined as the philosophical, socio-cultural analysis of maps; and (4) *map analogizing*, which is the use of maps and mapping as analogies of knowledge, representation and theories, particularly within scientific domains. This last element, and the idea that ‘maps and theory share a sense of space, whether literal or abstract’ (p. 56) becomes substantial in exploring non-standard forms of mapping and in delineating a ‘flexible conceptual territory’ in which maps ultimately function as ‘a broadly applicable tool for understanding human thinking and doing’ (p. 9). Beyond any narrow representationalism, the map is used here in very elastic and unstable ways, thus embracing the processual thinking that pervades today’s so-called ‘post-representational (or emergent) cartography’.

Chapter 2 is devoted to the *map analogy*, whose basic version is that ‘A scientific theory is a map of the world’ (p. 29). From this first one, Winther develops a whole typology of map analogies stressing how these analogies, and related forms of *spatialized knowledge*, are found in a variety of scientific domains (from cosmology to mathematics, from neuroscience to genetics, etc.) encompassing ‘a carnival of scientific examples’ (p. 37). He also discusses how the map analogy travels across humanistic inquiry (such as philosophical currents, history, religious studies).

In Chapter 3, while discussing and analysing cartographic modes of *abstraction* (moving from the real world to a representation/theory/model) and *ontologizing* (acting in the world according to representation/theory/model), the author provides another crucial positioning statement that aligns the book with most recent more-than-critical map thinking: ‘both full-blown realism and full-blown social constructivism are false’ (p. 60). Using the example of the history of the Mercator Projection, Chapter 4 opposes *pernicious reification* (overestimating the promises of representations) to the healthier and more generative concept of *contextual objectivity*, which implies the ‘intentional ontologization of representations within an appropriate scope’ (p. 90).

The Holocene

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Chapter 5 returns to the ‘cartopower’ (p. 137) through which ‘maps become the world’, endorsing the generative powers of ‘pluralistic ontologizing’, which is derived from the productive integration of multiple representations. To exemplify, Winther refers to the climate change consensus as ‘a clear case of contextual objectivity reached through a massive integration platform of many disparate models’ (p. 139). Chapter 6 charts a number of scientific fields, including cosmology, geology, physics and mathematics, to show how pervasive map thinking and map analogies are represented in science. Chapter 7 describes forms of pernicious reifications and simplifying assumptions in three kinds of standard maps representing ourselves: migration maps, brain maps and statistical causal maps. For each of these, alternative practices of countermapping are provided. Again, the position of the author is balanced: ‘Without abstractive averaged maps, science could not effectively partition a system or offer explanations and predictions. Without countermaps, we would not be able to reimagine our world’ (p. 209). The integration and pluralization of models is then put to work in the field of genetics in Chapter 8.

The book closes with a brief chapter including some ethical considerations about the responsibility of science and philosophy in understanding what exists in reality. The author recognizes that maps, models and theories can be used for good or ill. He makes the important observation that ‘barring the influence of unfortunate “antiscience” movements (e.g. antivaxxers and climate change deniers), scientific representations will inform the strategies we as a society design and implement to redress social injustices and forestall ecological catastrophe’ (pp. 243–244). Finally, referring to constructivist, empiricist and realist approaches, Winther explains

how maps imply simultaneously social construction, empirical information and a reference to the world, thus proposing map thinking as an invitation to integrate and negotiate the tensions existing within a plurality of philosophical approaches.

Some areas of cartographic theorization, that is, critical investigation of GIS or the significance of the map analogy for some humanities fields, such as literature and the arts, are underrepresented, but the inclusive stance of this extremely well-written book is genuine, and the effort to bring together a huge amount of writings about cartography is valuable. From the specific angle of map theory, this book is a particularly welcome contribution that endorses a pluralistic style of thinking within the lively arena of map studies. From the point of view of science, it offers a sophisticated reflection on the generative powers of cartographic theorization.

References

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