

Reviews of Books & Atlases

THE CULTURE OF DIAGRAM / John Bender and Michael Marrinan, Stanford, CA: Stanford University Press, 2010. Pp. 296; 48 illus. (8 col.); 8.9 × 9.9 × 0.6". ISBN 9780804745048 (cloth), US\$60.00. ISBN 9780804745055 (paper), US\$21.95. ISBN 9780804773256 (ebook), US\$21.95. Available from Stanford University Press, <http://www.sup.org/>

We can all recognize a diagram in a gestalt way, but how do diagrams work, and where did they come from? This monograph makes some interesting observations on what diagrams are and how this distinctive mode of representation was invented. For John Bender and Michael Marrinan, there are distinct and important diagrammatic protocols: diagrams comprise abstract visual representation primarily of point and lines; arrays of graphic signs deployed at multiple viewpoints and/or scales; and symbols are all laid bare on the “blank” canvas of the white paper page. Moreover, Bender and Marrinan argue that diagrams facilitate visual cross-references and thus encourage mental correlations and deeper understanding. Crucially, then, it’s not so much what they look like but what they can do that has made diagrams such a distinct mode of communication. Diagrams are not pictorial depictions: instead, they are analytical descriptions of space, and accordingly Bender and Marrinan see them as

a proliferation of manifestly selective packets of dissimilar data correlated in an explicitly process-oriented array that has some of the attributes of a representation but is situated in the world like an object. Diagrams are closer in kind to a Jackson Pollock than to a Rembrandt. (p. 7)

Such ideas parallel recent scholarly interpretations of cartography and clearly resonate with contemporary thinking about how maps work (compare della Dora 2009; Del Casino and Hanna 2006; Kitchin and Dodge 2007).

In terms of cultural history, Bender and Marrinan argue, diagrams mattered because they shifted descriptions of the world away from the more or less mimetic representations of space and from the verisimilar perspectives that dominated in the Renaissance to what we see as “modern” modes of display. Diagrams became the vital means of presenting explanations of complex phenomena or mechanisms to remote audiences, and they underpinned the rise of professional science in the Enlightenment. Later, they strongly supported the work of engineers that dominated industrialization in the nineteenth century. Diagrams continued to underpin the work of the likes of the medical doctor, the sanitary surveyor, and city planner through the twentieth century. In Bender and Marrinan’s terminology,

diagrams were the “working objects” that literally made the modern world visible to human eyes. Today we have come to trust diagrammatic protocols to such a degree that charts, graphs, and, of course, maps are all too easily accepted as truth rather than constructed models of things that cannot be directly experienced by the human sensorium. We now often work upon the diagrammatic models rather than the reality itself – powerful and archetypical examples that come to mind being the helical diagramming of the gene (Kemp 2003) or the “hockey stick” charts in climate-change science (Brumfiel 2006). The junction point in the development of diagrams as potent processual models of reality is most clearly evident, according to Bender and Marrinan, in the late-eighteenth-century work of the *encyclopédistes* in France. This period and place is the primary focus for their genealogical analysis, and the most significant visual empirics in *The Culture of Diagram* come principally from a forensic interpretation of a selection of plates from Diderot and d’Alembert’s celebrated *Encyclopédie*, along with a dissection of several influential history paintings by their contemporary, the artist Jacques-Louis David.

A significant consequence of the authors’ hermeneutic reading of material artefacts from the Enlightenment era is a lack of focus on more contemporary diagrammatic practice. While Bender and Marrinan convincingly assert that diagrams are important as “working objects,” their book says disappointingly little about how diagrams really worked in the world of eighteenth-century Europe, or now in the twenty-first century. While they discuss in some detail the aims of the creators of the pioneering diagrams in the *Encyclopédie*, they say little about how these diagrams were consumed and actively used. As research in cartography is now showing, the best way to understand maps may be through a focus on everyday practice and real-world problem solving.

While they are explicit near the start of their book that they did not want to write an “all-inclusive, trans-historical definition” (p. 34), I felt that their analysis suffered from drawing on such a narrow range of diagrammatic applications and that it offers a narrowly constrained empirical spatial and temporal sample of evidence. The result is a serious and scholarly book, but one in which genuinely novel insights are few. It reads like a synthesis, an extended essay stretched too thin and lacking the empirical heft of substantive argument essential for a monograph. Also, the development of maps as part of the emergence of a diagram culture could have been valuable to consider. This is most obvious in the rise of “scientific” cartography in eighteenth century, when states pursued nationwide

trigonometric surveys and produced topographic sheets, along with the raft of new thematic map forms in the nineteenth century that exhibited and exploited diagrammatic protocols to model populations in the eyes of bureaucrats.

Bender and Marrinan seem to play safe in the past. Their limited empirical material is focused more on how diagrams came into being and less on what they are doing today. The consequence is a feeling of a largely backward-looking book built by cherry-picking a “classic” period. The only contemporary exemplar they deploy in some depth in their discussion is a highly specialized, atypical case (diagrams displayed on VR headset by a sophisticated machine used in remote ophthalmic surgery); they do not deal head-on with how diagrammatic protocols are being enrolled in everyday life to solve different kinds of problems. Surely there is real political significance in understanding how diagrams work? After all, they have become so very vital to how information is presented and narrated and how decisions are justified. Global markets and financial traders see the world through diagrams (MacKenzie 2006), and we are seemingly all damned by the consequences.

It is likely to become more important for us to understand how diagrammatic culture and practice unfolds, including so much onscreen real-time egocentric mapping, digital globes layered with data, and the ever-more-alluring map-like satnav views. For example, do diagrams make activities more efficient? Do they enable new kinds of problems to be solved? Or do they perhaps work to disable some other people? They may be a source of empowerment for the data-driven and diagrammatically literate, but it is important to recognize that they also facilitate control over people, resources, and space. The diagrammatic protocol is central to the tools of state surveillance, in marketing models of consumption capitalism, to the functioning of corrupt banks, and to the prosecution of remote military violence (Gregory 2011).

The overall production values of *The Culture of Diagram* are efficient, but its physical form is rather too large and heavy, which makes it unwieldy as a paperback. The page design is rather bland, and there is a lot of wasted space. A much more significant failing, however, is the presentation of ideas in the book, because it does not practice what it preaches. The major argument made by Bender and Marrinan is about the power of diagram to engender new ways of thinking, by giving people a graphical means to correlate points of abstracted information – quoting Reviel Netz, they write, “diagrams are good to think with” (p. 35). Yet, ironically, *The Culture of Diagram* does not exploit this power in advancing its own explanations. The textual presentation is conventional, and the visuals cited are deployed as disconnected images (mostly marooned as lonely plates on separate pages), plucked from their working contexts. Bender and Marrinan also do not see the

need to create any *new* diagrams to advance their argument. So we have a book about the potency of diagrammatic culture that does not use diagrams itself: this struck me as somewhat odd, and is surely a missed opportunity!

In conclusion, the approach taken in *The Culture of Diagram* gives an almost reverential reading of engraved plates from the tail end of the eighteenth century, which feels detached from contemporary critical discussion about what diagrams mean. The result is a dull book with limited appeal (except for those fascinated by Diderot and d’Alembert’s *Encyclopédie*!). Bender and Marrinan say that “working objects” are able to “stimulate . . . the reader to bridge the empirical and the affective in order to project coherent fictional worlds” (p. 82), but it’s a shame their book does not make an effort to speak to the almost hypnotic power of diagrammatic practice evident on the digital screens and smartphones that are coming to mediate so many basic human interactions.

References

Brumfiel, G. “Academy Affirms Hockey-Stick Graph.” 2006. *Nature* 441(7097): 1032–33. <http://dx.doi.org/10.1038/4411032a>

Del Casino, V.J., and S.P. Hanna. 2006. “Beyond the ‘Binaries’: A Methodological Intervention for Interrogating Maps as Representational Practices.” *ACME: An International E-Journal for Critical Geographies* 4 (1): 34–56.

della Dora, V. 2009. “Performative Atlases: Memory, Materiality and (Co-)authorship.” *Cartographica* 44 (4): 240–55. <http://dx.doi.org/10.3138/cart0.44.4.240>

Gregory, D. 2011. “From a View to a Kill: Drones and Late Modern War.” *Theory, Culture & Society* 28 (7/8): 188–215. <http://dx.doi.org/10.1177/0263276411423027>

Kemp, M. 2003. “The *Mona Lisa* of Modern Science.” *Nature* 421(6921): 416–20. <http://dx.doi.org/10.1038/nature01403>

Kitchin, R., and M. Dodge. 2007. “Rethinking Maps.” *Progress in Human Geography* 31 (3): 331–44. <http://dx.doi.org/10.1177/0309132507077082>

MacKenzie, D. 2006. *An Engine, Not a Camera: How Financial Models Shape Markets*. Cambridge, MA: MIT Press.

Martin Dodge / Department of Geography / University of Manchester / UK

THE INVENTION OF DISCOVERY, 1500–1700 / Ed. James Dougal Fleming. Farnham, UK: Ashgate, 2011. Pp. 228; 234 × 156 mm. ISBN 9780754668411 (cloth), £55. Available from Ashgate Publishing Ltd., Wey Court East, Union Road, Farnham, Surrey GU9 7PT England. Tel. +44 (0)1252 736600. Fax +44 (0)1252 736736. Web <http://www.ashgate.com/>

In this new collection of essays, a wide array of scholars, subjects, and disciplines engage in an exploration of Renaissance intellectual discovery. Mapping has played a