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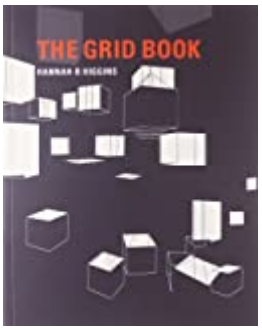

Hannah B. Higgins. *The Grid Book.* Cambridge: MIT Press, 2009. 300 pp. $24.95 (paper), ISBN 978-0-262-51240-4.

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Published on H-Urban (July, 2010)

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Grids in History

Art historian Hannah B. Higgins takes us on a wide-ranging tour through time and space in *The Grid Book.* Her choice of topic may mystify potential readers, but Higgins sees the grid as a critical theme running through human history and technological innovation over the last eleven thousand years. She systematically examines ten grids: âEach grid organizes the experience of a particular human sense, and each emergence was a watershed event in Western civilizationâ (p. 277). Taking us from Mrs. OâLearyâs cow and the re-platting of Chicago after the great fire of 1871 to the intricacies of fractal geometry, Higgins has succeeded in crafting an insightful history of technology in a way that engages and entertains the reader throughout.

In the introductory chapter, Higgins explains her approach. She suggests that âone could even argue that the grid is the dominant mythological form of modern life–a visualization of modernityâs faith in rational thought and industrial progress comprising everything from the urban landscape to the power grid, from modernist painting to the forms of modern physicsâ (p. 6). As Higgins illustrates in subsequent chapters, however, the grid has a long history and range of expressions in its many uses. Higgins says that once invented the grid never disappears: innovators continually find new ways of employing grids to change the way we construct and understand our world.

To document uses of the grid through time Higgins employs a clever organizing device. In ten chapters, she reviews ten technologies chronologically from the time of their inventions: âBrick 9000 BCE,â âTablet 3000 BCE,â âGridiron 2670 BCE,â âMap 120 CE,â âNotation 1025,â âLedger 1299,â âScreen 1420,â âType 1454,â âBox 1817,â and âNetwork 1970.â It may seem an eclectic set of elements, but Higgins finds the connective bonds.

Chapter 1, âBrick,â provides the reader with a clear understanding of Higginsâs ambition in the book. Not content to merely recite the details of how forms appeared and transformed through time, Higgins draws on the senses in telling her stories. She relates the shape of the brick to the need of the human hand to grasp and

set it into a wall, binding it with layers of mortar. Her language is sensual, and the photographs selected draw the reader into the experiences described. The history of the brick turns into a story of settlement traditions and invites the reader to think about the way that building materials shape the spaces we inhabit.

Chapter 2, âTablet,â briefly reviews the history of writing and its implications on the transmission of knowledge. Scribes in ancient Sumer first began incising cuneiform script into grids on clay and stone tablets around 3000 BCE, probably to record accounts or contracts. Through time scripts changed and grid lines disappeared, but writing as a technology became fundamental to the management of large-scale political, religious, and economic systems in Western civilization.

Higgins examines the history of planned urban forms in chapter 3, âGridiron.â Towns with streets laid out in a grid appeared in ancient Egypt and in the cities of the Harappan civilization of the Indus River Valley. The grid town reveals the power of authorities to set out in advance how communities will be built: the buildings conform to the streets. In her introduction, Higgins argues that the grid as applied in the United States in the nineteenth and twentieth centuries represented an image of the modern city within which equally gridded high-rise towers could be placed. In resisting the organic layouts of winding cart paths, town builders made political and social statements about their views of the world and their place in it. Readers familiar with the history of town planning will find shortcomings in this chapter. For instance, Higginsâs candidate for the earliest grid layout can be challenged. She omits the best-known book on the topic of grid layouts: Ferdinando Castagnoliâs *Orthogonal Town Planning in Antiquity* (1971). Her sources for the chapter generally prove limited and her use of terms can be problematic. Tagging on the electric grid to the end of the chapter seems an afterthought.

In chapter 4, âMap,â Higgins shows how maps result from gridded two-dimensional representations of space, offering a useful summary of the history of mapmaking traditions from Roman times to the present. Chapter 5, âNotation,â discusses the role played by gridded sheets in documenting music: notational systems provided a mechanism for orchestration that facilitated music composition and innovation. The development of complex economic systems depended on effective accounting, she notes in her sixth chapter, âLedger.â Higgins suggests that the creation of the double-entry Ledger in 1299 facilitated international trading and ultimately the development of capitalism. Moreover, she argues, the idea of setting off a column of âprosâ against a column of âconsâ indicates the extent to which the idea of debits and credits came to influence Western logic.

Chapter 7, âScreen,â focuses on the way that artists have used the notion of transparent screens to organize one-point perspective illustrations. In creating a realistic illusion of depth within the canvas, the painter imagines or constructs a grid that converges at a point behind the foreground of the painting yet at eye level of the viewer. As an art historian, Higgins does a masterful job of explaining how perspective works and why it transformed art as we know it. While perhaps Higgins could have included the printed word as a logical development of the tablet discussed in chapter 2, she devotes chapter 8 to type: as a technology, the book has had a huge impact on Western civilization. Gutenbergâs printing press–using a gridded armature to set movable type–inaugurated conditions that encouraged mass literacy, rapid development of knowledge, standardization of languages, and changes in social and power dynamics.

The first manufactured paperboard box appeared in England in 1817. In chapter 9, âBox,â Higgins explains how standardized boxes and containers facilitated mass consumption, international shipping, and the logistics industry. She links the simplicity of the box form to the ubiquitous grids and lines of the modernist movement in art and architecture in the twentieth century. In a fascinating tidbit of information, she notes that Le Corbusier, Buckminster Fuller, and Frank Lloyd Wright all learned in Froebel kindergartens where they worked on gridded tables and played with wooden blocks.

Higginsâs final chapter, âNetwork,â begins with a review of nets and textiles before talking about the implications of the development of the computer network grid in 1970. This technology is rapidly reshaping our world. The afterword offers Higginsâs final thoughts on fractal geometry, relativity, and space-time. As in several other chapters, she connects the technological innovation to creativity in art forms, showing how artists like Marcel Duchamp have attempted to paint in four dimensions. Of all the sections of the book, this proves the most challenging for those unfamiliar with the subject matter.

Overall this is a very good book: ambitious and well written. Higgins has aimed the work at the literate but omnivorous reader. Because of the scope of time and material covered, mistakes occasionally creep in, names get misspelled, and arguments are oversimplified or overgeneralized. It is hard to be comprehensive across such

a broad sweep of time, space, and specializations in only three hundred pages. Despite an occasional weakness, though, this book is well worth reading.

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Citation: Jill Grant. Review of Higgins, Hannah B., *The Grid Book*. H-Urban, H-Net Reviews. July, 2010.

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