reviews

Envisioning the City: Six Studies in Urban Cartography.
Edited by David Buisseret. Chicago and London: University of Chicago Press, c1998. xiv, 181pp., ill., maps, bibliographical references and index. US $50.00, UK £39.95 (cloth), ISBN 0-226-07993-7.

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In his introduction, Buisseret notes that town plans, one of the oldest forms of maps, have been neglected in the literature. The aim of these essays is "to develop some themes that could eventually be included in a more complete work . . . ." The themes ". . . concern in one way or another the theory and practice of representation, or the manner in which urban areas have been envisioned." After citing the few significant works on town plans from the past two decades, Buisseret discusses four categories of urban plans: vertical, bird's-eye-view, profile, and model. The plans described by the six authors fit into one of these four categories.

Chapter one, by Nancy Shatzman Steinhardt, is on "Mapping the Chinese City: The Image and the Reality." The author discusses the Chinese tradition of making city plans that differed from reality. The plans projected the vision of city planners who envisioned the city in an idealized form. The principles of Chinese imperial city plans were laid out in the first millennium B.C.; the ideal was a square with a palace complex at the center and three gates in each wall. However, the excavation of cities shows that they did not match their plans. Two other basic plans were also used. Practical needs and the topography of the site often took precedence over the ideal in city planning. The cultural desire to live within walls meant that new walls were built in response to the natural growth of a city rather than in keeping to the ideal plan.

Mapping in early Chinese culture was an imperial activity. The Chinese were sophisticated map-makers and had a literature of map-making. By the fifth century map-making was established in two roles. The first role, for the military, required accuracy and access to it was restricted. The second role, among the cultural elite, used descriptive cartography as an art that was cultivated like painting. In conclusion, the author believes "The reality of the map of a Chinese city lay in the regal system it symbolized . . . ."

In chapter two Naomi Miller writes about "Mapping the City: Ptolemy's Geography in the Renaissance." Her hypothesis is that city maps were a manifestation of an expanding world view as exemplified by the proliferation of Ptolemaic manuscripts during the Renaissance. She examines the ten city maps in the Urbino codex of 1472 and sets this manuscript in the life of the man who commissioned it, and in the context of Renaissance cartography and of developments in Italian and European mapmak-ing. Looking at the maps collectively, she first identifies their common elements: bird's-eye-views, watercolor and ink on vellum, and drawn in orthogonal projection. She then discusses how each city is related to its region: topographical features are emphasized, street networks are absent, architectural elements must be used to get oriented, and religious and civic buildings are shown. Following this overview, the map of each city is analyzed; the cities included are Milan, Venice, Florence, Rome, Constan-tinople, Jerusalem, Damascus, Alexandria, Cairo, and Volterra. Because its style differs from the others, it is likely the view of Volterra was added later, after its capture by Florence. The author believes the addition of city plans to the maps typically found in Ptolemy's Geography reflects the growth in city states and celebrates the great metropolitan areas of the west and the east. These views parallel the texts of the time that are in praise of the city, while the dominance of centrally planned domed buildings show the transition to Renaissance ideas.

Chapter three, by Richard L. Kagan, contrasts "Urbs and Civitas in Sixteenth- and Seventeenth-Century Spain." Using Isaidore of Seville's seventh century definitions of urbs, the city's physical structure, and civitas, the city's social community, the author looks at how these ideas were applied in Spain. The view during that period studied favored people over bricks. Thus cities were ". . . 'mapped' according to criteria that often had little to do with 'description,' . . the aim was to capture the . . . soul of the city . . . ." The author's goal is to make " . . . a comparison between two distinct but sometimes overlapping conventions or modes of urban representation." The first, chorographic, presented a complete visual record of the place. Plans of cities in Spain and the Canary Islands, created by Flemish, Italian, and Portuguese cartographers, are examined. The second, communi-centric, presented a metaphor of the city. These plans emphasized locally important monuments, sought to reinforce the spiritual role of Christianity, and ignored the Muslim heritage present in many cities. During this period the plans of other European cities were becoming more accurate. Although the quality of Spanish architectural and engineering training was equal to that in other countries, the

towns that needed fortifications and seaports that supported maritime interests. Their scale was large, generally around 1:600. By 1760, the creation of models became a waste of time for engineers who could read contour lines. Collections of models were further devalued when the war of 1870 demonstrated the uselessness of places fortes.

Although some models were destroyed during transport, or for lack of storage space, their historic value and their contribution to the understanding of urban areas and their rural surroundings are now recognized. They attempted to carefully reproduce reality, made the area accessible from all angles in a period before aerial photography was possible, and they depicted sites now lost to further urban development. The author concludes that while models are hard to display in ways that allow their full appreciation, the absence of abstraction makes them the best method for quickly orienting large groups of people.

Gerald Danzer examines the enduring power of visual images in chapter six, "The Plan of Chicago by Daniel H. Burnham and Edward H. Bennett: Cartographic and Historical Perspectives." The author starts from the premise that " A concept of the metropolis as an organic whole was a prerequisite for urbanity, and making maps was one way to address this need for a comprehensive depiction." He discusses the components of urban images, the role of profiles and perspective views as complements to plans, and the purposes of urban views. The Plan of Chicago, the most celebrated plan of the early twentieth century City Beautiful movement, is examined by asking historical questions and by evaluating it cartographically as an atlas. Today the plans's maps and illustrations, rather than its text, are identified as the plan.

The stage for this analysis is set by reviewing Burnham's life experience in Chicago and his accomplishments as an architect. By the time he became a city planner he was one of the country's most notable and influential architects. He had planning experience in major cities like Washington, D.C. and San Francisco and gathered colleagues from these projects to assemble the team that created the Chicago plan. Burnham worked from the vantage point of a penthouse on top of a tall building in the center of the city where his staff gathered all the types of plans and views possible. He was able to draw on his firm's large collection of documents on urban planning in American and European cities. The authors and artists of the plan created a basic vision of what Chicago might be, illustrated the vision in a number of ways, and tried to convince the citizens who knew the city that it could become something else.

Danzer then examines the maps, views, and illustrations in each chapter of the plan and how the use of color, placement and arrangement are a key to understanding the plan. The relationship of the city to Lake Michigan is emphasized while the role of the Chicago River is not. The plan accepted the dominant street pattern based on the township, range, and section lines of the public land survey system, but also aimed to give the city what the grid did not — central places, radiating arteries, expansive views and focal points. The central business district, where the project was conceived, developed, financed, and presented to public is emphasized, and the plan was criticized for that emphasis. In its summary, the creators of the plan outlined the cultural and economic basis for a great city and made the case for public commitment to those goals.

These six essays originated in the lectures on "Profiling the City, " the tenth series of Kenneth Neben-zahl, Jr., Lectures in the History of Cartography, held in November 1991 at the Newberry Library, Chicago. The lecture series, whose quality attracts an international audience, seeks to advance the discipline by identifying a theme worthy of further study and inviting qualified scholars from a variety fields to address an aspect of that theme. These published essays, written by academics from the fields of art, art history, and history, are revised versions of the lectures and are not intended to create the definitive work on urban cartography or to completely survey the field. All the essays in this volume fit the theme of envisioning the city. They do address the subjective elements in urban plans and demonstrate the use of various types of urban plans at different times and places.

The essays vary in length from 16 to 41 pages, the shorter chapters being those that examine cartographic works based on reality (chapters 4 and 5) rather than those that present an idealized view of the city. All the chapters are well illustrated, the number of figures per chapter ranges from 12 to 36. Some of illustrations are difficult to read either due to their manuscript origin or the small scale of the reproduction. The book could be made stronger by the inclusion of a list of figures or an index to cities illustrated. Trying to locate the illustrations of city plans, views, etc. by consulting the index is problematic. The index makes no attempt to identify, for example through the use of boldface, a page that bears an illustration as well as a textual mention. Indexing and cross references are inconsistent. Some cities are indexed under both their original and their modern name, others are not. For example, Pingcheng (original city) does not appear in the index although it is illustrated and appears in the text on page 14. However, Datong, the modern city which Pingcheng is

plans of Spanish cities continued to be idealized until the start of the eighteenth century.

In chapter four, on "Military Architecture and Cartography in the Design of the Early Modern City," Martha Pollak examines two seemingly irreconcilable activities, the construction and the destruction of cities. Theorists conceived and planned the ideal city based on principles such as aesthetics and symmetry. For three centuries the radial plan and the orthogonal plan were the two dominant urban designs. The control afforded by this geometry suited sixteenth century dictatorships and seventeenth century absolute monarchies and became the ideal fortresses of seventeenth century military architects. War was important in the creation of early modern states. Conflict resolution through the siege of cities transformed both their appearance and their function. Treatises on military architecture debated the number of sides that offered a city and its fortress the best defense, and military theorists used their personal experience in war and in architecture when creating plans. The fortress, built on the side of the city, not only defended the city but also subdued local unrest and provided shelter to a city's ruler.

The relationship between military architecture and cartography becomes evident in the seventeenth century when the need for representations of fortifications and the relationships between their parts was understood to aid in their evaluation. The creation of plans, elevations, and profiles supported design development, afforded a visual check of fortifications before they were built and aided in their restoration after war damage. The quality of surveying improved because accurate topographic plans were needed to lay siege and to rebuild. The plan, the most abstract and hardest to read, became the most common urban plan. Its scale and vertical view offered knowledge of the entire city, not just the foreground or prominent buildings. Historic urban cartography is tied to military planning because the defense of the city was the source of the seventeenth century cartographic movement that came to influence our perception of the city.

Chapter five, by David Buisseret, studies three dimensional representations of reality in "Modeling Cities in Early Modern Europe." The author first reviews the history of city models that began in sixteenth century Europe. The models were created by those who already made good use of maps and the towns modeled were typically either French, Italian, Bavarian, Spanish or Dutch. Although the English were aware of them, models were not typically done by the English. Their use continued into the nineteenth century, but they were less used after the advent of contour mapping. More recently, models were used during World War II for the D-Day invasion of continental Europe. Today digital imagery and terrain modeling make traditional modeling less important, however, models are still built by students of architecture. Some cities use models to orient tourists and have developed tactile models for the blind.

Buisseret examines in detail selections from among nearly 125 plans-relief. They were constructed over two centuries, from 1660 to 1870, and are the survivors of a famous collection housed in Paris. First mentioned in the 1550s, no models from that period survive. Models were most in vogue from 1663 until about 1760 and were created for cities of strategic importance, for example, frontier

Visual Explanations: Images and Quantities, Evidence and Narrative. Edward R. Tufte. Chesire, CT: Graphics Press, P.O. Box 430, Chesire CT 06410, 1997. 156 pp, maps, diagrams, illustrations, index. ISBN: 0 961 3921 2 6. $45.00

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Geographers and cartographers are accustomed to creating, interpreting, and analyzing maps. However, we tend to focus our efforts on the display of spatial information in the form of a two-dimensional representation as a map, often forgetting that maps are but one member of a larger class of graphical formats for the presentation of quantitative information. Although most methods for the display and interpretation of quantitative information are inherently spatial, relatively few scholars within our discipline have investigated the processes whereby individuals sense, assess, interpret and assimilate spatial information in graphical form. Perhaps no one has done more to further our understanding of how humans interpret information spatially than has Edward R. Tufte, a professor who teaches courses in statistical evidence, information design, and interface design at Yale University. In 1983, Tufte published *The Visual Display of Quantitative Information*, followed in 1990 by *Envisioning Information*. Whereas Tufte describes his first book as being about 'pictures of numbers' and the second about 'pictures of nouns', the present volume, *Visual Explanations*, is about 'pictures of verbs'. This triad of books addresses big questions, in some ways filling the void between Huff's *How to Lie with Statistics* and Monmonier's *How to Lie with Maps* by demonstrating, mostly by the correct application of graphical techniques, design