

Cuff and Mattson have provided us with a very usable text, although I must admit that I write this before the acid test of its use as a course text: that will follow next term. The text is a good, basic guide for students. It should allow the instructor to enrich the material through lectures: those who proceed beyond the introductory course should be directed to more comprehensive and detailed discussions in sources mentioned in their list of additional readings. Also available is an "Instructor's Manual" which contains the essence of thirteen reasonable exercises and some fragmentary ideas on data sources. At \$5.95 it is very expensive.

My criticism of *Thematic Maps* must be seen within the context of a first edition. When the authors see the amount of wasted space and empty space, I am sure that they will be keen to remedy the deficiencies. Conversely, I have felt very comfortable with proposals for lengthening the textual material: there is plenty of room to make the changes within the overall limits of 170 pages.

In summary, *Thematic Maps* is a solid, simply written text which students should find easy to read, one that will fit well into the objectives of most introductory cartography courses.

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EARLY THEMATIC MAPPING IN THE HISTORY OF CARTOGRAPHY / Arthur H. Robinson.  
Chicago; London: University of Chicago Press, c1982. xiv, 266 p.: maps  
(some col.). ISBN 0-226-72285-6: \$35 us.

This is a very nice book. Everyone says so. At the book show at the San Antonio meetings of the American Association of Geographers it was hard to get your hands on it: it was always in someone else's. Attracted by its pretty jacket, everybody picked it up and oohed and ahed over how it felt in the hands (solid), its design and printing (beautiful), and the number (many) and quality (high) of the color reproductions. Whoever stole the display copy only acted on what many thought.

It wasn't worth the risk. Had Robinson done no more than publish the 73 well-chosen black and white and 37 entrancing color reproductions of seldom-seen thematic maps of the (mostly) 19th century, it would have been; but his text is a slow train to nowhere, an exhausting and frequently infuriating compendium of clichés, unsupported asseverations and bland nonstatements that conspire to reduce even the amazing maps to stuttering banality. To read the text is to be numbed: "growing interest," "led the way in innovations," "increasing tempo of marked advances," "came on with a rush," "number ... became a flood," "rapid rise," "spread of knowledge," "this was the soil in which thematic cartography could grow," "pace of invention quickened," "these momentous changes," "came along in due course," "form an unusually fascinating chapter," "well-nigh impassable," "steady improvement," "activity was feverish," "necessity is the mother of invention," "meager beginnings," "a turning point in the history of," "monumental achievement," "monumental contribution," "only a few of the

milestones can be mentioned," "topic always volatile," "intellectual boldness," "gearing up of industrial production," "turmoil of the French Revolution," "caught the fancy," "well received in all quarters," "the wave of reform that swept over Europe," "curiosity knew no bounds," "the only certainty on earth is change," "fresh approach ... was called for," "raised a host of problems," "where there's a will there's a way" – this last encased within quotation marks as if to acknowledge to the naive reader that the thought was not original with the author.

Were the thought of the text differentiable from its style this would be an acidulous exercise, but there is no telling them apart: Robinson has provided us with a chronological ordering of a number of maps, along with some biographical information about many of their makers, but his manner aptly reflects the matter of the book. And that's the matter. The "burst upon the scenes" and "quicken'd paces" are less rhetorical flourishes than the embodiment of Robinson's view of history, a simplistic progressivism the more impossible to deal with because never openly expressed. And since never openly expressed, never asserted. And since never asserted, never argued. The reason for this, it must be suspected, is inherent in the book's subject: were the nature of the thematic map clearly argued, it would either evaporate entirely, or collapse back into the broader issue of the map *per se*.

Robinson's plight is not uncommon in the history of science. Having struck what seemed intuitively to be a distinct kind of map, Robinson set out to explore its history as though it actually existed, without testing the strength of its intuitive formulation. In fact, Robinson makes no attempt to argue for the existence of a self-conscious historical tradition of thematic cartography, contenting himself with the highly unwarranted assumption that those who made what he chooses to call thematic maps were therefore thematic cartographers (however they might have felt about themselves); nor does he do much more by way of defining his domain of interest, obliquely acknowledging the weakness of the very concept of the thematic map when chiding his peers for their failures at its positive definition:

Theoreticians in cartography take delight in trying to define the thematic map, but often get no further than stating that its primary function is not to be a record of the location and identity of geographical features, not to serve as an aid to travel, and not to be a vehicle for figurative expression and allegory.

Unfortunately, his attempt at a definition with "enough precision so that it is clear why it stands out as different from other classes of maps" is not only logically ludicrous, but contradicted by each of the brilliant maps he so lovingly presents.

Robinson's two most positive definitions both make the same point. In the first, on page 15, he argues that, "In contrast to the general map, the thematic map concentrates on showing the geographical occurrence and variation of a single phenomenon, or at most a very few." On page 16 he recapitulates these words as follows: "In a sense, general maps and thematic maps are at ends of a continuum, one end of which is the objective of displaying simultaneously a variety of data, and at the other end of which is the objective of portraying the structural character of a single class of data." Here, however, apparently realizing that a map displaying but a single set of data is indistinguishable from a rorschach inkblot, he

immediately modifies his definition, softly at first – “most maps turn out to be a compromise” – but with increasing radicality:

A good example is provided by the display of landform data which has always been important in mapping. An array of numbers showing elevations (spot heights) can provide considerable information but hardly any expression of the three-dimensional, structural relationships composed of the slopes, hills, valleys, ridges and so on. The more effectively these are portrayed by contours, hachures, or plastic shading, the more thematic is the display, regardless of scale or the basic class of map on which it appears.

At the conclusion of these phrases Robinson has not only abandoned the only criterion distinguishing a thematic map he has been able to specify – that it portray a single class of data – but seemingly embraced as thematic what he had been at pains to exclude as general: a USGS topo sheet!

The simple way out of these dead-end contradictions would be to throw over the puerile notions of a general and thematic cartography, to confront the inherently thematic character of all maps, base maps in particular. It is apodictic that any representation represents something. The something it represents is, explicitly or implicitly, its thematic content, a point Bill Bunge incisively made when he suppressed the unnecessary distinction between land and water in his map “The Continents of Humanity.” Had Robinson not burdened himself with a polemical defense *in re* the chimerical thematic map, he might have been able to write a history of the maps he displays. Look at them! Not one of the 110 maps reproduced meets his criterion of “the objective of portraying the structural character of a single class of data.” In fact, to the extent that any one of them reveals the *structural character* of any data (a phrase Robinson is prone to repeat but not elucidate), it does so by displaying it in the context of at least one, and usually many other sets of data. The very first thematic map Robinson shows – Happel’s 1685 “Die Ebbe und Fluth ...” – is a case in point. In addition to ocean currents the map portrays a reference grid, land masses, rivers and volcanoes. “But of course!” you say. “What would be the point of portraying ocean currents without the continents?” Precisely. But the odious fact of the matter is that land masses – not to get involved with rivers and volcanoes – *are not ocean currents*. “But it’s just a base map!” you insist. “A base map?” I ask. “You couldn’t mean a map that concentrates ‘on showing the geographical occurrence and variation of a single phenomenon, or at most a very few,’ could you? Like land masses, rivers and volcanoes?” But, here I am, using Robinson’s definition of a thematic map to define its base ...

I am not just being difficult, but every map has a theme, whether it be the glory of God, the richness of nature, the extent of the king’s realm, the tax base of the nation, or the world as it really is. The difference among these lies, not in their thematic character, but the locus and manner of its expression. What distinguishes most of the maps Robinson has collected is their blatant orientation toward *persuasion*, the fact that they not only had a point, but made it self-consciously – and within the borders of the map itself. To do so, they abdicated the bland systems of representation developed for the (at least purportedly) neutral depiction of the land as it is, and made recourse to heightened forms of (graphic)

expression. It is not the number of sets of data that distinguishes, for instance, Edmund Halley's map of the "Passage of the Shadow of the Moon over England" from the work of an Ogilby or a Cassini – for in common with them he displays mountains and rivers, cities and towns, channels and seas, islands and continental margins –; nor even that he displays a dynamic event of exclusively umbral character. What distinguishes his map is the broad shaded sash it wears to make its point; the way the use of shading focuses attention, not on the whole map surface equally – as in the work of an Ogilby or a Cassini –, but there, on that path; and everything else fades into the background. It is not, thus, the reduction of data sets that marks these maps, but the way their graphic organization forces a particular reading. These maps are not descriptive, but rhetorical; designed not to present, but to clinch an argument. Their contemporary exploitation in news media, advertising and political propaganda makes this only far too clear. As such their history demands acknowledgment of the fact that these maps have more in common with the T-O maps of the Christian Middle Ages than with the great national surveys of their own time, that they are part of a broad tradition of persuasive arts, that the flowering of novel symbolization and technique in the 19th century was more than a gee-whiz-how-can-we-show-that response to the problems of disinterested natural and social scientists, but the ingenuous result of passionate and often desperate men to establish clearly for the world the truths they believed in.

But this is a nice book – and nice books don't trade in such things. It should be a big hit, therefore, with the history of cartography fraternity.

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MAP PROJECTIONS USED BY THE U.S. GEOLOGICAL SURVEY / John P. Snyder. Washington: United States Geological Survey, 1982. Bulletin 1532. xiii, 313 p. ill., maps: \$7.50 US.

This book is a bargain, but it is a rather curious bargain written for a special kind of reader. It is a bargain because it offers a large volume of authoritative factual information on map projections for a very modest outlay; it is curious because it only discusses projections which happen to have been used by the United States Geological Survey; and it is written mainly for the person who wishes to translate its algebra into FORTRAN for automatic mapping and digitizing. These last two qualities are not flaws of the book, but they are limitations, and the prospective purchaser ought to be aware of them.

Snyder begins by undertaking "to describe each projection which has been used by the USGS sufficiently to permit the skilled mathematically oriented cartographer to use the projection in detail [and] a lay person interested in the subject to learn as much as desired about the principles of these projections without being overwhelmed by mathematical detail." In general the attempt succeeds, but without quite satisfying the needs of either kind of reader. The book begins with a 35-page introduction to essential principles, including for example data on the shape and size of the Earth and several other solar-system bodies, and instruction