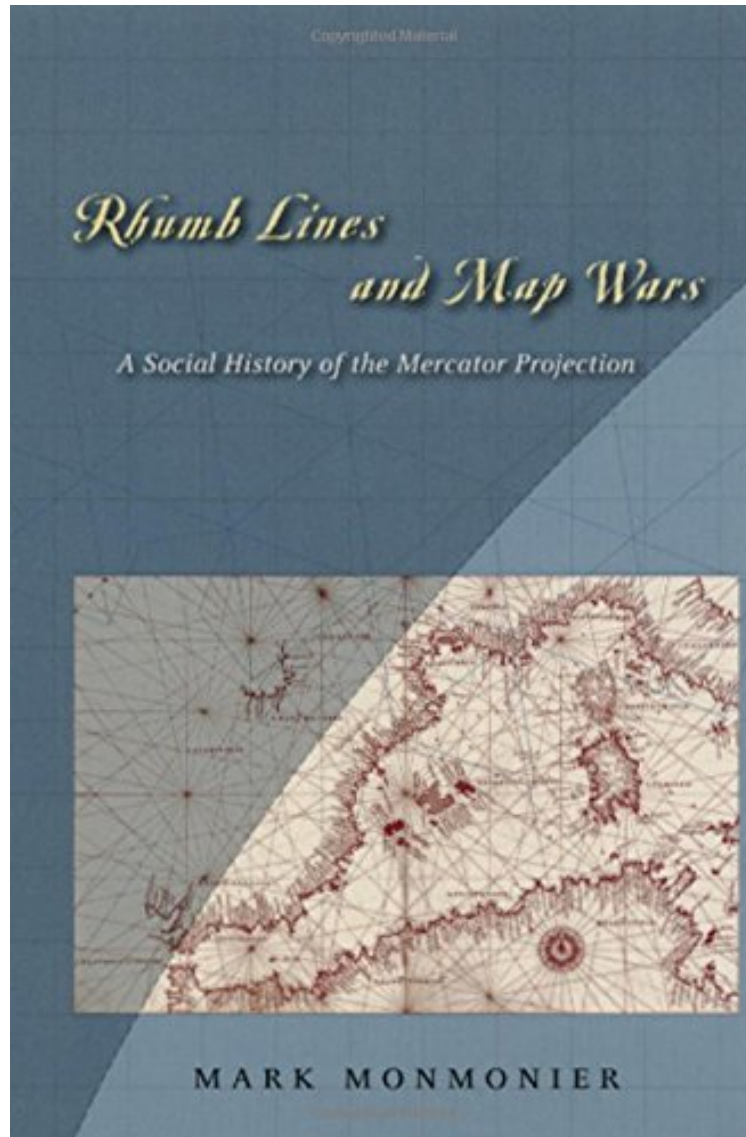


[Free download] Rhumb Lines and Map Wars: A Social History of the Mercator Projection

Rhumb Lines and Map Wars: A Social History of the Mercator Projection

Mark Monmonier

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Mark Monmonier : Rhumb Lines and Map Wars: A Social History of the Mercator Projection before purchasing it in order to gage whether or not it would be worth my time, and all praised Rhumb Lines and Map Wars: A Social History of the Mercator Projection:

2 of 3 people found the following review helpful. A Basic Discussion of the Difficulty of Turning a Three-

Dimensional Object (Earth) into a Two-Dimensional Presentation

By Roger D. Launius

Mark Monmonier has nearly cornered the market for popular discussion of cartographical issues. A distinguished professor at Syracuse University, Monmonier takes on here the fascinating history of the Mercator projection of the globe. This is the standard classroom world map that we have all seen on schools everywhere. It was created by Flemish cartographer Gerard Mercator in 1569, a map that successfully took a three-dimensional Earth and presented it on a two-dimensional chart. The real success of this map was that it was useful for navigation. By following the longitude and latitude on the map one may sail to virtually any spot on the globe accessible by water. This very practical use of the map for ocean-going navigation led it to become the standard for maps, certainly in Europe but also elsewhere, by the eighteenth century. It also has a fundamental flaw, and this is what Monmonier is most interested in. The higher and lower latitudes are stretched to ensure that the projection may be used effectively for navigation and thereby create false impressions of the land masses in those regions. For example, it appears on a Mercator projection that Greenland is as large as Africa. It also privileges Europe in terms of size. Generations of students have been misled by this image of the globe. More importantly, it might be that part of this was intentional. It served a political purpose by underscoring the size of importance of such regions as Europe and North America in relation to other part of the world such as Africa and Asia. It subtly supported colonialism and European civilization as the world leaders. In 1974 Arno Peters, a German historian, created a different projection that correctly depicted the size of countries. The down side of this projection, however, it was not useful for navigation. It also set off the so-called map wars that currently rage over the various projections of the globe. Monmonier detailed these debates and their state as of 2004. The map war is far from over. This is an interesting, informative, and enjoyable book. Monmonier is not a great writer, however, even as he seeks to reach a broad audience. Check out this run-on sentence as an example: Perhaps the earliest use of an oblique Mercator projection, or indeed any oblique cylindrical projection, was for maps of Central America and Southeast Asia in a world atlas published by the innovative German mapmaker Ernst Debes (1840-1923) in 1895, a year after American polymath Charles Sanders Pierce (1839-1914) quietly, and apparently independently, sought a patent for his Skew Mercator projection (p. 112). One final point, I know this is a popular account but I would have appreciated a work with much more rigorous scholarly apparatus. There is a listing of sources by page at the end of the book but these are a little difficult to follow. I prefer the tried and true system of referencing that I was taught in college.

17 of 18 people found the following review helpful. Good history, but more polemically anti-Peters than balanced

By Julian Elson

I understand the rage that the professional cartographer class feel for the waning advocates of Gall-Peters projection. I really do: Cartographers have, over the centuries, developed probably more equal-area maps than any other sort of map projection (after all, the mathematics of equivalence are simpler than the mathematics of conformality or equidistance), producing myriad equivalent maps from the pseudocylindrical sinusoidal map (possibly invented by Mercator himself) to the more comely elliptical Mollweide projection and its superficially similar but mathematically distant pseudoazimuthal cousin, the Hammer-Aitoff projection to Lambert's equal-area conic projection. When Mercator's conformal cylindrical projection acquires widespread, inappropriate use, the cartographic professionals quietly fight for less distorting projections. Then, in waltzes Arno Peters, with an accidental copy of a map-projection invented in the mid-19th century by James Gall, calling the establishment cartographers exploiters of the developing world and apologists for Western imperialism. Adding insult to injury, Peters at times seemed to claim to be the first area-equivalent map, although he admitted that there had been earlier ones when pressed upon the point. If that weren't enough, Peters' projection displayed a Eurocentric bias in some ways more pronounced and deliberate than Mercator projection: after all, Mercator projection has no standard parallels to choose, but Peter projection requires a choice of standard parallels: Lambert, in originally formulating the cylindrical equal-area projection, chose the equator by default. Walter Behrmann moved the standard parallels to 30 degrees North/South of the equator, after some mathematical analysis trying to minimize distortion. Peters decided on 45 degrees as the standard parallels to minimize the distortion of Europe and other prosperous, temperate climes, at the expense of massive stretching and distortion of impoverished tropical regions. Some advocate for those oppressed by Western cartography!

It is thus not out of sympathy for the cause of Peters-enthusiasts or antipathy to the cause of the professional cartographers that I report that Rhumb Lines and Map Wars is too driven by anti-Peters zeal to offer a fully useful history of the controversies. The title "Rhumb Lines and Map Wars: A Social History of the Mercator Projection" suggests a neutral, arms-length, critical portrait of all involved. A better title might have been, "Why Robinson, Snyder, et al Were Right and Peters Was Wrong." This book is a polemic. It is a polemic in favor of "my side" of this debate, but that does not make it an unbiased history. Nonetheless, with this caveat, the book is an enjoyable read. The book traces a fascinating history, beginning with the Portolan charts that predated the Mercator projection and the Plate Carree maps that converted latitude and longitude into x and y coordinates without any mathematical transformation to the modern controversies over scholastic wall maps and the attempts to create acceptable compromise maps such as Robinson's "orthographic" projection and the blended Winkel Tripel projection. While the central story of the book is the war between the entrenched, habitual use of Mercator projection, the misguided attempts to replace it with Peters projection, and the earnest efforts of cartographers to steer through the reefs of these rectangular projections by creating compromise alternatives, many other stories are told along the way, such as Ferdinand Hassler's temperamental

service as the U.S.'s cartographer and inventor of polyconic projection and John Parr Snyder's rise from chemical engineer and amateur map projection enthusiast to the foremost authority on map projections with his invention of Space Oblique Mercator for NASA. Overall, this is a good book: it is full of fascinating history and information about maps. No mathematical background is needed to understand this book's discussion of map projection. At the same time, be aware that the author is not an objective viewer of the conflict between established cartography and Peters, but an active polemicist for established cartography. This is, on balance, not such a bad thing, because established cartography is factually correct in general, but one must be aware of his intent.

In *Rhumb Lines and Map Wars*, Mark Monmonier offers an insightful, richly illustrated account of the controversies surrounding Flemish cartographer Gerard Mercator's legacy. He takes us back to 1569, when Mercator announced a clever method of portraying the earth on a flat surface, creating the first projection to take into account the earth's roundness. As Monmonier shows, mariners benefited most from Mercator's projection, which allowed for easy navigation of the high seas with rhumb lines—clear-cut routes with a constant compass bearing for true direction. But the projection's popularity among nineteenth-century sailors led to its overuse—often in inappropriate, non-navigational ways—for wall maps, world atlases, and geopolitical propaganda. Because it distorts the proportionate size of countries, the Mercator map was criticized for inflating Europe and North America in a promotion of colonialism. In 1974, German historian Arno Peters proffered his own map, on which countries were ostensibly drawn in true proportion to one another. In the ensuing "map wars" of the 1970s and 1980s, these dueling projections vied for public support with varying degrees of success. Widely acclaimed for his accessible, intelligent books on maps and mapping, Monmonier here examines the uses and limitations of one of cartography's most significant innovations. With informed skepticism, he offers insightful interpretations of why well-intentioned clerics and development advocates rallied around the Peters projection, which flagrantly distorted the shape of Third World nations; why journalists covering the controversy ignored alternative world maps and other key issues; and how a few postmodern writers defended the Peters worldview with a self-serving overstatement of the power of maps. *Rhumb Lines and Map Wars* is vintage Monmonier: historically rich, beautifully written, and fully engaged with the issues of our time.

From *Scientific American*: "Any attempt to show how map projections work must include their rhetorical role, which involves goals markedly different from traditional cartographic tasks like describing boundaries, exploring patterns, and getting around. This rhetorical prowess, rooted as much in the map's symbols and generalizations as in its projection, makes the map vulnerable to diverse ideological interpretations. Thus the Mercator map can be viewed as an icon of Western imperialism while the [Arno] Peters map can connote fairness and support for Third World concerns." Monmonier, professor of geography at Syracuse University's Maxwell School of Citizenship and Public Affairs, builds on this foundation a rewarding study of mapmaking and the uses of maps. His prime example of the rhetorical role of maps is the "map war" of 30 years ago over whether the familiar Mercator projection, with its inescapable distortion of the size of countries, is Eurocentric and diminishes the significance of Third World nations. "Although a potential for bias [in maps] exists," Monmonier writes, "broad assumptions of conscious or subliminal malevolence trivialize commonsense notions of bias and agenda. In my experience, the bias of ignorance, the bias of sloppiness, and the bias of tradition, individually or collectively, are far more prevalent than the bias of political ideology." Editors of *Scientific American* (2009) "In *Rhumb Lines and Map Wars*, Mark Monmonier shows that controversies that have ignited as soon as different projections—and there have been many—emerge, each attempting to make a flat map of a ball's surface more like reality. Some of these show the globe distorted into the shapes of lampshades, inverted triangles, hearts, half-eaten doughnuts and rounded zigzags, as weird as dreams. Politics, nationalism and international prestige caused these wars. Monmonier thinks that such arguments overrate the power of maps. He writes well and simply."