OF MAPS AND MEN: THE MYSTERIOUS DISCOVERY OF ANTARCTICA. By JOHN G. WEIHAUPT. Denver, Colorado: John G. Weihaupt, 2013. ISBN 978-1494375294. xx + 155 p., maps, b&w illus., bib., index. US$9.95. Also available as an e-book.

In 1959–60, John G. Weihaupt, a geologist and geophysicist, was a member of the Victoria Land Traverse team, which traveled by Sno-Cat from Scott Base south across the Ross Ice Shelf and up the Skelton Glacier through the Transantarctic Mountains into Victoria Land (Weihaupt et al., 2012). He became intrigued by evidence of glacial scouring up to 90 m higher than the present glacier surface on the mountain slopes above the Skelton Glacier. This led him to wonder whether there might be evidence on old maps that the Antarctic ice sheet had been thicker in the past, and he visited a series of repositories in search of such evidence. In the Library of Congress, he "discovered" the world map produced by Oronteus Finaeus (Oronce Finé) in 1531. Oronce Finé (1494–1555), a native of Briançon, France, was a mathematician, astronomer, and cartographer who held the chair of mathematics at the Collège Royale in Paris. Both he and his world map are very well known.

Weihaupt's attention became focused on the representation on Finaeus's map of a large landmass more or less centred on the South Pole, and he decided that this was the product of unknown explorers or surveyors who had traveled to (and presumably circumnavigated) Antarctica and had produced a map or maps of their discoveries at some time prior to 1531. Finaeus, Weihaupt argues, had based his map on this map or maps (which have never been located). He considers whether Sumerians, Vikings, Muslims, Polynesians, or Chinese are possible candidates (p. 111–112). In his words, Finaeus's map is "remarkably accurate, uncommonly detailed and startlingly complete in its depiction" (p. 105).

In the opinion of this reviewer, the Antarctic landmass depicted in Finaeus's map bears only a vague resemblance to the actual map of Antarctica. It appears to be the result of the convergence of the long-established concept that there must be a large landmass in the high southern latitudes to balance the large landmasses of the Northern Hemisphere, with Ferdinand Magellan's report of Tierra del Fuego (based on his passage through the strait named after him) in 1520. In other words it depicts Tierra del Fuego continuing south as a continental landmass—Terra Australis. This is precisely what is depicted on Abraham Ortelius's map of 1579 (shown as Fig. 3.4, p. 41) and on Judocus Hondius's map of 1608. Unfortunately, unlike them, Finaeus does not name Tierra del Fuego merging with Terra Australis farther south. However, Finaeus's map shows the southern tip of continental South America separated by only a narrow strait from Terra Australis. This is certainly not intended as a representation of the Drake Passage, some 1000 km in width, but rather of the Strait of Magellan. This identification is confirmed by Gerardus Mercator's map of 1538, which as Weihaupt (p. 80) concurs, was based on Finaeus's map. The strait between South America and Terra Australis is there labelled "Fretum antarcticum sive Magellanicum" [Antarctic or Magellanic Strait].

Very significant is the annotation "Recenter inventa sed nondum plene cognita" (Recently discovered [i.e., by Magellan] but not yet fully known), printed right across Finaeus's Terra Australis. There could scarcely be a clearer statement by Finaeus that this is his creative (if somewhat improbable) concept of what Terra Australis might look like. An aspect Weihaupt has ignored completely is that his Terra Australis is roughly 2½ times as large as the actual size of Antarctica. In two places—in the Indian Ocean to the east of Madagascar and off what Weihaupt would identify as Cape Colbeck, the northern tip of King Edward VII Land—it almost reaches the Tropic of Capricorn. And in terms of size, it is grossly out of proportion with reference to the other continents.

Although Finaeus is clearly depicting an ice-free continent, complete with a scatter of mountain ranges and rivers flowing from them to the sea, Weihaupt maintains that it is shown as being wholly or largely covered by an ice sheet with, presumably, the mountains protruding as nunataks. A major problem in his interpretation is that the embayment that he argues is a depiction of the Ross Sea is vastly too large to be that waterbody. His solution is to argue that it was mapped during a period of warmer climate (the Hypsithermal Interval or the Medieval Warm Period) when the Ross Ice Shelf had disappeared. The very distinctive feature of the Antarctic Peninsula is missing from Finaeus's map; Weihaupt explains its absence in two ways in two different places. In one case, he argues that it is obscured by part of the decorative border of the map (p. 78) although, if it were, it would be projecting north into the Amundsen Sea (i.e., the South Pacific) rather than towards Cape Horn. Alternatively he proposes that the hypothetical explorers were coasting around the continent at a time of drastic melting of the ice on the Peninsula, revealing just a chain of islands rather than a peninsula (p. 79). I will not try the reader's patience by citing further cases of the convoluted and extravagant arguments that Weihaupt proposes to support his argument.

Remarkably, Weihaupt is not the only author who has proposed that the Finaeus map represents a depiction of Antarctica based on surveys by persons unknown prior to 1531. This hypothesis was put forward by Charles Hapgood in the mid 1960s (Hapgood, 1979). Even more remarkable is the fact that the copy of the Finaeus world map that first sparked Hapgood's interest (in November 1959) was the same copy that Weihaupt first saw, namely the one in the Library of Congress! Hapgood goes, if possible, to even more extraordinary lengths than Weihaupt to "prove" that it represents an accurate depiction of the continent, which was explored and surveyed prior to 1531! He even maps and lists 58 features around the coasts of Finaeus's Terra Australis and identifies them with named features on the coast of Antarctica (Hapgood 1979:76–77). Weihaupt makes no mention of Hapgood's analysis. The most charitable

assessment of this situation is that Weihaupt's knowledge of the relevant literature on the history of cartography is inadequate.

Weihaupt's knowledge of the history of Antarctic exploration also leaves much to be desired. He identifies Captain Nathaniel Palmer (who must have sighted the coast of the Antarctic Peninsula in 1820, but gave no indication that he realized the significance of what he was seeing) as a whaler. On numerous occasions thereafter, Weihaupt states that the earliest recorded explorations of the Antarctic coast were by whalers. All of them—Palmer, Davis, Weddell, Powell, and the rest—were sealers, intent on killing fur and elephant seals, not whales. The first whaler to pursue whales in Antarctic waters, although with no great success, was Eduard Dallmann on board *Groenland* in 1873–74 (Barr et al., 2004). On p. 29, one reads that on Mawson's 1911–14 expedition, all his men survived. Later (p. 91, 92), Weihaupt correctly reports that Xavier Mertz and B.E.S. Ninnis died, but errs in saying that they both fell down crevasses. Only Ninnis fell down a crevasse; Mertz died of exposure and starvation on the desperate trek back to base camp that only Mawson survived (Mawson, 1915: Vol. 1:260). On p. 55, we are informed that the western part of the Ross Ice Shelf had not been explored prior to 1910; in fact, it had been traversed in both directions by both Robert Falcon Scott in 1902–03 and Ernest Shackleton in 1908–09.

I cannot recommend this book, especially to anyone expecting to find a useful contribution to the history of cartography.

REFERENCES

Barr, W., Krause, R., and Pawlik, P.-M. 2004. Chukchi Sea, Southern Ocean, Kara Sea: The polar voyages of Captain Eduard Dallmann, whaler, trader, explorer, 1830–96. Polar Record 40(212):1–18. http://dx.doi.org/10.1017/S0032247403003139

Hapgood, C.H. 1979. Maps of the ancient sea kings: Evidence of advanced civilization in the Ice Age, rev. ed. New York: E.P. Dutton.

Mawson, D. 1915. The home of the blizzard: Being the story of the Australasian Antarctic Expedition, 1911–1914. 2 vols. London: Heinemann.

Weihaupt, J.G., Stuart, A.W., Van der Hoeven, F.G., Lorius, C., and Smith, W.M. 2012. Impossible journey: The story of the Victoria Land Traverse 1959–1960, Antarctica. Special Paper 488. Boulder, Colorado: Geological Society of America.

William Barr
Senior Research Associate
Arctic Institute of North America
University of Calgary
2500 University Drive NW
Calgary, Alberta T2N 1N4, Canada
wbarr@ucalgary.ca

RUSSIA'S ARCTIC STRATEGIES AND THE FUTURE OF THE FAR NORTH. By MARLENE LARUELLE. Armonk, New York: M.E. Sharpe Inc., 2014. ISBN 978-0-7656-3501-3 (pbk.). xxvi + 251 p., maps, bib., index. Softbound. US$34.95.

This book sets out to offer a comprehensive assessment of Russia's strategy in the Arctic. But it is aptly titled "Arctic strategies" in the plural, and the author makes it clear that Russia does not have a comprehensive strategy in the form of an integrated and coordinated policy. Even though a document entitled "Strategy for development of Russia's Arctic zone" was adopted in 2013—after the book had been completed—this observation still stands. That being said, there is no lack of official statements stressing the Arctic's significance for Russia and Russia's importance for the Arctic. The North has for a long time played an important role in Russia's statehood and identity. Nevertheless, the exact delineation of the Russian North, High North, or—increasingly—Arctic, is ambiguous and contested. This uncertainty is reflected in the vacillations in administrative borders and responsibilities, all well analyzed in the book. Although the Russian Arctic is populated by many small indigenous groups, indigenous policy plays a much less central role than in, say, Canada. Title to land is not an issue.

Even though the North and the Arctic are presented as something special in Russian political discourse, in reality developments there are very much a consequence of broader policies or are connected to what is happening elsewhere. In line with this understanding, a substantial part of the book is devoted to broader issues, but with Arctic implications. Russia's negative demographic development is well known, but it has particular implications for the High North, which is already sparsely populated, contrasting with the expansive vision of the country in the Arctic, heard in official statements and seen in some development programs. There the emphasis is on "economic conquest by *osvoenie*, massive population settlement" (p. 51), whereas many economic actors prefer a fly in–fly out system.

Climate change is of course a global issue, but it has particular repercussions in the Russian North, notably degradation of infrastructure due to melting permafrost. Even if such observations are now commonplace, the cost of adaptation does not seem to be taken into account in projections of social and economic development (p. 88).

The discussion of legal disputes in the Arctic is definitely non-alarmist. "The patterns of cooperation are therefore clearly prevalent, even among competitors" (p. 109). This statement is supported by a case-by-case review of salient legal disputes. Also the military development in the Arctic is put into a broader perspective: the Russian build-up taking place is seen as part of a global dilemma the Russian military is facing, in which means correspond neither with goals, nor with real needs.

"Interpreting the Arctic as a key economic resource is the main driver of Russia's interest in the region, even trumping