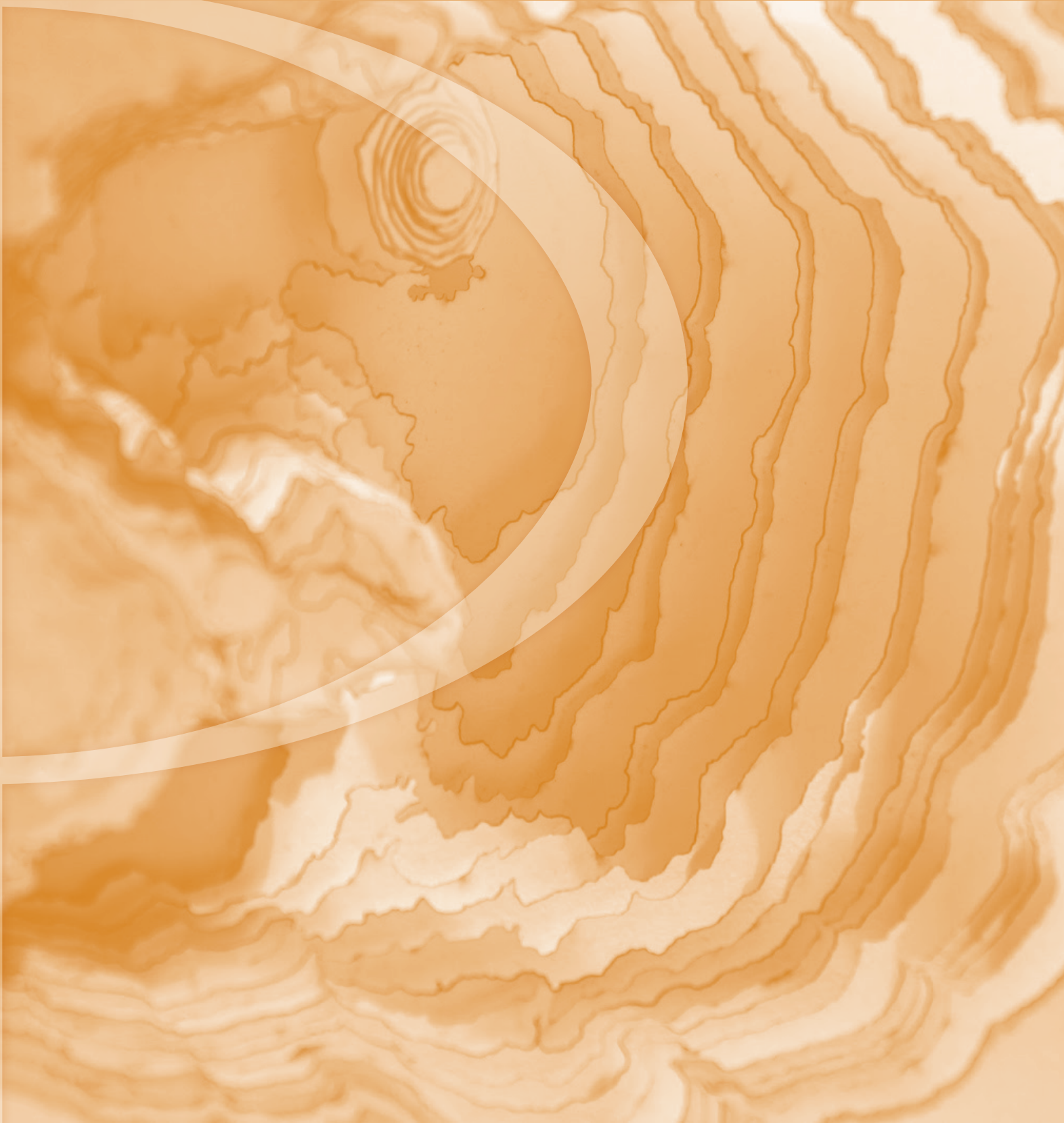




Cartographic Perspectives

The Journal of **nacis**

Number 104, 2024





IN THIS ISSUE

LETTER FROM THE EDITOR

Jim Thatcher

4

PEER-REVIEWED ARTICLES

How Did Early Modern Scholars Study Early Maps?

Matthew H. Edney

6

Is it a Map? The Map / Not Map Question

Mark Denil

42

PRACTICAL CARTOGRAPHER'S CORNER

The Map on your Map: Ten Things to Consider When Making A Locator Map

Vicky Johnson-Dahl

65

REVIEWS

The Art of Insight: How Great Visualization Designers Think

reviewed by Lily Houtman

70

Buffalo in 50 Maps

reviewed by Kimberly L. Campbell

74

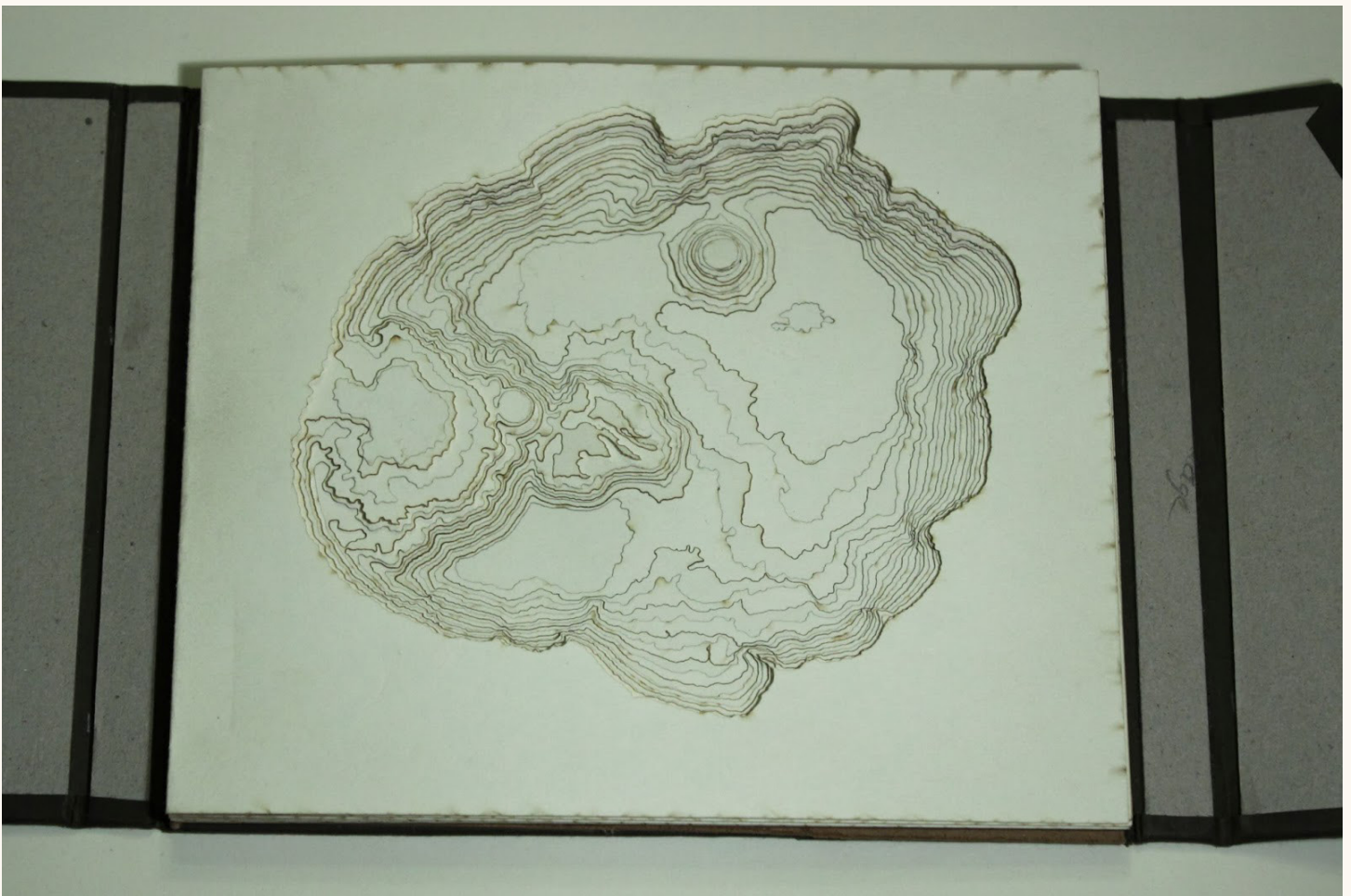
The National Atlas of Korea for Children

reviewed by Aimée C. Quinn

76



ABOUT THE COVER



Caroline Rose's bathymetric book graces our cover for this issue. In this iteration of her book project, depth contours of Crater Lake were laser-cut from a thick, textured paper, then bound with a Coptic stitch into a wrap-around hardcover. The cover encloses and protects the delicate pages and exposed binding inside. As a meditation on "depth," the underwater terrain is depicted with no vertical exaggeration; the vertical dimension is represented at the same scale as the horizontal. The pages are 16 by 14 cm in size, such that the lake forms a small bowl that can be cradled in the reader's cupped hands.



EDITOR

Jim Thatcher
Oregon State University
thatchja@oregonstate.edu

ASSISTANT EDITOR

Daniel P. Huffman
somethingaboutmaps
daniel.p.huffman@gmail.com

EDITORIAL BOARD

Sarah Battersby
Independent Scholar

Luke Bergmann
University of British Columbia

Craig M. Dalton
Hofstra University

Matt Dooley
University of Wisconsin–River Falls

Matthew Edney
University of Southern Maine
University of Wisconsin–Madison

Sara Fabrikant
University of Zürich

Carolyn Fish
University of Oregon

Bernhard Jenny
Monash University

Meghan Kelly
Syracuse University

Patrick Kennelly
Central Oregon Community College

Clancy Wilmott
University of California, Berkeley

Fritz Kessler
The Pennsylvania State University

Bill Limpisathian
University of Wisconsin–Madison

Jennifer Mapes
Kent State University

Joanna Merson
University of Oregon

Mark Monmonier
Syracuse University

Ian Muehlenhaus
Esri

Michael Peterson
University of Nebraska at Omaha

Anthony Robinson
The Pennsylvania State University

Amy Rock
California State Polytechnic
University, Humboldt

Robert Roth
University of Wisconsin–Madison

SECTION EDITORS

CARTOGRAPHIC COLLECTIONS

Margot Carpenter
Hartdale Maps
hartdalemaps@gmail.com

Garret Dash Nelson
Leventhal Map Center
gnelson@leventhalmap.org

PRACTICAL CARTOGRAPHER'S CORNER

Alicia Cowart
University of Wisconsin–Madison
adcowart@wisc.edu

VIEWS ON CARTOGRAPHIC EDUCATION

Daniel P. Huffman
somethingaboutmaps
daniel.p.huffman@gmail.com

VISUAL FIELDS

Nicholas Bauch
Esri
nbauch@esri.com

REVIEWS

Mark Denil
cp_book_reviews@hotmail.com

COPYRIGHT AND LICENSING:

©2024 North American Cartographic Information Society. 2311 E. Hartford Ave, Milwaukee, WI 53211.



Unless otherwise noted, CP's contents are licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/4.0/>.

The opinions expressed herein are those of the author(s), and not necessarily the opinions of NACIS. All material published in the journal is independently reviewed and/or edited. Submissions are accepted from members of the journal staff and editorial board, but the authors play no role in the assessment or editing of their contribution.



LETTER FROM THE EDITOR

Welcome to issue 104 of *Cartographic Perspectives*. Like all our issues, this one contains content we hope will appeal to the full spectrum of NACIS members, with entries that range from in depth examinations of how the field of map history emerged (pages 6–41) to theoretical discussions of what makes a map *a map* (42–64) all the way through to practical tips on how to quickly and effectively design inset maps (65–69). I imagine I am beginning to sound somewhat like a broken record, but it is worth continuing to emphasize that this combination of breadth, expertise, and depth across the full spectrum of “cartography” (whatever that may be!) marks *Cartographic Perspectives* as unique within our shared, sometimes amorphously defined field. Publishing as a completely free and open-source journal doesn’t hurt either.

With that in mind, I’d like to call our readers’ attention to the two peer-reviewed pieces in this issue, as both are well worth your time. Matthew H. Edney has written a long, detailed piece that examines the history and emergence of the very study of “map history.” Contra Skelton’s (1972) and Harley’s (1987) claims of a long-standing intellectual pursuit, Edney traces precisely how the study of maps emerged in early modern history, concluding that it is “nonsensical to refer to the study of ‘map history’ or the ‘history of cartography’ before 1800; no such coherent field of study would have been recognized” (31). From an empirical perspective, Edney is continuing his detailed examination of specific discourses and communities of theory and practice that have emerged around “maps.” Here, he disarticulates three related (and sometimes adversarial) communities that studies maps during the early modern period: the Classical historians that used ancient texts to place sites on modern maps, “positive geographers” obsessed with “position[ing] themselves at the forefront of a long history of progress,” and antiquaries who used maps as “relics of local or national identity” to be preserved and treasured alongside other relics (31). As someone whose own work falls within both cartography and geography, the obsession of the positive geographers with presenting themselves as heirs to an ancient tradition of continual progress struck a chord—we are, after all, members of a discipline that has named one of its premier English language journals around the very theme of *progress*. There are reasons for this positioning, not the least of which is supporting claims towards and efforts for institutional valorization; but, I do wonder how much we—and here I mean both geographers and cartographers—have really *progressed* since this early modern period.

The other peer-reviewed piece is a blistering, wide-ranging, and brilliant examination of what makes a map... a map. It is a continuation of Mark Denil and Matthew Edney’s 2022

discussion in [issue 98](#) of *Cartographic Perspectives* (this marks Denil's response to Edney), and Denil continues to push at the seams of the theories that underlie how we understand, make use of, and create maps within modern society in provocative and important ways. In addition to drawing my attention to some phenomenal artwork (I strongly recommend the piece on page 57), by drawing from Conceptual Art for his framework, Denil pushes towards the center of a core question of cartographic theory (*what is a map?*); he notes that “[e]ven if this approach does not solve it, it should at least expose its sinews for examination” (51). That is my hope: that Denil's laser-like focus upon a question that's too often retreated from our consideration sparks others to examine the sinews of a map to better understand what, how, and when it emerges as such.

In addition to our peer-reviewed pieces, we also have an entry in the Practical Cartographer's Corner by Vicky Johnson-Dahl that walks readers through a concise ten considerations for improving inset maps. Perhaps a leap from the heady question of what makes a map a map, Vicky's piece is emblematically practical—we've all made inset maps, here's how to improve them. We also have three book reviews in this issue. First, Lily Houtman reviews Alberto Cairo's *The Art of Insight: How Great Visualization Designers Think*, finding it an important tonic that reminds us that “many of the most breathtaking visuals are still made by slow, careful human processes” (72). Kimberly L. Campbell reviews Vicky Johnson-Dahl's *Buffalo In 50 Maps*, describing an atlas that is at times both humorous and insightful (unfortunately, no discussion of inset maps). Finally, Aimée C. Quinn reviews Seong et al.'s entry in Korea's *National Atlas*, specifically *The National Atlas of Korea for Children*, and finds it “just the kind of thing to spark national, civic, and cultural pride in the minds of young readership” (78).

Taken together, this issue runs the gamut of interests within the NACIS community, from the applied, technical improvement of an aspect of cartographic design (inset maps!) to the very question of what it means to call something *a map*. In it, I hope you find something of value and, as always, encourage you to reach out with ideas or comments. Finally, I encourage you to keep your eyes peeled for our next issue which will follow shortly and be dedicated to the ethics of cartographic practice.

Best,
Jim

REFERENCES

- Harley, J. B. 1987. “The Map and the Development of the History of Cartography.” In *Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*. Vol. 1 of *The History of Cartography*, edited by J. B. Harley and David Woodward, 1–42.
- Skelton, R. A. 1972. *Maps: A Historical Survey of Their Study and Collecting*. Chicago: University of Chicago Press.



How Did Early Modern Scholars Study Early Maps?

Matthew H. Edney (he/him)

University of Southern Maine / University of Wisconsin–Madison

matthew.edney@maine.edu

Skelton (1972), followed by Harley (1987), invented “the history of cartography” as a field of study with deep historical roots, giving the field an origin deep in the Renaissance, perhaps even in the Middle Ages. In doing so, Skelton imposed modern scholarly practices onto early modern scholarship, without regard for contemporary knowledge practices. This essay counters the invented tradition by exploring how early modern scholars engaged with maps from the contemporary past (“early maps”). It identifies three distinct sets of scholars whose variant agendas led them to work with early maps in markedly different ways. First, Classical historians used the Peutinger map and Ptolemy’s Geography to identify locations of ancient places to improve their comprehension of Classical texts. Second, some geographers wrote histories of voyages and travels that related past routes to contemporary maps, and others wrote historical narratives of the compilation of encyclopedic texts and maps of world and regional knowledge. (This analysis requires a reconceptualization of early modern “geography.”) Third, antiquaries opportunistically described and at times reproduced a variety of maps, charts, and plans that came to their attention, but without actively searching for early maps. Overall, this essay demonstrates that before 1775 there was neither a systematic approach taken to the study of early maps nor any hint of the core methodology that would be adopted by the first historiographical mode of map history as it developed after 1830.

KEYWORDS: historiography; early modern era; map history; classical historians; histories of geography; histories of discovery; antiquaries

WHEN THE LEADING BRITISH MAP LIBRARIAN AND historian R. A. Skelton¹ created “the history of cartography” as a field of study, he gave his putative discipline the historical depth required of any invented tradition (see Hobsbawm 1983). Skelton (1972, 63–70) specifically argued that the presence of multiple world maps within a few medieval works—notably the twelfth-century *Liber floridus* by Lambert of St. Omer, and Andrea Bianco’s 1436 atlas in the Biblioteca Marciana, Venice—indicated that medieval scholars had compared early maps against each other. Because such relative comparison was a key practice of modern studies in map history, Skelton concluded that those medieval works indicated the field’s great age and intellectual authority.

J. B. Harley (1987, 7–8, 10) thought that Skelton’s evidence was simply too thin to support his argument. Nonetheless, Harley took Skelton’s several citations of early modern work with early maps as demonstrating that the history

of cartography is rooted in the Renaissance. “It is possible,” Harley wrote, “to trace an increasingly systematic attention to the maps of preceding centuries” during the Renaissance. In particular, he emphasized how the printing of facsimiles of medieval manuscript maps, such as the Peutinger map of the Roman empire (Figure 1) and the “Gough map” of Britain (Figure 2), had done “the most to stimulate [the] study” of medieval maps and to “widen an appreciation of the cartography of earlier centuries” among scholars throughout the early modern era (i.e., the period from about 1450 to about 1800).

Yet Skelton’s and Harley’s arguments are fundamentally subverted by the fact that both the “cartography” and “history” in their field of the “history of cartography” formed only after 1775. The neologism *cartography* was twice coined without effect in about 1790 and again in 1808, before being widely adopted after 1825 for the generic practice of mapmaking (Edney 2019a, 114–20).

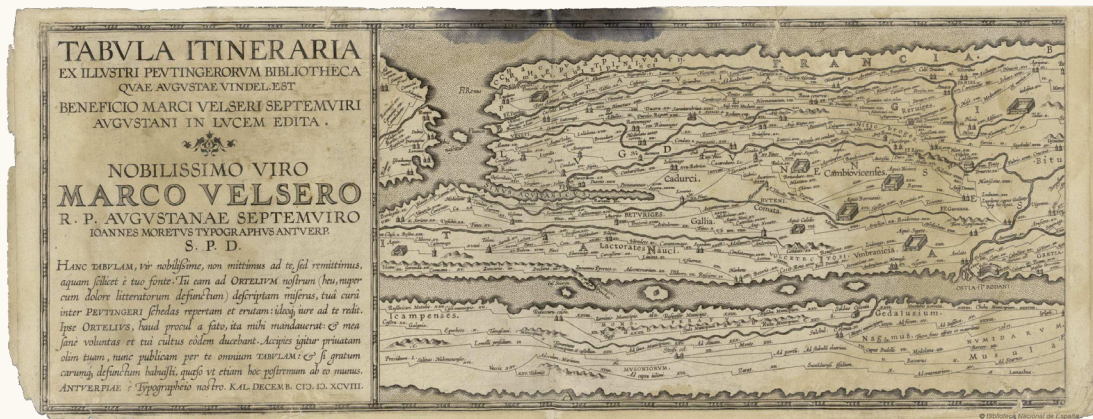
1. Biographical details for the many scholars discussed in this essay who studied maps as historical documents can be found at mappingasprocess.net/dramatis-personae.



© by the author(s). This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/4.0>.



Figure 1. Marcus Welser, *Tabvla itineraria ex illvstri Pevtingerorum bibliotheca quae Augustae vindel. est* (Antwerp: Johannes Moretus, 1598), address to the reader and segments A and C of this half-size facsimile of the “Peutinger map” in eight sheets. In this instance, segment C was originally bound upside down; at some point it was inverted and rebound as the second sheet in the sequence. Welser called the original map a *tabula*, i.e., parchment stretched on a frame or attached to a wooden tablet, not a “table” as the word has been persistently mistranslated (Talbert 2010, 3). Letterpress and two copper engravings, each 18.5 × 51 cm. Courtesy of the Biblioteca nacional España (GMM/1190); online at bdh.bne.es/bnearch/Inicio.do.



Only in about 1800 did “history” begin to be used to refer both to “the past” and to the new discipline of studying the past, whether in terms of historicism—encapsulated in Leopold von Ranke’s 1824 aphorism that the discipline sought to narrate the past *wie es eigentlich gewesen*, that is, “as it actually happened” or “as it essentially happened” (Wright 2003, 115–17, 120–22)—or of the more “philosophical” histories that postulated cultural and social progress through preset stages. Moreover, the institutions within which the history of cartography would be pursued—libraries generally and map libraries specifically, subject-specific academic societies, universities, and the

antiquarian marketplace—are also all post-1775 creations (see Duncan and Wallach 1980; Willison 1989; Bennett 1995).

So, how did early modern scholars go about studying and using maps that possessed significance as documents from the past—i.e., “early maps”—before the modern formation of “cartography,” “history,” and “history of cartography”? In answering this question, I have sought to set aside the established conceptual categories of present-day scholarship, all of which are grounded in modern idealizations, and instead approach the subject without preconceptions.

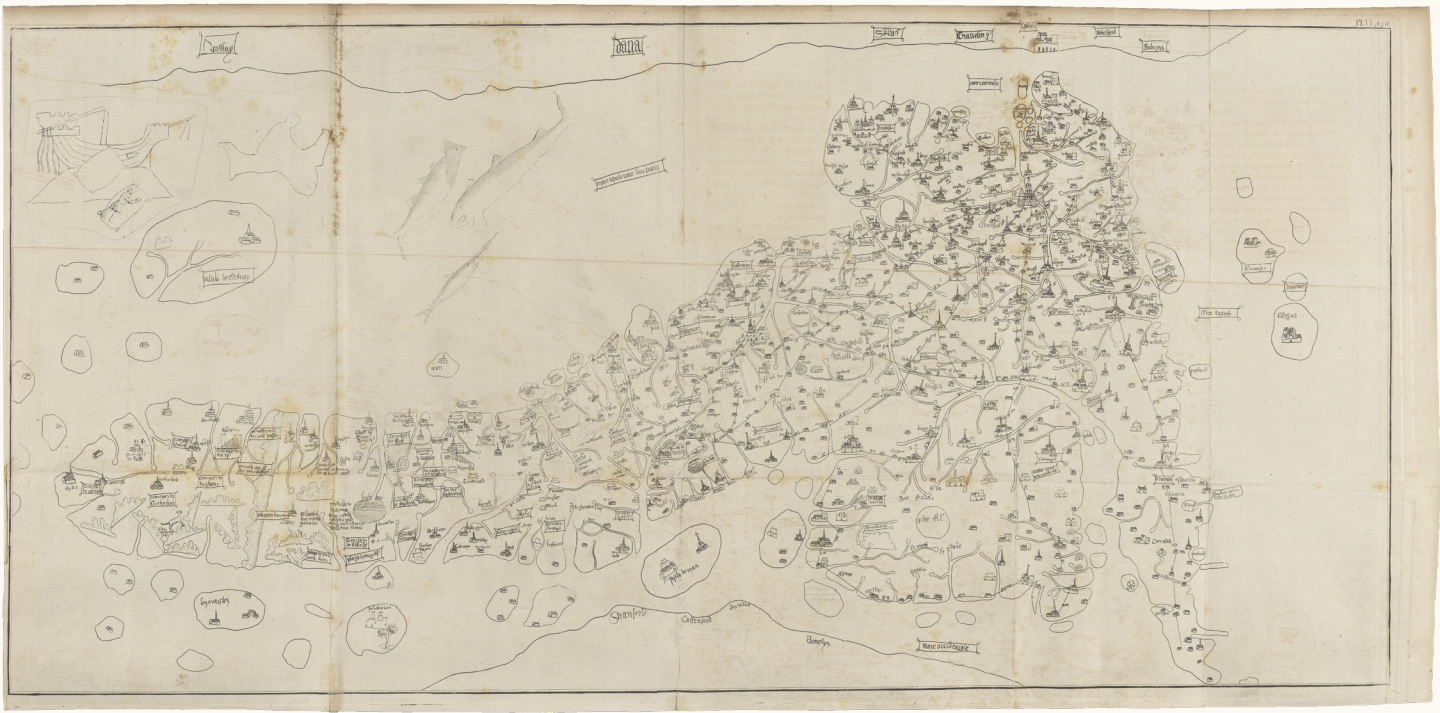


Figure 2. Untitled facsimile of a unique medieval map of Britain, first drawn ca. 1400, in Richard Gough’s *British Topography* (1780a, 1: pl. vi, opp. 1:76). For the history of the “Gough map” (now at the Bodleian Library, MS Gough Gen. Top. 16) and its nine facsimile reproductions, of which this is the first, see Delano Smith et al. (2017). Copper engraving, 32 × 67 cm. Courtesy of the Osher Map Library and Smith Center for Cartographic Education, University of Southern Maine (Osher Collection 7420).

This approach is very much in line with my wider argument that what people do, even today, is mapping and not cartography, that there are multiple, distinct modes of mapping, and that on different occasions one person might participant in different modes. It is crucial in this respect to direct our attention to the practices of mapping and of scholarship, to how people do or did things, and to cease our fixation on the products of those actions (Edney 2019a, 9–49; Edney 2022b, 2024). In this case, taking an open view of the subject requires a consideration of the several ways in which mappings and the past intersected within early modern scholarship.

Two recent overviews give a broad outline of the situation: one considered how Classical historians and antiquaries used and reproduced maps from the past and also made analytic maps of the past (Edney 2019d); the other, how geographers wrote histories of geography and geographical mapping (Withers 2019). In this essay I expand and elaborate on those earlier, brief essays to consider in much more detail and with greater discernment the three arenas of early modern engagement with early maps respectively by Classical historians, geographers, and antiquaries. The result is not a comprehensive list of each and every occasion in which an early modern map scholar worked with

early maps, which would be tedious, but an analysis of the ways in which the different kinds of early modern scholars variously worked with maps from the contemporary past in line with their respective intellectual agendas.

I begin by reviewing the varieties of early modern historical practice and the contemporary distinction between “historians” and several varieties of erudite scholars, which included geographers and antiquaries. I then continue with detailed accounts of the three arenas of map work, stressing how each was restricted in its practices. Two points of similarity do, however, become evident. First, both historians and antiquaries reproduced early maps in print, but they did so for markedly different reasons; by contrast, geographers did not reproduce early maps at all. Second, when early modern scholars critically assessed early maps, they compared them in absolute terms against modern maps and not, as Skelton and Harley supposed, in relative terms against each other.

I conclude with the British antiquary Richard Gough, owner and publisher in facsimile of the eponymous map (Figure 2). Skelton and Harley treated him as the exemplar early modern antiquary. Yet, by the time he was preparing his two-volume *British Topography* (Gough 1780a), the

broader intellectual currents were significantly realigning the three distinct arenas of map work and prompting new practices that would eventually turn into a recognizably modern and coherent form of map history. Gough seems to anticipate the rise of a coherent and systematic approach to “the history of cartography,” which accounts for his importance to Skelton’s and Harley’s historiographies. Even

so, systematic approaches to map history did not actually emerge until the 1830s and 1840s (Edney 2022a, 2023). Skelton and Harley were thus incorrect to assume that early modern engagements with early maps were essentially all the same and constituted the origins of the modern field.

THE PAST AND ITS STUDY IN EARLY MODERN EUROPE

“THE PAST” WAS MALLEABLE IN EARLY MODERN Europe, or at least it was not necessarily associated with the qualities of “age” and of being “out of date.” Thus, mapmakers did not necessarily dismiss old maps as being irrelevant to their concerns. For geographers in fifteenth-century Italy, medieval *mappaemundi* and Ptolemaic world maps provided equally valid approaches to cosmography and geography (see Gautier Dalché 2009; Cattaneo 2011, 2016). Later medieval practices of regional mapping became Renaissance practices, with little appreciation of difference: the regional maps of the fourteenth and fifteenth centuries became the *tabulae modernae* (modern, i.e., not Ptolemaic, maps) that were added to manuscript and printed editions of Ptolemy’s Geography² and that then formed the foundation of Renaissance early modern regional mapping. For example, several Renaissance maps of the British Isles were derived, either directly or via one or more now lost intermediaries, from the “Gough map” of about 1400 (Figure 2) (Lynam 1950; Birkholz 2006; Millea 2007, 51–56; Barber 2007, 1590; Barber 2009, 22–24, 30–34, 54–55). In the preface to his *Theatrum orbis terrarum*, Abraham Ortelius cataloged eighty-seven known mapmakers of contemporary significance, some of whom had been active over a hundred years before (Ortelius 1570, sig. Av^r–Avi^v; Harley 1987, 11; see Karrow 1993). Overall, fifteenth- and sixteenth-century mapmakers neither perceived nor made a clear break with their medieval forebears (Meurer 1998a, 134; Gautier Dalché 2007; Woodward 2007a).

Even eighteenth-century geographers could use Classical sources for their accounts and maps of contemporary geography. Jean-Baptiste Bourguignon d’Anville (1744) used Roman itineraries to define distances between cities and towns in Italy when recalculating their latitudes and longitudes (Edney 2019b, 482), and he further argued that

Ptolemy’s Geography offered more and better information about the interior of northern Africa than any contemporary source (d’Anville 1759; see also Buache 1789). James Rennell (1783, 37–43) used itinerary distances recorded in Herodotus’s *Histories* (440 BCE), Pliny’s *Natural History* (ca. 77 CE), and latitudes from Ptolemy’s Geography as fundamental sources in compiling the northern half of his 1782 two-sheet map of South Asia, not to relate contemporary to ancient geography but to create that contemporary geography (Edney 1997, 9–15, 98–104; Withers 2013).

Furthermore, “history” was *not* used as a synonym for either “the past” or the general study of the past. The ancient, medieval, and early modern practice of *historia*, from the ancient Greek ἱστορία, was the intellectual process of building up knowledge systematically from particulars to a larger understanding. *Historia* emphasized empiricism and erudition, the careful and precise attention to particulars. In this respect, *historia* did not necessarily refer to “the past.” It also referred to any synchronic inventory, as in a “natural history,” in which respect *historia* was a major element in the rise of natural philosophy (Woolf 1987, 17–19; Pomata and Siraisi 2005). When, in about 1300, Richard of Haldingham called his now famous *mappamundi* at Hereford Cathedral an *estoire* (history), he referred to this sense of synchronic inventory, having collapsed the past, present, and future together to enumerate Biblical and Classical conceptions of Creation (Woodward 1987, 310; Barber 2006, 21).

“History” also bore the further meaning of a diachronic story or narrative, which is to say a chronologically arranged interpretation made up from particulars. Any work that provided a narrative of a phenomenon over time could be called a “history.” For example, both the *Versuch*

2. The books that appeared under the name “Ptolemy’s Geography” were a diverse group of texts with little direct relationship to Ptolemy’s long-lost original work; I therefore do not italicize the title.

einer umständlichen Historie der Land-Charten (Attempt at a detailed history of geographical maps) by the Swabian theologian Eberhard David Hauber (1724b) and the *Essai sur l'histoire de la géographie* (Attempt at a history of geography) by the Parisian geographer Didier Robert de Vaugondy (1755) were legitimately “histories” because they provided narratives of the development of geography and geographical mapping.

Hauber and Robert de Vaugondy might have written “histories,” but no contemporary would ever have called them “historians” (*historiens*). Early modern historians *per se* were a rarified group who focused their narratives specifically on *res gestae* (things done), which is to say the affairs of state and of statesmen, emphasizing politics, war, and diplomacy. Historians varied widely in how they wrote, ranging from the more pragmatic and evidentiary scholarship modeled on *historia* to the moralistic, rhetorical, and highly literary scholarship that tended to proceed from “first principles” (Grafton 2007, 27). No historian would demean themselves by addressing mere cultural, social, or economic matters of the past.

Those historians who were especially interested in ancient history did, however, engage with maps that survived from antiquity—namely Ptolemy’s *Geography* and the Peutinger map—so that they might correlate ancient places with modern. Doing so would allow them to interpret the spatial references in ancient texts with greater clarity and understanding. An intimately related practice was that of making maps of Classical and Biblical geographies, to assist the reading of ancient texts, the Bible, and recent histories and commentaries.

In contrast to the historians writing narratives of *res gestae* were a diverse array of scholars who emphasized erudition—the careful and precise attention to particulars—in the examination of past societies and cultures. These scholars were often mocked for being so focused on minutia that they lost sight of the human condition, as crystallized in Voltaire’s maxim, “woe to details!” (Cheng 2012, 34); Voltaire further derided erudite scholars by calling them *historiographes* rather than *historiens* (Pierse 2013, 166–67). Erudite scholars included: antiquaries or topographers, as they were called in Britain, who collected and studied relics of the past and especially of specific places; *érudits*, seventeenth-century French legal scholars who traced the historical development of modern social

institutions through legal codes; *Statistiker* and economists who sought hard data of significance to government officials (van der Zande 2010); philologists who analyzed the books of the Bible to determine the histories of their writing and editing; and geographers like Hauber and Robert de Vaugondy who wrote narrative histories of geographical practice.

Two particular sets of erudite scholars engaged with maps from the past. In the first place, some geographers wrote histories of geographical knowledge, whether of the voyages that had produced new knowledge or of the verbal and graphic “geographies” that had presented that knowledge. Seeking to establish geography as a practice that had remained unchanged in its fundamentals since antiquity, these histories simply ignored medieval geography. At the same time, antiquaries collected, described, and reproduced in facsimile a diverse array of relics pertaining to local and national identity; these relics included, as they were encountered, early plans of places as well as some geographical and marine maps that might be tied to certain locales. There was no attempt by any antiquary before the 1770s to actively search for maps in particular, although they willingly embraced any relic maps they did encounter. In addition to working with few geographical maps, antiquaries were different from the historians and the geographers in being interested in medieval works.

The division between historians and erudite scholars did not follow clear lines. Intellectually, erudite scholars did not hold a monopoly on the empirical study of the past, nor were historians the only scholars concerned with the human condition (Woolf 2019, 124, 143). Several individuals who made a living by making and selling maps and who seem by present-day standards to have been “geographers” were not limited by that label. For example, Ortelius and d’Anville were passionately interested in Biblical and Classical history, and they appear in this essay as Classical historians rather than as erudite scholars of geographical practice. And, as we shall see, Gough was as interested in the history of geography as he was in specifically antiquarian studies. Furthermore, the importance of antiquity to the early modern era means that all scholars generally harkened back to antiquity. All this is to say that the distinctions outlined here express different sets of map work—of mapping practices—and not the neat occupational divisions imposed by present-day labels of “historian,” “geographer,” and “antiquary.”



Figure 3. Francesco Berlinghieri, *Tabvla quarta de Asia*, in his *Geographia* (1482). The twenty-six regional “Ptolemaic” maps follow the structure—ten maps of Europe, four of Africa, twelve of Asia—of the medieval Byzantine text that was the exemplar for Renaissance Latin editions of Ptolemy’s *Geography*. Copper engraving, 33.5 × 48.5 cm (printed area). Courtesy of the Osher Map Library and Smith Center for Cartographic Education, University of Southern Maine (Osher Collection); online at oshersmaps.org/map/7323.0144.

HISTORIANS: EXPRESSING THE PAST IN CONTEMPORARY MAPS —

FOR EARLY MODERN HISTORIANS, THE QUESTION “where in the past?” was really a question of “where in the contemporary present?” In the commonplace Ciceronian dictum, that chronology and geography were the two eyes of history, geography was always understood as contemporary geography (Hofmann 2000; Mayhew 2003, 2010; Davis 2015, 119–22; Edney 2019d, 624–27; Forss 2023, 213). Scholars who investigated the broad landscape of the past, both secular and profane, relied on contemporary geographical maps to locate the events of history. They did not use early maps as evidentiary sources in their own scholarship, for the simple reason that no one before Edward Gibbon in the mid-1700s dared to presume to rewrite the great histories handed down from antiquity (Woolf 1987, 12–14). Rather, historians used certain early

maps to identify and locate ancient sites to aid in their reading of those Classical histories.

Past and present were thoroughly commingled by scholars in the Latin West in their fifteenth- and sixteenth-century adaptations of Claudius Ptolemy’s *Geography*, the great gazetteer of the Roman ecumene originally created in the mid-second century CE. Renaissance scholars considered the translation into Latin of one medieval Byzantine Greek manuscript of the *Geography*, in Florence in 1409–10, as part of the *translatio* (translation, transfer) of knowledge and power from the Classical empires to western Christendom (Piechocki 2019, 27–29). Cosmographers latched onto the cosmographical connotations of the *Geography*, especially in conjunction with Ptolemy’s larger

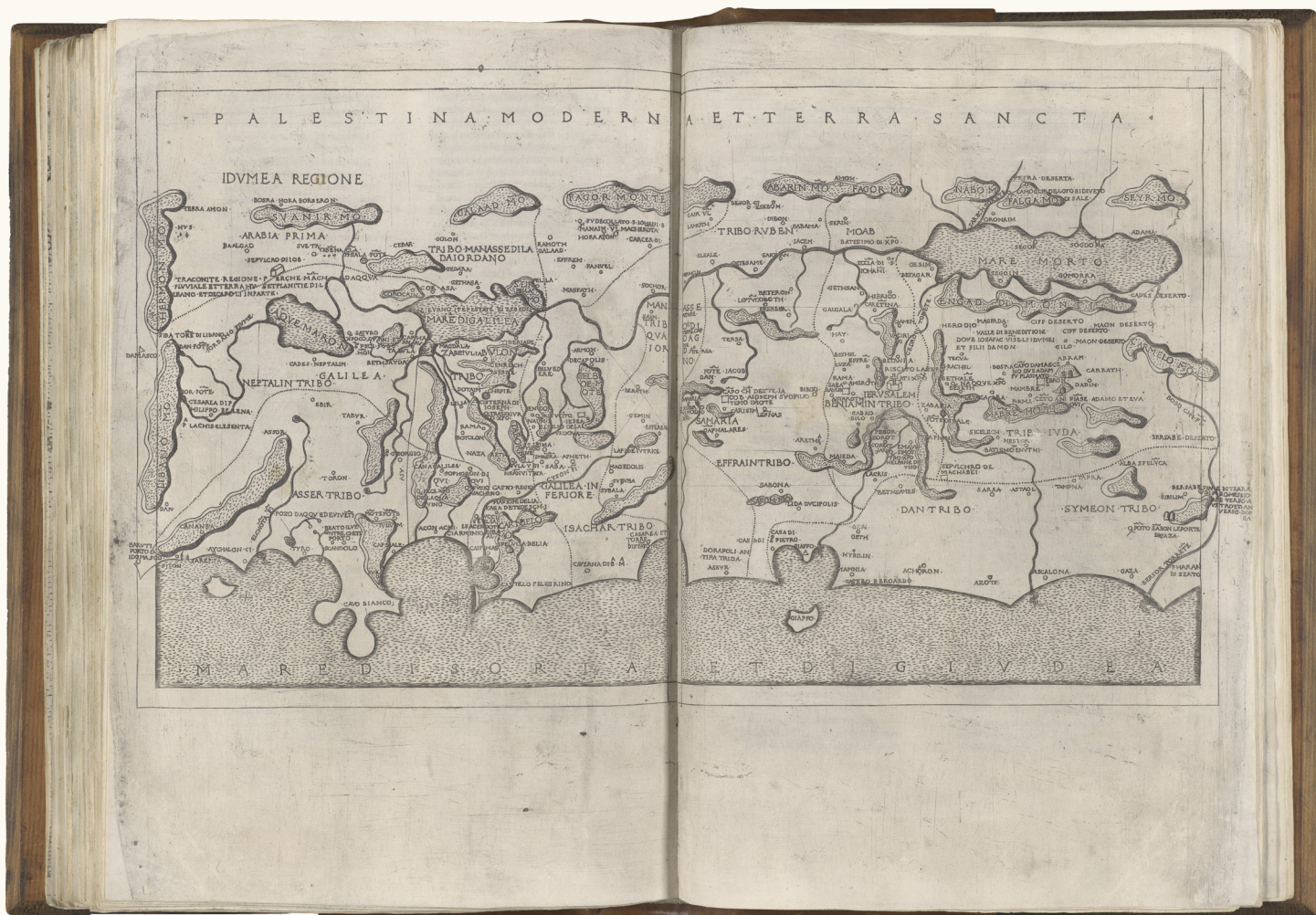


Figure 4. Francesco Berlinghieri, *Palestina moderna et Terra Sancta*, one of four *tabulae modernae* Berlinghieri added to his *Geographia* (1482). Although lacking the characteristic grid, this map, oriented with east at the top, is derived from one of a series of gridded maps first prepared in Pietro Vesconte's workshop for Marino Sanudo's *Liber secretorum* (Book of Secrets, 1320), an appeal for a new Crusade, reduced from Burchard of Mount Sion's ca. 1300 map of the Holy Land (Harvey 2012, 107–27, esp. 112, 114). Copper engraving, 28 × 48.5 cm. Courtesy of the Osher Map Library and Smith Center for Cartographic Education, University of Southern Maine (Osher Collection); online at oshermaps.org/map/7323.0148.

oeuvre on astronomy and astrology, and they substantially edited, augmented, and elaborated it—with many now calling it “Cosmography” (Tessicini 2011)—as part of their studies of the terrestrial sphere, which is to say not the earth *per se* but the innermost sphere of the cosmos as it was interconnected with the other spheres of the planets and stars (Shalev 2011).

Furthermore, the *Geographia*'s data and regional maps appealed to those humanists who sought to elucidate the toponyms of the Roman world. Indeed, humanists commissioned many copies of the *Geographia* as a gazetteer, omitting Ptolemy's first book on map construction (Milanesi 1984; Gautier Dalché 2007, 2009). The pairing of maps derived from Ptolemy's data (Figure 3)

with *tabulae modernae* derived from more recent materials (Figure 4) permitted humanists to compare Classical with contemporary geography and to refine their toponymic equivalences. The primarily toponymic function of the *Geographia* was demonstrated when Gerardus Mercator (1578), wearing his humanist hat, issued his set of Ptolemaic maps accompanied only by detailed toponymic indexes; the increased availability of maps of contemporary geography made it unnecessary to pair the Ptolemaic maps with *tabulae modernae* or to include Ptolemy's text. The humanist Arnold Mylius—who had previously worked with Abraham Ortelius in creating a dictionary of Classical toponyms—appended Mercator's maps and indexes to his own incarnation of Ptolemy's *Geographia*, but only once he had stripped away all the modern additions to leave what



Figure 5. Abraham Ortelius, *Palaestinae sive totivs terræ promissionis nova descriptio*, in *Parergon, sive veteris geographiæ aliquot tabulæ* appended to his *Theatrum orbis terrarum* (Antwerp, 1595). Ortelius based this analytic map on that of Biblical and Classical geography by Tilemann Stella (Karrow 1993, 500–3). A few contemporary toponyms appear in ornate, cursive script; contemporary geographical knowledge still angled the coastline to the northeast. Hand-colored copper engraving, 34 × 45 cm. Courtesy of Yale University Libraries (BRBL_00278); online at collections.library.yale.edu/catalog/15506345.

he claimed was Ptolemy’s original work (Ptolemy 1584; see Meurer 1998b; Gautier Dalché 2007, 363; Tolia 2011, 130). Thereafter, Mercator’s maps and Ptolemy’s place names were reworked for several later incarnations of the Geography between 1695 and 1730, all of which similarly treated the ancient text as a work of strictly historical and toponymic interest (Gautier Dalché 2007, 363–64; also Raidel 1737).

A second geographical source from ancient Rome was also embraced by early modern historians seeking to comprehend Classical texts: the so-called Peutinger map. The

existence of this medieval derivative of a fourth-century map of the Roman empire in the form of a scroll—just 33 cm in height but 672 cm in length—had been known among humanist scholars ever since Konrad Celtis had acquired it from an unknown library in about 1500 and had given it to the Augsburg lawyer and antiquary Konrad Peutinger. Celtis had wanted Peutinger to publish the map, but it remained sequestered in Peutinger’s library. The close guard mounted by his heirs only further heightened the desire among humanists for this precious yet frustratingly unobtainable relic. Several decades later, the Augsburg banker Marcus Welser (1591, opp. 17) was able to reproduce two partial drawings that Peutinger

had commissioned of the map's westernmost section; Peutinger had perhaps done so to explore the process of reproducing the whole work. Welser was then able to talk his way past Peutinger's heirs to consult the map directly. He had an artist, Johannes Moller, prepare a drawing of the map at half-size, which he sent to Ortelius in Antwerp for engraving and printing. A devoted scholar of the past, Ortelius had been trying since at least 1580 to acquire a copy of the map that he might publish. In the mid-1590s, however, Ortelius was in ill health, and he passed the drawing on to the publisher Johannes Moretus, who had it engraved in eight segments. Welser checked the proofs of the engravings against the map itself. Moretus published the final work in 1598 (Figure 1), dedicating it to Ortelius, who had not lived to see its publication (Meurer 1998a, 157–58; Talbert 2010, 10–23).

Welser's facsimile was reissued in 1619 by the Dutch theologian, historian, and geographer Petrus Bertius, although without the letterpress address, with titles newly engraved above each segment, and with two plates printed on each of four sheets of paper. Derivative facsimiles appeared in several later publications. The acquisition in 1738 of the Peutinger map by the Hofbibliothek in Vienna meant that it could be examined anew. In 1753, the Austrian poet Franz Christoph von Scheyb published an extensive study of the map and its toponyms, complete with a full-sized reproduction from a new tracing of the original. Von Scheyb's reproduction was expensive, however, and did not sell well; few copies survive (see Edney 2019d, 627, for a reproduction). Further toponymic analyses continued to be published, just without facsimiles of the map. The purpose of each study was to clarify and confirm the map's information about routes and places, to integrate that information with surviving textual itineraries, and to use the resultant data to inform texts and analytic maps of Classical geography (Talbert 2010, 23–25, 30–36). The intellectual and cultural value of the facsimiles of the Peutinger map would lead John Ogilby, who had published several important Classical texts in translation, to suggest that his own 1675 large book of maps of England's highways, *Britannia*, had been inspired by the ancient Roman map (Ogilby 1675, sig. B1r); that is, the connection between the Peutinger map and Ogilby's strip maps was historiographical, not cartographic (Clark 2013).

3. "Cvm omnibus perspectum satis esse credam, quanta sit cognitionis historiarum vtilitas, benigne Lector; equidem mihi persuadeo, neminem poenè esse, modò historias primis (quod aiunt) labris gustarit, qui nesciat quàm necessaria sit ad eas rectè intelligendas, Geographiæ (quæ meritò à quibusdam historiæ oculus appellate est,) cognitio." Goffart actually translated the passage as quoted by Hofmann (2000, 99n6) from a 1572 French-language edition of the *Theatrum*; his translation nonetheless agrees with the original Latin of the 1570 edition.

Having determined the locations of particular places, humanists could make their own analytic maps of the Biblical, Classical, and eventually medieval pasts. They mapped out locations from the past on maps of contemporary geography. Such empirical exercises in *historia* could then serve as the foundation of theological and philological analysis (Schramm 2014–15; Dürr 2017; Shalev 2019). Analytic maps of the past were published as wall maps, in Bibles and Biblical commentaries (Delano Smith 1990; Ingram 1993; Shalev 2004), and in comparative atlases of "classical and modern geography" (Black 1992; Black 1997, 4–26; Goffart 2003, 13–302).

The use of contemporary maps to understand the past is exemplified in the work of Ortelius in the sixteenth century and of Gibbon in the eighteenth. As a businessman, Ortelius dealt in maps and books; as a humanist and historian, he made analytic maps of the past (Meurer 1998a). He brought these commercial and intellectual threads together in 1570, in his *Theatrum orbis terrarum* (Theater of the world), a work often called the first modern atlas. Ortelius specifically understood the *Theatrum* as a contribution to historical scholarship. As he began his address to the reader,

All will readily affirm with us how necessary is the knowledge of regions and provinces, of the seas, the location of mountains, valleys, cities, the courses of rivers, etc., for the comprehension of histories. This is what the Greeks called by the proper name "geography," and certain learned persons (rightly) call the eye of history." (Ortelius 1570, sig. Aiiij^r; translation based on that by Goffart 2003, 1)³

Starting in 1579, Ortelius added an appendix to the *Theatrum*, called the *Parergon* (Supplement). The *Parergon* contained Ortelius's own analytic maps of antiquity, in which he located ancient places on maps of contemporary geography (Figure 5). He steadily added more analytic maps to each further edition, increasing the original three maps to more than thirty by the time of his death (van den Broecke et al. 1998; Imhof 1998; also Grafton 2007, 193).



Figure 6. Abraham Ortelius, *Orbis terrarum hunc typum, secundum Pomponij Melae traditionem, delineabat Ab. Ortelius 1582* (Abraham Ortelius delineated this map of the world according to the tradition of Pomponius Mela, 1582), from Mela (1582). Bertius (1628, fol. 1v) misdated Schott's edition to 1577. Copper engraving, 17 × 26.5 cm. Courtesy of the Bibliothèque nationale de France (Département des cartes et plans, GE DD-2987 (9691)); online at gallica.bnf.fr.

Two centuries later, Gibbon built up a large, personal collection of recently published maps to understand the spatial organization and landscape of the Roman empire. In the 1760s, for example, he used contemporary maps to refine his understanding of the route taken by Hannibal through the Alps and to understand the distribution of peoples in ancient Italy (Fernández-Armesto 1991; Abbattista 1997; Mankin 2018). Gibbon was by no means unique in his avid collecting of contemporary maps to make sense of the past. For example, Pedro Rodríguez de Campomanes built up a large map collection that underpinned his own histories of Spain (Arias 2007). More generally, the mapping of

Classical and Biblical history was integral to the education of literate elites (Heffernan 2014, 6–9).

New editions of ancient geographical texts were accompanied either by maps of contemporary geography—for example, Rumold Mercator prepared a world map in two hemispheres for inclusion in a 1587 edition of Strabo's *Geography*, later reusing it in 1595 to complete his father's *Atlas* (Shirley 2001, no. 202)—or by analytic maps in which classical toponyms were plotted on contemporary geography. Such analytic maps accompanied, for example, editions of *De situ orbis* by the first-century CE Roman

geographer Pomponius Mela (Shirley 2001, nos. 8 [1492], 21 [1498], 90 [ca. 1550]; Van Duzer 2018). In the words of the title of the map of the eastern hemisphere that Ortelius prepared for Andreas Schotte's 1582 edition of Mela's text, such maps were *secundum traditionem delineabat* (drawn according to the tradition) of the Classical authorities (Figure 6).

On two occasions, however, humanists went a step further. Drawing on the written accounts of geographical features and their arrangement, they created maps that depicted the world *ad mentem*—which is to say to the mind, design, understanding, or intention of—ancient philosophers and geographers. The first occasion was Gerardus Mercator's (1578) set of Ptolemaic maps. His title for the



Figure 7. Petrus Bertius, *Orbis terrarvm ex mente Pomponii Melae delineatvs a P. Bertio* (World map from the mind of Pomponius Mela, drawn P. Bertius), in Bertius, *Geographia vetus ex antiquis et melioris notae scriptoribus nuper collecta* (1628, [map 1]). See Pastoureaux (1984, 65–66), Shirley (2001, no. 321). Copper engraving, 13.5 × 15 cm. Courtesy of the Bibliothèque nationale de France; online at gallica.bnf.fr (Département des cartes et plans, GE FF-8132).

collection asserted that he had “corrected” and “restored” the maps *ad mentem auctoris* (to the author’s mind). The second occasion stemmed from Bertius’s (1628) dissatisfaction with Ortelius’s map for Schotte’s edition of Mela (see Figure 6). Why, Bertius asked, should a map illustrating Mela’s ancient geographical conceptions include the equator, tropics, parallels, and meridians, when Mela had not mentioned any of those cosmographical circles, and why show the contemporary European understanding of the extent of Africa, reaching far south of the equator, when Mela had written that the continent ended at the equatorial ocean?⁴ Bertius therefore designed a new map, which he described as *ad Melæ mentem* in his explanatory text and as *ex mente. . . Melæ* in its title (Figure 7). He mapped out his understanding of Mela’s conception of the arrangement of one terrestrial hemisphere, with the ecumene in

the northern temperate zone and the supposed continent of the Antichthones in the southern, the two continents separated by the equatorial ocean (Bertius 1628, unpaginated “Ad typum orbis a Pomponio Mela propositum”; see Hofmann 2000, 104n25).⁵ Nonetheless, Bertius still used contemporary geography to give shape to the ecumene around Mela’s toponyms. As with Mercator’s construction of the supposedly original form of Ptolemy’s maps in the Geography, Bertius’s maps would be reprinted in further editions of Mela’s *De orbis situ*, such as in the 1722 Leiden edition published by Jakob Grovenius. Even so, neither Mercator’s nor Bertius’s constructions led other early modern scholars to prepare similar analytic maps of the world, according to the mind of ancient geographers, until the 1790s.

ERUDITE HISTORIES OF GEOGRAPHICAL PRACTICE

THERE IS A GREAT DEAL OF HISTORIOGRAPHICAL confusion over the nature of early modern geography. In the grand reconfiguration of the institutions and practices of knowledge creation around 1800, the field of geography was reconfigured as the discipline concerned with the study of the environment, humans, and their interrelations. Geographers began to define themselves as heirs to a long line of scholars who had studied human-environmental relations, even though none of them had ever called themselves “geographers” and they were never called “geographers” in their own lifetimes. When modern geographers have looked back on the history of their field, they have generally seen not profound change but continuity (see complaints by Godlewska 1989; Mayhew 2001, 2015; Lois 2018).

At the same time, when recent scholars have addressed the nature of what was called “geography” in the early modern era, they have been distracted by the insistence of early modern scholars that geography is strictly the description (γράφειν, *gráphein*, to write or describe) of the whole earth (γῆ, *gē*, earth) (Mayhew 2001, especially 387–88 regarding purist strictures; generally, see Mayhew 1998, 2011). Yet such precision is defied by the sheer variety of

all those who called themselves “geographers” and of the materials they produced. Practitioners ranged from nobility to hack writers to common field workers; some were scrupulously committed to erudition whereas others were less-than-scrupulous copyists (Lenglet du Fresnoy 1741–42, 1:164; Broc 1969, 137; Godlewska 1999, 21–22; Edney 2019a, 177; Fischer and Withers 2021). Their maps and texts, which after 1650 constituted a sizeable proportion of all published works, variously entailed:

- cosmographical explanations of the distributions of the earth’s features according to the relationship of the earth to the rest of the cosmos (after κοσμέω, *cosméō*, to put in order), often called “general geography” (as Varenius 1650);
- the practices of geographical mapmaking, or “mathematical geography”;
- systematic atlases and “special geographies” that described the whole world, region by region;
- focused and independent accounts and maps of specific regions, or “chorographies” (after χῶρα, *chōra*, region); and

4. Mela had adhered to the early Greek tradition, based on the five Aristotelean zones, in which the earth had four symmetrically arranged land masses, one in each temperate zone in either hemisphere.

5. Bertius (1628) also provided a Ptolemaic map of the ecumene, which he subtly adjusted to emphasize how the shape of the known world was that of a short cloak, a concept that dated to Eratosthenes in the later third century BCE (see Zimmermann 2002), and a construction of the world map according to the Hellenistic philosopher, Posidonius.

- accounts of travels and voyages that were presented either individually or in curated collections.

Such diversity seems to preclude any logical definition of the scope and character of early modern geography in terms either of subject matter or of form of publication.

Pragmatically, however, early modern geography centered on two specific practices, practices that were delineated and explained through historical narratives written by self-identified geographers. The first practice was that of voyaging and navigation, which is to say how information about the world was acquired. Travelers and voyagers themselves were not geographers *per se*, but the scholars who collected, controlled, and reproduced travel and voyage accounts were. The second practice was the compilation, synthesis, and systematic arrangement of multiple sources, not only the accounts of voyages but also previous geographies and cultural traditions about the nature and organization of the world. Systematic compilation defined early modern geography. It was what geographers did, both verbally and graphically. That is, early modern geography was defined by what “geographers” did and not by what they studied.

Histories of geography explained how both practices had their origins in antiquity and more particularly in ancient Greek philosophy. Biblical origins could also be intimated, and Moses was often identified as the “first geographer.” There was a profound sense that the practices of geography had remained unchanged since antiquity, a conceit sustained by the willful disregard of medieval geography. The verbal expression of systematic geography had not changed, in principle, between the Classical literary tradition that had produced Strabo’s *Geography* (ca. 10 CE) and the eighteenth-century encyclopedism of Anton Friedrich Büsching’s eleven-volume *Neue Erdbeschreibung* (1754–92; see Godlewska 1999, 92–96). Graphic expression had similarly remained unaltered between the mapping traditions that Claudius Ptolemy had used in the second century CE for his *Geography* and the great, multi-sheet maps of the eighteenth-century master geographer Jean-Baptiste Bourguignon d’Anville (see Jacob 1999). Geographical progress thus lay in the steady increase in the number of voyages, in the quantity of information, and in the improvement of systematic knowledge of the world when that information was compiled by skilled individuals.

HISTORIES OF VOYAGES AND OF NAVIGATION

Like scholars of the ancient world, editors of collections of travel narratives and voyage accounts did not engage with early maps but instead encouraged readers to relate the narratives to contemporary maps.⁶ The provision of frequent toponyms and occasional latitudes permitted readers of voyage accounts to correlate the progress made by each voyage to the steady accumulation of geographical knowledge, an accumulation epitomized only by contemporary geographical maps. Early maps were simply irrelevant to the task of helping readers understand older voyages. Contemporary maps were required to demonstrate the contribution that past voyages had made to forming the contemporary archive of geographical knowledge.

The practice was established by the Venetian diplomat Giovanni Battista Ramusio in his three-volume *Della navigationi et viaggi* (1550–59), generally celebrated as the first major collection of travel narratives (Horodowich 2018, 63–88; Small 2023). The first edition lacked maps. Ramusio added three maps by Giacomo Gastaldi of the contemporary geography of Africa, South Asia, and East Asia to the second edition of his first volume, published in 1544; after a fire destroyed the wood blocks, they were replaced for the posthumous third edition (1563) by copper-engraved maps (Figure 8). Ramusio explained that the information made available by voyagers and explorers meant that these maps were manifestly superior to those derived from the Ptolemaic archive:

To the scholars of geography.

In the following three maps are described the seas according to the charts of the Portuguese navigators, and the lands in between, according to the writers contained in this first volume. They serve readers as a brief guide to what they will read, showing the situations of the rivers, mountains, cities, provinces, and principal headlands of Africa, Arabia, India, and the Moluccas. Had we wanted to have enough [maps] especially for [the travels of] Giovan Leoni, Francesco Alvarez, and all the other authors who are included here, covering only Africa, ten [maps] would [still] not have sufficed. By bringing to light the prints of the

6. Analysis of early modern histories of voyages and navigation is hindered by a poverty of historiographical accounts, as opposed to the mountain of studies of specific collections of voyages, of their editors’ careers and motives, and of their intended audiences. I have been guided only by Crone and Skelton (1946), insightfully criticized and expanded by Pollock (2012), Broc (1969), and Milanese (2010). See Edney (2020a).



Figure 8. Giacomo Gastaldi, *Prima tavola*, from the third edition (1563) of volume one of Giovanni Battista Ramusio's *Della navigationi et viaggi*. Oriented with south at the top. See Karrow (1993, 30/73, 73.1), Betz (2007, nos. 4 and 7). Copperplate, 27.5 x 39 cm. Courtesy of Yale University Library (60 1563); online at digital.library.yale.edu/catalog/15512924.

provinces of China, and those of Asia and Africa described by Signor Giovan de Barros, we think that a part of modern geography is so well illustrated that it will be unnecessary to labor over the maps of Ptolemy. (Ramusio 1563, unpaginated insert)⁷

In part, this passage reads as an apology for not including more maps. Pragmatically, Ramusio would have had to include at least ten maps just to show all the details pertinent to the voyages to Africa. Ramusio also implied

a critique of older maps that he made explicit elsewhere in his collection. Specifically, he dismissed maps derived from the Ptolemaic archive as “quite imperfect, in respect to the knowledge we now have of those [other] regions” (quoted by Barnes 2007, 50). The final lesson—that voyaging and exploration in the contemporary present had made all past geographies irrelevant, so that accounts of recent voyages had displaced those of ancient geography—would be repeated in an encomium to Ramusio that the publisher added to the beginning of the third edition of volume one (Ramusio 1563). Henceforth it was “no longer necessary

7. “A gli studiosi di geographia. | Nelle presente tre Tauole sono descritte le Marine secondo le Carte da nauicar de Portoghesi, & fra terra, secondo gli Scrittori chesi contengono in questo primo volume, accioche i Lettori si seruino di quelle, per vna breue informatione di quanto in esso leggeranno, veggendo situati i Fiumi, Monti, Città, Prouincie, & Capi principale de l’Africa, Arabia, India, & Isole Moluche, perche se noi hauessimo voluto metter particolarmente quanto per Giovan Leoni, Francesco Alvarez, & tutti gli altri autori è stato descritto, solamente sopra l’Africa, dieci non hauriano satisfatto. Ma venendo in luce le stampate nella prouincia della China, & quelle sopra l’Asia & Africa descritte; & promesse per el. S. Giouan de Barros, evediamo che vna parte della Geographia moderna, sarà talmente illustrata, che poco necessario sarà l’affaticarsi sopra le Tauole di Ptolomeo.” My translation refines that offered by Barnes (2007, 50). Ramusio’s statement in the second edition was repeated in later editions; this text was taken from a modern facsimile, which reproduced the third edition of 1563.

to read either Ptolemy, Strabo, Pliny, or any other of the ancient writers on geography.”⁸

Similarly, the English geographer Richard Hakluyt did not reproduce early maps in his collections of voyages (Hakluyt 1582, 1589; see Skelton and Wallis 1974; Tyacke 2000, 3; Fuller 2023, 36–37). What was important for Hakluyt was the significance of voyages for the development of contemporary geographical knowledge. To that end, in his public lectures, Hakluyt compared “olde imperfectly composed” maps with maps of contemporary geography—“new lately reformed Mappes, Globes, Spheares”—to demonstrate the effects and benefits of overseas voyaging (Hakluyt 1589, sig. *2a).

From Ramusio’s *Della navigationi et viaggi* (1554) and Hakluyt’s *Principall Navigations* (1589) to John Green’s *New General Collection of Voyages and Travels* (1745–47) and Antoine François Prévost’s *Histoire générale des voyages* (1746–89; see D’Souza 2014), edited collections of voyages made no reference to old maps and mapping practices. And when the rotting wall maps in the Sala dello Scudo in the doge’s palace in Venice were replaced after 1760, new and thoroughly contemporary maps were used to delineate the routes followed by Venetian voyagers, notably the Cabots and Marco Polo, to construct a nostalgic view of Venice’s past glory (Milanesi 2010, 13–19).

Even scholars focused on particular voyages or eras were uninterested in early maps. In rewriting the history of Christopher Columbus and the Spanish encounter with the new world in the 1770s, for example, the prominent Scottish historian William Robertson maintained a resolutely modern spatial understanding. When he sent the British ambassador in Spain a list of the kinds of materials he desired from the Spanish archives, he made no mention of old maps; in the same vein, the ambassador’s response referred only to a “fine” contemporary map of South America, by which he meant the *Mapa Geográfico de América Meridional* by Juan de la Cruz Cano y Olmedilla, published in 1775 (Black 1988, items 1b and 3; see Edney 2020a).

Dedicated histories of the development of navigation, which extended into histories of marine commerce,

generally only hinted at the past development of map-making. For example, the anonymous essay that introduced Awnsham and John Churchill’s 1704 four-volume *Collection of Voyages and Travels* referred to chart making but did so only briefly as one of several maritime practices—alongside fireships, sheathing ships’ hulls with metal plates, etc.—that had been developed by the ancient Greeks and so were emphatically not modern inventions. The author opined that “Our Sea-Charts, on which later times have so much valu’d themselves, are of such antient date, that we cannot find their Original,” and supported this statement by some citations to ancient authorities that seemed to refer to charts of coastal Greece as well as world maps (“Introductory Discourse” 1704, xvi).⁹

After spending up to two thirds of their contents on ancient voyaging, general histories of navigation all emphasized the one technological development that distinguished modern navigational practice and set it apart from ancient practices: the invention, supposedly in thirteenth-century Italy, of the dry magnetic compass and its adoption for Mediterranean sailing. This was an event of huge retrospective significance. By permitting mariners to know their bearing when the skies were clouded over and when they were away from the coast and its landmarks, the compass gave mariners the confidence to sail into open water. The dry compass was therefore held up as engendering Europe’s fifteenth- and sixteenth-century oceanic explorations (“Introductory Discourse” 1704, xv–xvii, xvii–xxxvi; see Pollock 2012, esp. 92–95). As Daniel Defoe (1725–26, 298) put it, the magnetic compass “unt’y’d” the hands of mariners, who had previously been “fetter’d and manacl’d . . . by their Ignorance, not daring to venture far from the Shores,” and allowed them to leave the coastline behind and to sail out into the ocean (see also Padrón 2020, 65, 68).

HISTORIES OF GEOGRAPHY

Geographers began in the mid-seventeenth century to write historical narratives of geography as the practice of compilation. In addition to justifying their field, they rooted their work in antiquity, explained how geographical information had originated, and positioned themselves at the forefront of geographical practice (Withers 2019).

8. “. . . talche non havesse fatto piu dibisogno leggere, ne Tolomeo, ne Strabone, ne Plinio, ne alcin’altro de gli antichi scrittori intorno all cosse di Geografia.” Translation by Horodowich (2017, 63).

9. This anonymous essay continues to be misattributed to John Locke, a close friend of Awnsham Churchill, even though Crone and Skelton (1946, 83) conclusively demonstrated that Locke had *not* been involved in writing it; see also Pollock (2012, 81, 124, 143).

Although focused on the core geographical process of compilation, these chronologies of key geographers and their systematic works were extended to include the travelers and voyagers who created knowledge of the world, allowing them thereby to trace the steady rise in geographical information towards the contemporary present, in anticipation of its eventual perfection.

A specific subgenre of histories of geography, which offered guides to the printed maps that were available for each region, was more akin to the natural history inventory rather than the narrative. Published mostly in the later seventeenth and early eighteenth century, the guides helped an emergent public come to terms with the rapidly increasing volume of maps and atlases of uncertain quality in a still inefficient marketplace (Lubin 1678, 2–4; Coronelli 1707, 522–24; Gottschling 1711; Gregorii 1713; Lenglet du Fresnoy 1716, 1741–42; Hübner 1726; also Gatterer 1775, 113–660; even Hennicke 1831; Krünitz 1793, 89–90, listed the inventories). As histories, they gave much detailed information about early modern mapmakers, especially those by the German preachers and geographers Caspar Gottschling and Johann Gottfried Gregorii (a.k.a. Melissantes). As inventories, however, all tended to flatten the past into the present (Skelton 1972, 71; Harley 1987, 10–11; Heinz 2010, esp. 187–88; Edney and Pedley 2019b, 23–28; Török 2021).

The narrative histories of geographical compilation construed a specific process by which progress in geography was achieved. The histories of voyaging and navigation narrated the increase in numbers of voyages and the ever-greater accumulation of information. By contrast, as exemplified in the making of geographical maps, compilation was an intellectual act. Compilation required an agile mind to evaluate and reconcile different and often conflicting sources according to their cultural significance, their creators' social standing and authority, and their technical quality (Edney 1997, 96–104; Parker 2018). Compilation relied on the skills and critical attitudes of certain individuals—"positive geographers," as Didier Robert de Vaugondy (1755, 159) called them¹⁰—who in compiling data could create new knowledge and extirpate error. Yet even the latest works of positive geography were not perfect: "maps . . . ought to be considered as *unfinished*

Works, where there will be always found many things to be corrected and added, and . . . they ought to have a kind of *floating Title* affixed to them, expressive of their imperfect State" (Blair 1768, 20, original emphasis; see Withers 2019). Progress in compiling and synthesizing knowledge of the world depended on positive geographers working with ever more and better data (Edney 2019b).

Geographical progress was therefore neither inherent to geographical practice nor was it inevitable. The sheer breadth and variety of geographical practice meant that there was plenty of room for undisciplined persons to crassly corrupt geography's progress in an effort to make money. Each step forward by positive geographers had always been offset by less scrupulous geographers who plagiarized and simplified critical works and in doing so corrupted them by reintroducing or creating mistakes and errors. Early modern histories of geography thus depicted a serrated line of progress, in which a series of critical high points were separated by periods in which gains were eroded. Progress and decline were both aspects of human nature.

Geographers referred to older works and accounts to provide context for their contemporary practices and to hint at progression over time. They depicted older works as lacking currency and relevancy, and as being outdated. In this respect, early modern histories of geography served to promote their authors' own skills in collecting, assessing, and compiling sources to create new maps of regions and the world. They presented the origins and history of chorographical and geographical knowledge of the world in a manner that bordered on the moralistic, in that it sustained Enlightenment narratives of rationality and progress. Historical work served to position practicing geographers at the forefront of progress not only by demonstrating their own positive qualities as geographers but also indicating how they themselves were engaging in the necessary critical reform. In this respect, even as they construed themselves to be practitioners of an ancient science, in the great quarrel around 1700 over ancient versus modern learning, geographers implicitly placed themselves on the side of the moderns, as demonstrating the superior achievements of the moderns over even the great triumphs of antiquity (Heffernan 2014, 8–9).

10. "C'est de la géographie positive dont je parle ici": "I speak here of positive geography."

Histories of geographical practices all began with their ancient origins.¹¹ Herodotus, in book two of his *Histories* (440 BCE), had placed the origins of land surveying and so geometry in ancient Egypt: the division of the land by the legendary king, Sesostris, required the property boundaries to be redefined each year after the Nile's annual flood receded. Later, Joshua, successor to the first geographer Moses, used the same practices to divide up the promised land among the twelve tribes of Israel. Early modern geographers acknowledged that those geometrical principles were first used to make maps of a chorographical or topographical nature: regional surveys were perhaps made by Sesostris after he conquered territories (Robert de Vaugondy 1755, 5), probably by the Persian and Hellenistic empires, and undoubtedly by the Romans of their imperial conquests. The British chronologer John Blair advanced the general principle that "War has been generally the Occasion of the most accurate Maps of different Countries" and elaborated it into the assertion that the Romans "as they were *the Conquerors*, so they became *the Surveyors* of the World" (Blair 1768, 7, original emphasis).

But, went the origin story, it was the Greek philosophers in the sixth and fifth centuries BCE who had first made *real* geographical maps by establishing the sphericity of the earth and then connecting terrestrial locations to both astronomical observations and geometrical calculations for latitude and longitude. Commentators variously elaborated on the contributions to geographical mapping by Anaximander, Hipparchus, Marinus of Tyre, and especially Ptolemy. The early modern practice of geographical mapping was explicitly of great antiquity: "Born, so to speak, in Egypt, like the other fine arts, one sees [geography] successively occupying the attention of the Greeks, Romans, Arabs, and the Western peoples of Europe" (Robert de Vaugondy 1755, 4).¹²

In order to maintain a direct link between ancient and contemporary geographical practice, histories of geography all skipped over medieval Western Christendom. By ignoring medieval European geographical and marine maps, they could depict geographical compilation—and especially the combining of multiple itineraries and other

sources within the cosmographical framework of latitude and longitude—as a practice pursued consistently from antiquity, perhaps via the bridge of Arabic science, to the contemporary present.

The larger narrative of geography as a field grounded in antiquity is exemplified by a two-part essay by the French polymath and diplomat Antoine Augustin Bruzen de La Martinière (1722a, 1722b). La Martinière began the first part with the (presumed) topographical and chorographical mapping by Noah and his immediate descendants after the Deluge, continued with the history of voyaging and exploration in the ancient and Classical worlds, and culminated in a detailed argument that the errors in Ptolemy's great gazetteer stemmed from errors in the data that had formed the basis of Ptolemy's calculations of latitude and longitude, specifically Roman itineraries and the assumed size of the earth. Skipping over the Middle Ages in both Christian and Islamic cultures, La Martinière began his second part with the reception of Ptolemy's *Geography* in western Europe and the subsequent progressive development of the field through cosmographical treatises by scholars such as Sebastian Münster, Gerardus Mercator, and Bernhard Varenius, before spending the last thirty pages outlining his own plan to meet the evident need for a great geographical dictionary that would raise geography to a new level. He soon published this ten-volume *Grand dictionnaire géographique et critique*, in which he adopted a more topical structure for its prefatory history. A chronology of modern geographical dictionaries was followed by an historiographical summary of each of geography's primary subject matters: Biblical; ecclesiastical; civil and political (Classical, medieval, modern); and poetic or fabulous (La Martinière 1726).

The historiographic and reformist sensibility was also evident in the works of more marginal geographers. Writing in Boston in 1748, the strongly opinionated Scots-born doctor William Douglass sharply criticized the maps of eastern North America made earlier in the eighteenth century. The map included in Cotton Mather's *Magnalia Christi Americana* (1702) had been "composed," Douglass wrote,

11. Some commentators were relatively brief, as Varenius (1650, 7–8), Cellarius (1703, xi–xii, 3–4), and Green (1728). Others displayed their erudition more self-consciously: Gottschling (1711, 16–31) gave extensive quotations from Classical sources, in the original Greek and Latin, although he evidently followed Cellarius's enumeration of authorities; Gottschling was in turn echoed by Krünitz (1793, 90–98). See also Gregorii (1713, 10–118).

12. "Née, pour ainsi dire, en Egypte comme les autres beaux arts, on la vit successivement occuper l'attention des Grecs, des Romains, des Arabes, & des peuples occidentaux de l'Europe."

from some old rough Draughts of the first Discoverers, with obsolete Names not known at this Time, and has scarce any Resemblance of the Country; it may be called a very erroneous antiquated Map.

Moreover,

Capt. *Cyprian Southack's* Land-Map of the Eastern *North America* [1717], is worse; it is as rude as if done by an Indian, or as if done in those Ages when Men first began to delineate Countries; it gives no Information, but has no other bad Effect, than turning so much Paper to Waste.

As ever in such situations, the author sought to improve the situation: Douglass was working on his own, definitive map of New England that he thought would put those and other earlier works to shame (Douglass 1749–52, 1:362n).

In creating narratives of the improvement in geographical mapping, early modern geographers placed the motive for progress on the individual, positive geographer. Even as they wrote the history of the acquisition of geographical data as being one of steady accumulation, the progress made in recording and presenting those data in maps appeared neither simple nor universal. This twist was clearly expressed by the Irish geographer John Green, when still working under his birth name of Bradock Mead, in an essay on the “Present State of Geography” that he appended to his 1717 manual on geographical map projections and compilation methods. Green offered the general principle that each step forward in geographical mapmaking was undermined and perhaps even negated by human nature. The key passage is worth quoting in full:

Geography, without Doubt, flourished long before *Ptolemy*, for (not to mention *Strabo*, *Pliny*, *Mela*, &c. who were earlier) those MAPS which go under his Name, according to his own Confession, were copy'd from others, that were made by *Marinus Tyrus*, &c. with some Improvements of his [i.e., Ptolemy's] own added. After him came those call'd the lesser Geographers; but from that time forward Geography lay dead, 'till about the fourteenth Age, that *Columbus*, by his Example, set the whole World a Travelling, and reviv'd in all Sorts of People a Passion for Geographical Studies. *Mercator* was the first of Note, and next

to him *Ortelius*, that undertook to make a new Sett of MAPS, with the modern Divisions of Countries, and Names of Places; for want of which, *Ptolemy's* were grown almost useless. The Ice being broke, many follow'd his Example, and set forth MAPS, which were for the most Part, Copys of his [i.e., Mercator's]. Towards the middle of the last Age, [*Blaeu*] in *Holland*, and *Sanson* in *France*, publish'd New Setts of MAPS, with many Improvements from the Travellers of those Times: And whether they were thought so perfect as not to be mended, they have been copy'd ever since, with very little Variation for the better, but often for those worse, by the *English*, *Dutch*, and *French* Map-makers. Geography was just relapsing into the former Obscurity and Error out of which [*M*]ercator took it, when *Monsieur Delisle*, a *French* Geographer, undertook to disabuse the World, and put a Stop to those spurious Draughts that were daily obtruded on the Publick, by making a compleat Sett of MAPS, both of Old and New Geography, corrected and improv'd from the Surveys several *European* Nations had made of their respective Countries, the Observations of the best Travellers in all Languages, and the Journals of the Royal Societies of *London* and *Paris*: By which Performance, that Author, has in a most extraordinary manner obliged the Curious, and gain'd Credit and Applause to himself and his Country. (Green 1717, 131–32; see also d'Anville 1777, 8–13)

That is, positive geographers might have repeatedly advanced the field, and they might even have created comprehensive atlases, or “sets” of maps—which for Green constituted special geographies that systematically examined each part in turn of entire world—but everyone else was content merely to copy that critical work. Eighteenth-century practice was as bad as it had ever been: the economics of map publishing meant that it was much cheaper to copy an existing map than to create a new one, while the ignorance of the (British) public was such that “every one that can copy or engrave a MAP” could set themselves “up for a Geographer” (Green 1717, 132, 134; see Pedley 2005).

Green held that geographers, if they were going to be accorded that exalted title, had to cite their sources and justify their work. Guillaume Delisle had published some of

his own correspondence and notes on such matters (e.g., Delisle 1700, 1722). His positive successors also published separate memoirs to explain their map work: the example set by d’Anville and Jacques Nicolas Bellin was emulated by Green himself and others (Haguet 2011; Bousquet-Bressolier 2019; Edney 2019b, 2019c). These memoirs implicitly addressed the past, in that the geographers laid out the faults of previous maps, justified the use of often highly varied source materials, and explained how they had combined those sources in new and improved works (d’Anville 1777).

The memoirs advertised their authors’ scholarly credentials. It was the need for self-promotion and self-justification that led Robert de Vaugondy to publish a detailed history of geography and, more especially, of geographical map-making. He prepared his *Essai sur l’histoire de la géographie* (1755) as the introduction to his *Atlas universel* (completed 1757) to counter both lingering accusations of plagiarism and severe criticism of the quality of the first maps he had prepared for his atlas. The second half of this long essay

comprised a memoir explaining how he had designed the atlas as a whole and had compiled each map anew. Robert de Vaugondy used the first half to show off his erudition and intellectual understanding of the field in answer to his critics, in particular Philippe Buache, Delisle’s intellectual and commercial heir. Buache responded in turn that, in preparing his historical essay, Robert de Vaugondy had relied too much on, and had given insufficient credit to, the essays by La Martinière. Robert de Vaugondy had certainly drawn on the earlier works, but he explained that his primary concern was with the history of geographical mapping and so had added much more to La Martinière’s history of written geographies and cosmographies. Given these circumstances, it is not surprising that Robert de Vaugondy focused almost entirely on the astronomical and geometrical practices of geographical mapping in order to demonstrate his own skills (Robert de Vaugondy 1755, e.g., 5 [citing La Martinière] and 40–41 [close paraphrase of the earlier work]; see Pedley 1984; Pedley 1992, 50–68, esp. 53–54 and 60–61; Godlewska 1999, 33–34).

ANTIQUARIES AND THE RELICS OF LOCALITY AND NATION

MISTRUSTFUL OF HISTORIANS’ LITERARY, MORALISTIC, and intellectual biases, antiquaries let material relics and textual monuments from the past speak for themselves, whether coins, weapons, grave goods, or manuscripts (Lake 2020). The collections assembled by Richard Gough exemplify the somewhat bewildering array of objects that could be used to illuminate or to conjure the past. According to the title to the catalog for their auction, Gough had collected “prints, drawings, coins, medals, seals, painted glass, paintings, pottery, brass monuments, marble fragments, Chinese and other bronzes, miniatures, seals,” and other “miscellaneous antiquities” (Sotheby and Sotheby 1810). The auction did not include the extensive library of manuscript and printed books and maps that Gough had used in writing his *British Topography* (1780a) and that he had already donated to the Bodleian Library in Oxford.

Antiquaries were motivated by a variety of familial, communal, religious, institutional, and political sentiments to resurrect the past in order to celebrate the present. The hallmarks of their scholarship were an unquenchable thirst for facts about, and artifacts from, the past, generally in service of local pride, an incipient nationalism, and a nostalgia for lost glories (e.g., Cattaneo 2006, 27–30). Blending local topography, archaeology, ethnography, folklore, bibliography, and natural philosophy, antiquaries’ accounts tended towards erudite history-as-inventory rather than moralistic history-as-narrative. Historians *per se* accordingly disdained antiquaries for their magpie-like acquisition of relics and facts without reference to the larger historical picture (Walters 1988, 542).¹³

As might be expected, given their concern to interrelate places and regions with parochial and national identities, antiquaries made use of contemporary regional maps and

13. George Cruikshank’s satirical print, “The Antiquarian Society,” (appearing before page 431 in volume 3 of *The Scourge*, June 1812) depicted a meeting of the Society of Antiquaries in which members presented worn-out and broken modern objects as if they were ancient artifacts: a weathered pig trough for a sarcophagus, a chipped and fractured chamber pot for a Roman vase, and so on. O’Donoghue (1977, no. 44) and Hewitt (2011, pl. H) reproduced the print because they thought the gentleman in the foreground with a sheaf of Ordnance papers in his pocket might have been a posthumous rendition of William Roy, the prominent military engineer and antiquary who had laid the foundations for the Ordnance Survey, of whom no portrait survives. However, the British Museum catalog (Prints and Drawings, 1868,0808.12671) notes that Cruikshank’s satire referenced a recent election for the society’s president; the figure, with what looks like the star of the order of the Bath on his left breast, therefore represented Lord Mulgrave, master-general of Ordnance and a member of the society (Gaimster, McCarthy, and Nurse 2007, 67).

urban and place plans. In this respect, they followed the same practices as historians who used contemporary maps to assist their understanding of the past (see part 1). Also, as historians made maps of Classical, Biblical, and modern history, so antiquaries made analytic maps of regions and places in the past. Moreover, many antiquaries surveyed and mapped specific sites of archaeological interest (Edney 2019d, 628–30; see Forss 2023).

The importance of maps and plans to antiquaries led some to provide inventories—or natural histories—of maps of particular regions. Such inventories were akin to those prepared by some geographers, but they were much more regionally focused. For example, Eberhard David Hauber compiled a long and detailed bibliography of the maps of southwestern Germany (Hauber 1724a, 1–38, 69–105, 114–22, 148–80); he also described, in a separate section, some surviving manuscript maps of the region (Hauber 1724a, 38–52, 123–37, 105–14; see Bonacker 1952, 49–50; Scharfe 1997, 23–24). A shorter instance was Bernard Erberg’s (1760, 44–50) inventory of maps of Bohemia printed since the early sixteenth century, which he presented as part of his larger bibliographical account of the literature of the history and character of the kingdom. Erberg offered three classes of map: those depicting Bohemia together with neighboring provinces; maps just of Bohemia itself; and more general maps that “referred” to Bohemia.¹⁴

By and large, antiquaries were little different from other early modern map collectors, in that they overwhelmingly acquired maps of contemporary significance (Pedley and Edney 2019). What antiquaries expended considerable effort to recover and collect were any and all relics of the past. Relics were to be treasured because they had survived the vicissitudes of time and their value, both intellectual and monetary, accrued to their owners. In searching for relics, antiquaries did of course find and acquire less-than-recent maps that they then cherished and studied (see, e.g., Harper 2010). Yet it is evident that no antiquary made a systematic attempt to locate specifically *map* relics; they acquired them only opportunistically, as they encountered them.

Antiquaries did not scorn medieval maps, and so differed significantly from the historians and geographers who

engaged with maps from the past. Classical historians were uninterested in medieval maps, other than as preserving ancient geographical knowledge, and historians of geography simply ignored medieval world and regional maps as irrelevant to, and distracting from, their arguments that the practice of positive geography was grounded in antiquity. By contrast, antiquaries’ interest in giving contemporary societies a continuous and unbroken history from the remote past meant that they celebrated medieval relics as well as objects that they construed as being antiques.

To be considered a relic and to be worthy of notice—rather than appearing as just one more item in an inventory—a map needed to possess both the patina of age and some special quality that made it unique. An eighteenth-century antiquary might have accepted that the regional maps published by Abraham Ortelius in the last quarter of the sixteenth century were old but, existing in many atlases issued over several decades, they were too familiar to be considered as relics. By contrast, seemingly unique manuscripts and rare prints seemed self-evidently to be relics. As such, they warranted reproduction in facsimile, to bring their remarkable information to the notice of other, appreciative antiquaries. (Many of the antiquaries’ facsimiles were identified by Santarém 1849–52, 1: xxxviii–lv, who informed Skelton 1972, 69–73.)

Some early maps were reproduced when erudite scholars printed their parent works. The French diplomat Jacques Bongars (1611), for example, brought together and printed a number of medieval manuscripts, which required the reproduction in facsimile of three *mappaemundi* and one of the fourteenth-century gridded maps of the Holy Land from Marino Sanudo’s “Book of Secrets” (see Figure 4; Skelton 1972, 69; Harvey 2012, 125). Edward Bernard, Savilian Professor of Astronomy at Oxford, would have reproduced a number of early maps in about 1670, had he been able to realize his plans to reprint many early works on mathematics in some twenty volumes. One of those volumes was to be dedicated to cosmography and mathematical geography, beginning with a reprinting of Claudius Ptolemy’s *Geography* and continuing with reproductions of other books and maps, including the now-famous “Selden map” of China (Poole 2020; see Batchelor 2014 and Nie 2019).

14. My thanks to Jitka Močičková for the reference to Erberg’s work.

A few free-standing maps were reproduced specifically for their local significance. Gough (1780a) reproduced the remarkable late medieval map of Britain that now bears his name (Figure 2). Another example is the supposed medieval copy of a Roman map of Britain reproduced by the pioneering archaeologist William Stukeley (1757) and several others (Edney 2020b). While Gough and Stukeley enumerated the toponyms on the maps they reproduced, together with their modern equivalents, they addressed their facsimiles to a burgeoning nationalism. Other scholars described and reproduced maps that referenced past glories associated with their institutions, hometowns, or

provinces. In his annals of the Benedictine Order, for example, the monastic chronicler Jean Mabillon (1703–39, esp. 2 [1704]: opp. 571) briefly discussed the ninth-century architectural plan of an idealized monastic establishment held by the abbey of St. Gall, which he mistook as a plan of the abbey itself; he reproduced the plan from a tracing that he had solicited twenty years earlier from the abbey's librarian (Lemaitre 2015, 76–77). The innovative terrestrial globe constructed by Martin Behaim in 1490–92 was reproduced by being projected as a double-hemisphere world map by two residents of Nuremberg: first by the geographer and astronomer Johann Gabriel Doppelmayr

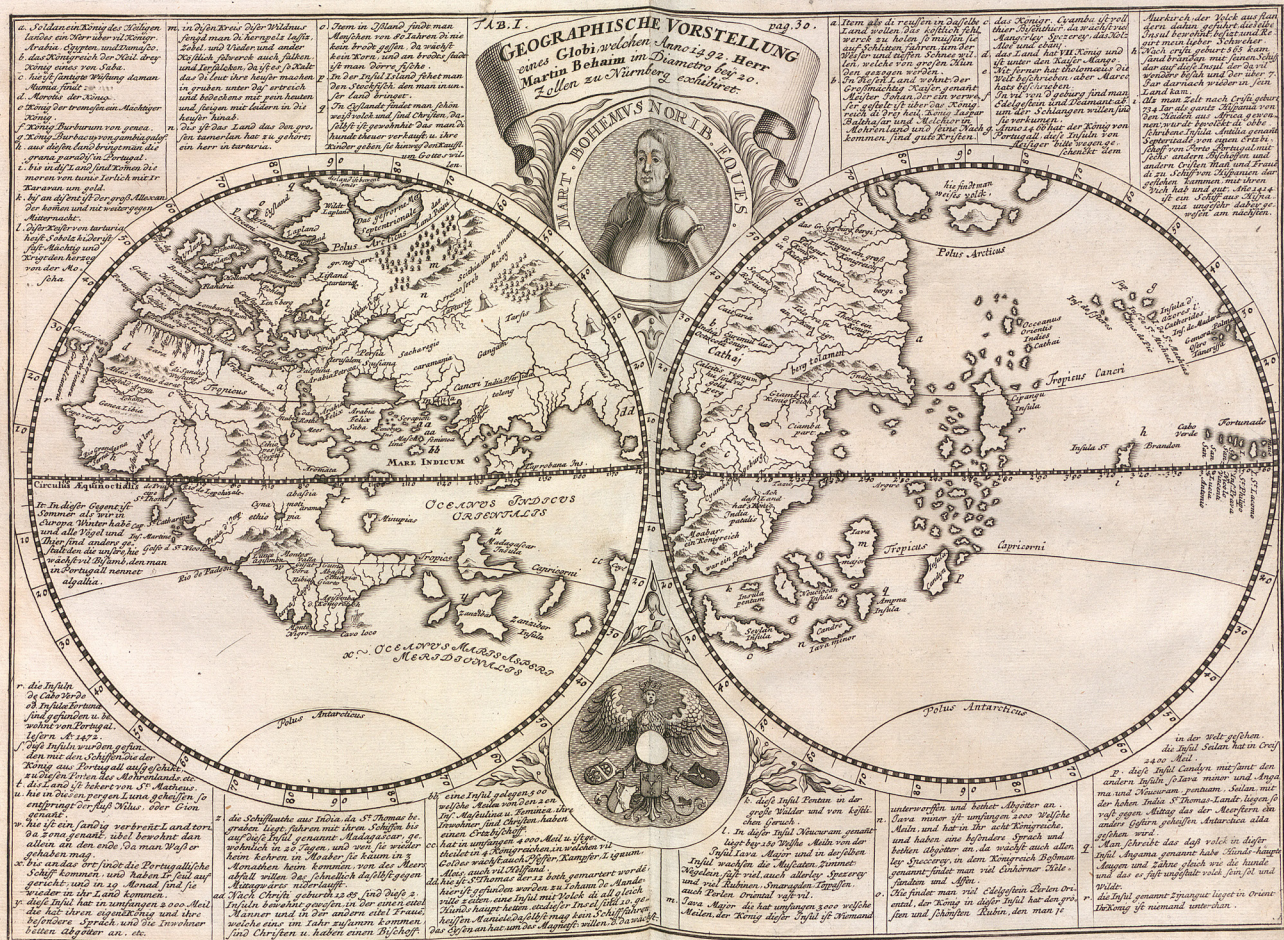


Figure 9. Geographische Vorstellung eines Globi, welchen Anno 1492. Herr Martin Behaim in Diametro bey 20. Zollen zu Nürnberg exhibiret, pl. 1 in Johann Gabriel Doppelmayr's (1730, 27–31, esp. 30) biography of Martin Behaim. Copper engraving, 30 x 41 cm. Courtesy of the Bayerische Staatsbibliothek (Hbks/M 25-1/2, Taf. 1); online at www.digitale-sammlungen.de/en/view/bsb00083403.



Figure 10. Giovanni Battista Nolli's reduced facsimile of Leonardo Bufalini's woodcut plan of Rome, in twenty-four sheets, published in 1551: Carlo Nolli and Francesco Monaco, . . . *urbis Ichnographiam a Leonardo Bufalino Ligneis formis Evulgatam Servata Proportione*. . . (Rome: Giovanni Battista Nolli, 1748). This reproduction made widely known Bufalini's large map that today survives in just two complete sets and one partial set, all of the 1560 reissue (see Maier 2007; Maier 2015, 77–118). Copper etching and engraving, 46.5 x 69.5 cm. Courtesy of the Metropolitan Museum of Art, New York (Gift of A. Hyatt Mayor, 1977; acc. 1977.661.2); online at www.metmuseum.org/art/collection/search/358826.

(1730, 27–31) in his history of the arts and sciences in the imperial city (Figure 9) and again by the lawyer and bibliophile Christoph Gottlieb von Murr (1778, 14–44) in his celebratory account of Behaim's career. In Venice, one antiquary briefly discussed medieval sea charts in a celebration of Venetian arts (Zanetti 1758, 2:46–48), while two monastic chroniclers described Fra Mauro's world map of ca. 1450 in their annals of the Camaldolese order of Benedictines (Mittarelli and Costadoni 1762, 7:252–56).

If the collecting of map relics was determined by cultural needs, their presentation in facsimile was aggressively direct. They were reproduced with little attempt at contextualization, explanation, or interpretation. In a late example,

the London lawyer and antiquary William Robinson added a copper-engraved facsimile of a 1619 plan of the manor of Tottenham to the second edition of his history of that village (Robinson 1840, 1: opp. 1). He did not discuss the map in the book, nor did he mention or reproduce the written terrier that had accompanied and explained the original plan. Nor did he invite his readers to compare their own knowledge of a rapidly changing village with the old plan; after all, the village would not grow and merge into the expanding conglomeration of London until the 1860s, after the construction of the Great Eastern Railway (*Village London Atlas* 1986, 71, 73). That is, Robinson presented the map as a curiosity and as a parochial icon of the historical essence of the locality.¹⁵

15. My thanks to Peter Barber for the reference to Robinson's work.

When antiquaries did describe map relics, they especially emphasized toponyms to demonstrate the antiquity and importance of specific places. They also discussed what they found to be curious and unique features shown in the maps. In his bibliography of the maps of southwestern Germany, Hauber (1724a) indicated the curious features that could be found on each map. He also exemplified how antiquaries, focused as they were on the mapping of their home places and regions, were well attuned to how well topographical plans and chorographical maps depicted the immediate landscape. As he listed and described maps, he further detailed the “defects and flaws” in regional maps as a plea for their improvement (Hauber 1724a, 53–68, 137–47).

The manner in which eighteenth-century antiquaries could improve on older plans was highlighted by Giovanni Battista Nolli’s greatly reduced reproduction of Leonardo

Bufalini’s pioneering 1551 plan of Rome (Figure 10) in conjunction with his own twelve-sheet map of the city, published in 1748. Nolli had diligently mapped the surviving ruins of ancient Rome and had further extrapolated from them to plot out the footprints of complete ancient buildings (Verstegen and Ceen 2013; Bevilacqua 2019). Bufalini had also mapped out the city’s ruins, but without the same degree of precision, comprehensiveness, and pretension that Nolli would achieve two centuries later (Huppert 2008). With his facsimile, Nolli paid homage to his predecessor’s creation of a timeless landscape and further demonstrated the progress that had been made both in mapping and in the city’s fabric (Maier 2015, 117–18, 214). The basic antiquarian impulse must also be acknowledged: despite having been printed, Bufalini’s plan was already so rare as to constitute a relic that deserved to be reproduced in its own right as a monument to the particular nature and character of Rome and of Roman culture.

RECONFIGURING STUDIES OF EARLY MAPS AFTER 1775

ALTHOUGH I USED RICHARD GOUGH TO INTRODUCE the subject of antiquaries and their collections, and both Skelton (1972) and Harley (1987) presented him as the quintessential antiquary of the early modern era, when it comes to his map work he is actually more properly understood as a transitional figure. While much of his map work was decidedly early modern in character, some elements revealed the influence of some of the intellectual trends that would completely recast history and geography in the following decades.

Gough devoted a substantial portion of his *British Topography* to an inventory of printed maps and charts of the counties, coasts, and roads of Britain, first of England and Wales and then of Scotland and Ireland (Gough 1780a, 1:86–112, 2:575–62, 2:765–69, respectively). Gough further publicized each of the medieval maps that he and others had already found by reproducing them, either all (Figure 2) or in part (Figure 11) and described their content in detail, listing their toponyms with their modern equivalents (Gough 1780a, 1:57–86). He also referenced many more local chorographical and urban maps throughout the two volumes. And, like his colleagues, Gough commented on the quality of printed regional

maps, although he gave only a brief and imprecise blanket condemnation:

Notwithstanding the assertions of [Emanuel] Bowen, [Thomas] Kitchen [i.e., Kitchin], and other modern makers, that their maps are framed from *actual new* surveys, there is scarce a single one which does not abound with faults: and a set of correct maps remains to be hoped for from the undertakers of surveys of counties; though it were much to be wished the abilities of some of these were more answerable to the encouragement afforded them. The same may be said of all the republishers of [the road maps by John] Ogilby.

Along the same lines, he further stated that of the sixteen thousand “general and particular” maps that he supposed to have been published since the invention of printing, “not above 1700 are originals” (Gough 1780a, 1:108–9, original emphasis).¹⁶

Despite its general character as a natural history, Gough’s map work shaded into the realm of historians of geography. He drew on the histories of geography to create a long

16. Gough (1780a, 1:109) cited “Long’s Astronomy, v. I, p. 152,” but this is false: I find no such figures in Long’s chapter on map projections, “Of Maps and Their Uses” (Long 1742, 1:152–64), nor elsewhere in his book. Note, however, that Büsching (1754–92, 1:36) and then Gatterer (1775, 116) had previously stated the same figures, neither citing a source.



Figure 11. Richard Gough, facsimiles of Britain on three medieval English maps, in his *British Topography* (1780a, 1: pl. III, opp. 1:64). LOWER RIGHT Fig. 1: from the twelfth-century *mappamundi* now known as the Sawley Map (Corpus Christi College, Cambridge, MS 66.1) (see Harvey 1997; Hiatt 2019). UPPER RIGHT Fig. 2: from the fourteenth-century *mappamundi* in Ranulf Higden, “Polychronicon” (British Library, MS Royal 14.C.ix, fols. 1v–2r). LEFT Fig. 3: the surviving northern half of the thirteenth-century map of Britain in Matthew Paris, “Chronica maiora” (Corpus Christi College, Cambridge, MS 16, fol. v) (see Harvey 1992, map B). Copper engraving, 24 x 37 cm. Courtesy of the Osher Map Library and Smith Center for Cartographic Education, University of Southern Maine (Osher Collection 7420).

footnote, crammed with many learned citations, laying out a history of geographical maps of the world and its regions in ancient Greece and Rome; he scrupulously acknowledged that ancient references to *tabulae* might in fact have referred to written itineraries rather than to graphic maps. And Gough further mentioned the few medieval Islamic and later Japanese and Chinese maps that he possessed or otherwise knew about (Gough 1780a, 1:57–59n). In his account of the medieval maps of Britain, Gough also followed historians of geography by paying attention not only to the maps of Britain but also to how Britain was depicted in medieval world maps found in British collections. He began with the Peutinger map, which he took from von

Scheyb’s 1753 facsimile (Gough 1780a, 1:57–86). Indeed, Gough’s publisher (I presume) brought together Gough’s inventory and related materials and rearranged them into a narrative directly akin to early modern histories of geography (Gough 1780b).¹⁷

Gough’s blending of antiquarian and geographical histories might be interpreted as an idiosyncratic phenomenon, were it not also for two further elements of his map work. First, as he confessed to an old friend and colleague, he was interested in tracing “the progress of Map-making among us” (Gough to Rev. Michael Tyson, 6 October 1770, reproduced in Nichols 1812–16, 8:668; see Walters

17. My thanks to Catherine Delano Smith for bringing the pamphlet to my attention. Lacking authorial attribution, it is known in just one cataloged impression, in the Bodleian Library.

1978, 27). Gough's quest led him to undertake a search for relevant medieval maps across several collections to which he had access. More importantly, this sentiment entailed a subtle shift from understanding geographical mapping from a practice pursued by individuals to an inherently social practice. Early modern historians of geography had understood geographical progress as the work of individual, positive geographers who worked to produce new and comprehensive atlases. In contrast, Gough took geographical progress to be more of a communal work of the British nation ("among us") and to be a marker of national sophistication.

In this brief moment, Gough revealed the influence of the "philosophical" history that postulated some underlying shape to or structure for historical progress. Beginning with the French *philosophes* who had argued that societies must pass through stages of culture, from savagery through barbarism to civilization, some eighteenth-century scholars had begun to explain the history of humanity in terms of the inevitable passage through linear sequences of predetermined stages of cultural advance. Like the new, emergent breed of historian of geography and discovery, Gough used the increase in quality and quantity of geographical knowledge as a marker of the transition of British society from one cultural stage to the next, from an apparently "barbarous Monkish system of Geography" to the more advanced and cultured mapmaking of post-medieval Europe (Gough to Tyson, 13 November 1770, in Nichols 1812, 8:668; see Edney 2020a). Furthermore, different societies might be compared and evaluated according to the cultural stages that they had respectively reached. This was the context for Gough's reference to Chinese and Japanese maps in a book otherwise addressing specifically *British* relics. He compared one Chinese map in his possession, which I have yet to be able to identify, with those of medieval Britain and concluded that "the appearance of the [Chinese] map comes nearest to the latest of our own here given, and the mountainous face of the country is better marked." So, the Chinese map represented an advance on medieval British maps but not so much of an advance, Gough implied, as to be superior to more recent British mapping (Gough 1780a, 1:59n).

Gough's act of comparing British with Chinese maps further represents a break, subtle but nonetheless significant, with previous early modern map work that compared

geographical outlines and features on maps from the past to those on contemporary maps. Classical historians did so to relate ancient to contemporary toponyms to assist in the reading of Classical texts. Antiquaries similarly equated medieval toponyms to those of the contemporary present, and they further presented facsimiles of early maps and plans to permit their readers to appreciate them as relics of the local past. At the same time, historians of geography and voyages compared the information contained in voyage accounts against contemporary maps. For all these early modern scholars, the comparison of early maps and texts with contemporary maps was made in *absolute* terms, the past then compared against the world now.

By contrast, Gough's brief excursion into Chinese mapping entailed an act of *relative* comparison, by which two or more early maps are compared against each other to assess their relative situation on the trendline of geographical and civilizational progress. Eventually, starting in the 1830s and 1840s, some scholars in Paris began to undertake similarly relative comparisons of early maps to demonstrate the transition of European culture from medieval mysticism to the Renaissance rationalism; they proselytized the approach by providing large collections of facsimiles of early maps that encouraged other scholars to make the relevant comparisons for themselves and so discern the advance of European civilization. In the process, the Parisian scholars founded a major thread of map historical studies (Edney 2023). Relative comparison would continue as the basic methodology of what has often been termed "historical cartography,"¹⁸ which is to say the tracing of the accumulation of geographical information of a region as a surrogate for the rise, increasing sophistication, and overseas transfer of Western civilization. The methodology of relative comparison is very much the work of modern map scholars and manifestly is *not* an aspect of any of the early modern engagements with maps from the past.

Yet, when R. A. Skelton (1972, 63–70) wrote the history of what he construed to be the discipline of "the history of cartography," he assumed that any juxtaposition of early maps had to entail the kind of relative comparison that he himself practiced. He could accordingly see the origins of interest in the history of cartography in the provision of multiple world maps in medieval manuscripts, an interest that would flourish in the juxtaposition of Ptolemaic maps

18. Skelton (1972, 62) sought to restrict "historical cartography" to the making of maps of the past, but the term continues in use for relative comparison and the construction of trendlines of cartographic progress.

and *tabulae modernae* in the Renaissance and in the production of facsimiles of maps from the past. J. B. Harley (1987, 7–8, 10) largely followed suit. Skelton and Harley were, however, fundamentally wrong in thinking that early modern interests in maps as historical documents were essentially the same as modern interests. Marcus Welser’s 1598 facsimile of the Peutinger map (Figure 1) and Gough’s 1780 facsimile of the now eponymous late medieval map of Britain (Figure 2) were made for significantly different reasons and for markedly different scholarly communities. Only with a hindsight cognizant of the importance of facsimiles to map historical practices in the nineteenth and twentieth centuries can Welser and Gough and other early modern scholars be considered to have contributed to a common intellectual pursuit.

The past itself was not consistently distinguished from the present in the early modern era, and there was no sense that either “history” or mapping constituted a single endeavor. Early modern engagements with mapping and the past played out in three main arenas of scholarship. Classical historians studied and reproduced Ptolemy’s *Geography* and the Peutinger map, comparing the places they identified in the ancient world with their contemporary equivalents. Positive geographers wrote histories of voyaging and of the compilation of geographical maps and texts to position themselves at the forefront of a long history of progress. Antiquaries used and reproduced certain maps from the past as relics of local or national identity, presenting them in natural histories alongside all the other relics they accumulated. It is therefore nonsensical to refer to the study of “map history” or the “history of cartography” before 1800; no such coherent field of study would have been recognized.

The identification of early modern, or even medieval, origins of the “systematic” study of the “history of cartography” was not so much wishful thinking by Skelton and Harley, but a key plank of their arguments that the field constituted a long-standing intellectual practice that now deserved a prominent place in the academic firmament.

ACKNOWLEDGMENTS

I INITIALLY WROTE THIS ESSAY AS A CHAPTER FOR A history of map history, but it ceased to fit as that project steadily morphed into what I now call *Map: Concepts and Histories*, requiring this relocation; my first thanks to the

In refuting their invented historiographies, I suggest that their disciplinary visions were equally invented: modern map studies, and map history more particularly, are in fact products of the profound changes in about 1800 in Western knowledge practices and institutions. Then, increasingly generic conceptions of both “history” and “map” combined with the intensification of imperial endeavors and nation formation to produce a common intellectual agenda: to understand maps from the past as markers of the rise of Western civilization as a whole and of individual nations in particular. As I have argued elsewhere, the origins of the study of map history lie the 1830s and 1840s (Edney 2022a, 2023) and not in some putative, abstract, early modern endeavor.

Finally, this essay demonstrates the importance of rejecting the idealization of “cartography” and of understanding mapping as comprising a series of modes, each defined primarily by practices. Classical historians and geographers worked primarily with world and geographical maps, not with marine charts and certainly not with more detailed plans of places. Antiquaries worked almost exclusively with chorographical maps and plans of places. This differentiation was a function of respective intellectual practices working with different spatial conceptions. The divisions between the three scholarly arenas were not hard and fast: in other aspects of their lives, antiquaries could also be consumers and producers of geographical maps; and some early geographers were also humanists who were far more interested personally in making analytic maps of the past than in making maps of contemporary geography. Even so, those overlaps should not be thought to mark some increasing unity of maps and of cartography. Rather, Gough’s reconfiguration of early geographical maps as indicators not of the positive qualities of individual geographers but of the state of a society’s geographical knowledge indicates that the supposed unity of modern mapping was the result of conception and ideology and not of technological change. Ultimately, our conceptual categories are not natural or self-evident representations of mapping but constructed through long practice or dramatic invention.

editors of *Cartographic Perspectives* for accepting its length! In addition to the specific individuals mentioned in the notes and to the useful comments of the anonymous reviewers, I must thank Katie Parker and Louis Miller for

their comments on early versions of this essay. More generally, I am indebted to my good friend and colleague Mary Sponberg Pedley for all her insights into

eighteenth-century mapping, and to all the librarians and archivists who have made early modern texts and images available for easy access online.

REFERENCES

- Abbattista, Guido. 1997. "Establishing the 'Order of Time and Place': 'Rational Geography,' French Erudition and the Emplacement of History in Gibbon's Mind." In *Edward Gibbon: Bicentenary Essays*, edited by David Womersley, John Burrow, and John Pocock, 45–72. Oxford: Voltaire Foundation.
- d'Anville, Jean-Baptiste Bourguignon. 1744. *Analyse géographique de l'Italie*. Paris: Estienne & fils.
- . 1759. "Mémoire concernant les rivières de l'intérieur de l'Afrique, sur les notions tirées des Anciens & des Modernes." *Mémoires de littérature, tirés des registres de l'Académie royale des Inscriptions et Belles-Lettres* 26: 64–81.
- . 1777. *Considérations générales sur l'étude et les connoissances que demande la composition des ouvrages de géographie*. Paris: Imprimerie de Lambert.
- Arias, Santa. 2007. "Recovering Imperial Space in Juan Bautista Muñoz's *Historia del Nuevo Mundo* (1793)." *Revista Hispánica Moderna* 60 (2): 125–42. <https://doi.org/10.1353/rhm.2007.0015>.
- Barber, Peter. 2006. "Medieval Maps of the World." In *The Hereford World Map: Medieval World Maps and their Context*, edited by P. D. A. Harvey, 1–44. London: The British Library.
- . 2007. "Mapmaking in England, ca. 1470–1650." In Woodward 2007b, 1589–669.
- . 2009. *King Henry's Map of the British Isles: BL Cotton MS Augustus Ii9*. London: Folio Society.
- Barnes, Jerome Randall. 2007. "Giovanni Battista Ramusio and the History of Discoveries: An Analysis of Ramusio's Commentary, Cartography, and Imagery in *Delle Navigazioni et Viaggi*." Ph.D. diss., University of Texas at Arlington.
- Batchelor, Robert K. 2014. *London: The Selden Map and the Making of a Global City, 1549–1689*. Chicago: University of Chicago Press. <https://10.7208/chicago/9780226080796.001.0001>.
- Bennett, Tony. 1995. *The Birth of the Museum: History, Theory, Politics*. London: Routledge. <https://doi.org/10.4324/9781315002668>.
- Berlinghieri, Francesco. 1482. *Geographia di Francesco Berlinghieri Fiorentino in terza rima et lingua Toscana distincta con le sue tavole in varii siti et provincie secondo la geographia et distinctione de le tavole di Ptolomeo*. Florence: Nicolo Todescho.
- Bertius, Petrus. 1628. *Geographia vetus ex antiquis et melioris notae scriptoribus nuper collecta*. Paris: Melchior Tavernier. Reprinted, Paris: Jean Boisseau, 1645.
- Betz, Richard L. 2007. *The Mapping of Africa: A Cartobibliography of Printed Maps of the African Continent to 1700*. 't Goy-Houten, Netherlands: Hes & de Graaf.
- Bevilacqua, Mario. 2019. "Nolli, Giovanni Battista." In Edney and Pedley 2019a, 1061–63.
- Birkholz, Daniel. 2006. "The Gough Map Revisited: Thomas Butler's *The Mape off Ynglonnd*, c.1547–1554." *Imago Mundi* 58 (1): 23–47. <https://doi.org/10.1080/03085690500362298>.
- Black, Jeremy. 1988. "The Enlightenment Historian at Work: The Researches of William Robertson." *Bulletin of Hispanic Studies* 65 (3): 251–60. <https://doi.org/10.1080/1475382882000365251>.
- . 1992. "Maps and Chaps: The Historical Atlas. A Perspective from 1992." *Storia della Storiografia* 21: 91–114.
- . 1997. *Maps and History: Constructing Images of the Past*. New Haven, CT: Yale University Press.

- Blair, John. 1768. "On the Rise and Progress of Geography." In *Fourteen Maps of Ancient and Modern Geography, for the Illustration of the Tables of Chronology and History*, 1–20. London.
- Bonacker, Wilhelm. 1952. "Eine unvollendet gebliebene Geschichte der Kartographie von Konstantin Cebrian (Gedanken zum Werdegang der Landkarten)." *Die Erde* 3 (82): 44–57.
- Bongars, Jacques, ed. 1611. *Gesta Dei per Francos sive orientalium expeditionum et regni Francorum Hierosolimitani historie*. Hanover: Heirs of J. Aubrius.
- Bousquet-Bressolier, Catherine. 2019. "Memoirs, Cartographic." In Edney and Pedley (2019a), 933–36.
- Broc, Numa. 1969. "Voyages et géographie au XVIIIe siècle." *Revue d'histoire des sciences et de leurs applications* 22 (2): 137–54. <https://doi.org/10.3406/rhs.1969.2585>.
- van den Broecke, Marcel, Peter van der Krogt, and Peter H. Meurer, eds. 1998. *Abraham Ortelius and the First Atlas: Essays Commemorating the Quadricentennial of his Death, 1598–1998*. 't Goy-Houten, Netherlands: HES.
- Buache, Jean-Nicolas. 1789. "Mémoire sur la Géographie de Ptolémée et particulièrement sur la description de l'intérieur de l'Afrique." In *Histoire de l'Académie royale des sciences. Année MDCCLXXXVII*, 119–27. Paris: Imprimerie Royale.
- Büsching, Anton Friedrich. 1754–92. *Neue Erdbeschreibung*. 11 vols. Hamburg: J. C. Bohn.
- Cattaneo, Angelo. 2006. "L'Atlas del visconte de Santarém: Una storia culturale europa tra erudizione orientalismo e colonialismo." In *A história da cartografia na obra do 2.º visconde de Santarém. Exposição cartobibliográfica, 24 de Novembro de 2006 a 10 de Fevereiro de 2007*, edited by João Carlos García and Maria Joaquina Feijoo, 17–49. Lisbon: Biblioteca Nacional.
- . 2011. *Fra Mauro's Mappa Mundi and Fifteenth-Century Venetian Culture*. Turnhout: Brepols.
- . 2016. "European Medieval and Renaissance Cosmography: A Story of Multiple Voices." *Asian Review of World Histories* 4 (1): 35–81. <https://doi.org/10.12773/arwh.2016.4.1.035>.
- Cellarius, Christoph. 1703. *Notitia orbis antiqui, sive geographia plenior, ab ortu Rerumpublicarum ad Constantinorum tempora orbis terrarum faciem declarans*. Cambridge: John Owen.
- Cheng, Eileen Ka-May. 2012. *Historiography: An Introductory Guide*. London: Continuum International. <https://doi.org/10.5040/9781350246881>.
- Clark, Meredith Donaldson. 2013. "'Now through You Made Public for Everyone': John Ogilby's *Britannia* (1675), the 1598 Peutinger Map Facsimile and the Shaping of the Public Space." In *Making Space Public in Early Modern Europe: Performance, Geography, Privacy*, edited by Angela Vanhaelen and Joseph P. Ward, 127–151. New York: Routledge.
- Coronelli, Vincenzo. 1707. *Cronologia universale*. Venice.
- Crone, G. R., and R. A. Skelton. 1946. "English Collections of Voyages and Travels, 1625–1846." In *Richard Hakluyt and his Successors: A Volume Issued to Commemorate the Centenary of the Hakluyt Society*, edited by Edward Lynam, 63–140. London: Hakluyt Society.
- Davis, Stephen Boyd. 2015. "May Not Duration Be Represented as Distinctly as Space? Geography and the Visualization of Time in the Early Eighteenth Century." In *Knowing Nature in Early Modern Europe*, edited by David Beck, 119–37. London: Pickering & Chatto.
- Defoe, Daniel. 1725–26. *A General History of Discoveries and Improvements, in Useful Arts, Particularly in the Great Branches of Commerce, Navigation, and Plantation, in All Parts of the Known World*. London: for W. Mears, F. Clay, and D. Brown.
- Delano Smith, Catherine. 1990. "Maps as Art and Science: Maps in Sixteenth Century Bibles." *Imago Mundi* 42 (1): 65–83. <https://doi.org/10.1080/03085699008592692>.
- Delano Smith, Catherine, Peter Barber, Damien Bove, Christopher Clarkson, P. D. A. Harvey, Nick Millea, Nigel Saul, William Shannon, Christopher Whittick, and James Willoughby. 2017. "New Light on the Medieval Gough Map of Britain." *Imago Mundi* 69 (1): 1–36. <https://doi.org/10.1080/03085694.2017.1242838>.

- Delisle, Guillaume. 1700. "Lettre de M. Delisle a M. Cassini, sur l'embouchure de la riviere de Mississipi." In *Le Journal des sçavans pour l'année M.DCC*, 211–17. Paris: Jean Cusson.
- . 1722. "Determination géographique de la situation et de l'étendue des différentes parties de la Terre." In *Histoire de l'Académie royale des sciences. Année M. DCCXX. Avec les Mémoires de Mathématique & de Physique, pour la même année, tirés des registres de cette Académie*, 365–84. Paris.
- D'Souza, Florence. 2014. "Les représentations de l'Inde et des Indiens dans l'*Histoire générale des Voyages* de l'abbé Prévost: Le rôle de la traduction en Français à partir d'un original en Anglais dans l'accumulation des savoirs." *Annales historiques de la révolution française* 375: 27–48. <https://doi.org/10.4000/ahrf.13052>.
- Doppelmayr, Johann Gabriel. 1730. *Historische Nachricht von den nürnbergischen Mathematicis und Künstlern*. Nuremberg: P. C. Monath.
- Douglass, William. 1749–52. *A Summary, Historical and Political, of the First Planting, Progressive Improvements, and Present State of the British Settlements in North-America*. 2 vols. Boston: Rogers and Fowle.
- Duncan, Carol, and Alan Wallach. 1980. "The Universal Survey Museum." *Art History* 3 (4): 448–69. <https://doi.org/10.1111/j.1467-8365.1980.tb00089.x>.
- Dürr, Renate. 2017. "Mapping the Miracle: Empirical Approaches in the Exodus Debate of the Eighteenth Century." *Past & Present* 237 (1): 93–133. <https://doi.org/10.1093/pastj/gtx038>.
- Edney, Matthew H. 1997. *Mapping an Empire: The Geographical Construction of British India, 1765–1843*. Chicago: University of Chicago Press. <https://doi.org/10.7208/chicago/9780226184869.001.0001>.
- . 2019a. *Cartography: The Ideal and Its History*. Chicago: University of Chicago Press.
- . 2019b. "Geographical Mapping in the Enlightenment." In Edney and Pedley 2019a, 474–89.
- . 2019c. "Green, John." In Edney and Pedley 2019a, 586–88.
- . 2019d. "History and Cartography." In Edney and Pedley 2019a, 624–31.
- . 2020a. "Creating 'Discovery': The Myth of Columbus, 1777–1828." *Terrae Incognitae* 52 (2): 195–213. <https://doi.org/10.1080/00822884.2020.1779982>.
- . 2020b. "A Roman Map of Britain?" *Mapping as Process*, April 12, 2020. <https://www.mappingasprocess.net/blog/2020/4/12/a-roman-map-of-britain>.
- . 2022a. "Johannes Tiberius Bodel Nijenhuis, Localist Map History and Cartobibliography." In *Atlantes amicorum Peter van der Krogt*, edited by Paula van Gestel-van het Schip, 313–23. Leiden: Brill, Hes & De Graaf.
- . 2022b. "Making Explicit the Implicit, Idealized Understanding of 'Map' and 'Cartography': An Anti-Universalist Response to Mark Denil." *Cartographic Perspectives* 98: 51–60. <https://doi.org/10.14714/cp98.1765>.
- . 2023. "The First Facsimile Collections and the Parisian Origins of the History of Cartography." *Imago Mundi* 75 (1): 2–23. <https://doi.org/10.1080/03085694.2023.2226951>.
- . 2024. "Processual Map History." In *The Routledge Handbook of Cartographic Humanities*, edited by Tania Rossetto and Laura Lo Presti, 38–46. London: Routledge. <https://doi.org/10.4324/9781003327578-5>.
- Edney, Matthew H., and Mary S. Pedley, eds. 2019a. *Cartography in the European Enlightenment*. Vol. 4 of *The History of Cartography*. Chicago: University of Chicago Press.
- . 2019b. "Cartography in the European Enlightenment: A Map Collector's View." *Journal of the International Map Collectors' Society* 158: 23–36.
- Erberg, Bernard [Erber, Bernardinus]. 1760. *Notita illustris regni Bohemiae scriptorum, geographica et chorographica*. Vienna: Augustinus Bernardus.
- Fernández-Armesto, Felipe. 1991. *Edward Gibbon's Atlas of the World*. London: The Folio Society.

- Fischer, Luise, and Charles. W. J. Withers. 2021. "Geographical Print Culture in the German-Speaking Territories, c.1690–c.1815." *Journal of Historical Geography* 72: 1–12. <https://doi.org/10.1016/j.jhg.2020.11.003>.
- Forss, Charlotta. 2023. "Mapping Atlantis: Olof Rudbeck and the Use of Maps in Early Modern Scholarship." *Journal of the History of Ideas* 84 (2): 207–31. <https://doi.org/10.1353/jhi.2023.0010>.
- Fuller, Mary C. 2023. *Lines Drawn across the Globe: Reading Richard Hakluyt's Principal Navigations*. Montreal and Kingston, Ont.: McGill-Queen's University Press. <https://doi.org/10.1515/9780228018414>.
- Gaimster, David, Sarah McCarthy, and Bernard Nurse. 2007. *Making History: Antiquaries in Britain, 1707–2007*. London: Royal Society of Arts.
- Gatterer, Johann Cristoph. 1775. *Abriß der Geographie*. Göttingen: Johann Christian Dietrich.
- Gautier Dalché, Patrick. 2007. "The Reception of Ptolemy's *Geography* (End of the Fourteenth to Beginning of the Sixteenth Century)." In Woodward 2007b, 285–364.
- . 2009. *La géographie de Ptolémée en occident (IVe–XVIIe siècle)*. Turnhout, Belgium: Brepols.
- Godlewska, Anne. 1989. "Traditions, Crisis, and New Paradigms in the Rise of the Modern French Discipline of Geography, 1760–1850." *Annals of the Association of American Geographers* 79 (2): 192–213. <https://doi.org/10.1111/j.1467-8306.1989.tb00258.x>.
- . 1999. *Geography Unbound: French Geographic Science from Cassini to Humboldt*. Chicago: University of Chicago Press.
- Goffart, Walter. 2003. *Historical Atlases: The First Three Hundred Years, 1570–1870*. Chicago: University of Chicago Press. <https://doi.org/10.7208/chicago/9780226300726.001.0001>.
- Gottschling, Caspar. 1711. *Versuch von einer Historie der Land-Charten*. Halle im Magdeburgischen: Kengerischen Buchhandl.
- Gough, Richard. 1780a. *British Topography; Or, an Historical Account of What Has Been Done for Illustrating the Topographical Antiquities of Great Britain and Ireland*. 2 vols. London: T. Payne and Son, and J. Nichols.
- [attrib.]. 1780b. *An Essay on the Rise and Progress of Geography in Great-Britain and Ireland; Illustrated with Specimens of Our Oldest Maps*. London: printed by J. Nichols.
- Grafton, Anthony. 2007. *What Was History? The Art of History in Early Modern Europe*. Cambridge: Cambridge University Press.
- Green, John [pseud. Bradock Mead]. 1717. *The Construction of Maps and Globes. . . . To which is Added an Appendix, Wherein the Present State of Geography is Consider'd*. London: T. Horne, J. Knapton, et al.
- [attrib.]. 1728. "Geography." In *Cyclopædia, or, An Universal Dictionary of Arts and Sciences*, 2 vols., edited by Ephraim Chambers, 1: 140. London: J. and J. Knapton et al.
- [attrib.], ed. 1745–47. *New General Collection of Voyages and Travels, Consisting of the Most Esteemed Relations which have Hitherto been Published in any Language*. 4 vols. London: Thomas Astley.
- Gregorii, Johann Gottfried. 1713. *Curieuse Gedancken von den vornehmsten und accuratesten Alt- und Neuen Land-Charten nach ihrem ersten Ursprunge/ Erfindung/ Auctoribus und Sculptoribus, Gebrauch und Nutzen entworffen*. Frankfurt and Leipzig: Hieronymus Philipp Ritscheln.
- Haguet, Lucile. 2011. "J.-B. d'Anville as Armchair Mapmaker: The Impact of Production Contexts on His Work." *Imago Mundi* 63 (1): 88–105. <https://doi.org/10.1080/03085694.2011.521335>.
- Hakluyt, Richard. 1582. *Divers Voyages touching the Discoverie of America*. London: Thomas Woodcocke.
- , ed. 1589. *The Principall Navigations, Voiages and Discoveries of the English nation, made by Sea or ouer Land, to the most remote and farthest distant Quarters of the earth at any time within the compasse of these 1500 yeeres*. London.

- Harley, J. B. 1987. "The Map and the Development of the History of Cartography." In Harley and Woodward 1987, 1–42.
- Harley, J. B., and David Woodward, eds. 1987. *Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*. Vol. 1 of *The History of Cartography*. Chicago: University of Chicago Press.
- Harper, Tom. 2010. "Fortunate Survivors: Maps and Map Fragments in the Bagford Collection." *Electronic British Library Journal* 2010: art. 1.
- Harvey, P. D. A. 1992. "Matthew Paris's Maps of Britain." In *Thirteenth Century England IV: Proceedings of the Newcastle upon Tyne Conference*, edited by P. R. Coss and S. D. Lloyd, 109–21. Woodbridge, UK: Boydell & Brewer.
- . 1997. "The Sawley Map and Other World Maps in Twelfth-Century England." *Imago Mundi* 49 (1): 33–42. <https://doi.org/10.1080/03085699708592857>.
- . 2012. *Medieval Maps of the Holy Land*. London: The British Library.
- Hauber, Eberhard David. 1724a. *Historische Nachricht von den Land-Charten deß Schwäbischen Craißes und deß Hertzogthums Würtemberg, wie auch anderer in Schwaben gelegener Herrschafften, mit verschiedenen Anmerckungen*. Ulm: Daniel Bartholomäi.
- . 1724b. *Versuch einer umständlichen Historie der Land-Charten, sowohl von denen Land-Charten insgemein, derselben ersten Ursprung, ihrer Beschaffenheit, unterschiedlichen Gattungun, mannigfaltigen Nutzen, noch habenden Fehlern, und nöthingen Verbesserungen, mit denen dahin gehörigen Schrifften; als auch von denen Land-Charten eines jeden Landes insonderheit*. Ulm: Daniel Bartholomäi.
- Heffernan, Michael. 2014. "A Paper City: On History, Maps, and Map Collections in 18th and 19th Century Paris." *Imago Mundi* 66 (supplement): 5–20. <https://doi.org/10.1080/03085694.2014.947847>.
- Heinz, Markus. 2010. "Versuch einer umständlichen Historie der Historie der Land-Charten." In *Die Leidenschaft des Sammelns: Streifzüge durch die Sammlung Woldan*, edited by Gerhard Holzer, Thomas Horst, and Petra Svatek, 185–96. 2 vols. Vienna: Österreichischen Akademie der Wissenschaften.
- Hennicke, Johann Friedrich. 1831. "Geschichtlicher Überblick des Landkartenwesens." *Allgemeiner Anzeiger und Nationalzeitung der Deutschen* 217: 2945–52, 220: 2985–89, 227: 3081–88, 232: 3145–50, 239: 3243–49, 246: 3347–52, 250: 3404–8, 253: 3441–48, 262: 3558–64, and 266: 3615–19.
- Hewitt, Rachel. 2011. *Map of a Nation: A Biography of the Ordnance Survey*. London: Granta.
- Hiatt, Alfred. 2019. "The Sawley Map (c. 1190)." In *A Critical Companion to English Mappae Mundi of the Twelfth and Thirteenth Centuries*, edited by Dan Terkla and Nick Millea, 112–26. Martlesham, Suffolk: Boydell Press. <https://doi.org/10.2307/j.ctvfrxr3j.12>.
- Hobsbawm, Eric. 1983. "Introduction: Inventing Traditions." In *The Invention of Tradition*, edited by Eric Hobsbawm and Terence Ranger, 1–14. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9781107295636.001>.
- Hofmann, Catherine. 2000. "La genèse de l'atlas historique en France (1630–1800): Pouvoir et limites de la carte comme 'oeil de l'histoire.'" *Bibliothèque de l'école des chartes* 158 (1): 97–128. <https://doi.org/10.3406/bec.2000.451018>.
- Horodowich, Elizabeth. 2017. "The World Seen from Venice: Representing the Americas in Grand-Scale Wall Maps." In *The Globalization of Renaissance Art: A Critical Review*, edited by Daniel Savoy, 218–53. Leiden: Brill. https://doi.org/10.1163/9789004355798_010.
- . 2018. *The Venetian Discovery of America: Geographic Imagination and Print Culture in the Age of Encounters*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/9781316596692>.

- Hübner, Johann. 1726. *Museum Geographicum, das ist: ein Verzeichniß der Besten Land-Charten so in Deutschland, Franckreich, England und Holland*. Hamburg: Theodor Christoph Felginer.
- Huppert, Ann C. 2008. "Mapping Ancient Rome in Bufalini's Plan and in Sixteenth-Century Drawings." *Memoirs of the American Academy in Rome* 53: 79–98.
- Imhof, Dirk, ed. 1998. *Abraham Ortelius (1527–1598), cartographe et humaniste*. Turnhout, Belgium: Brepols.
- Ingram, Elizabeth M. 1993. "Maps as Readers' Aids: Maps and Plans in Geneva Bibles." *Imago Mundi* 45 (1): 29–44. <https://doi.org/10.1080/03085699308592762>.
- "An Introductory Discourse, Containing the Whole History of Navigation from Its Origin to this Time." 1704. In *A Collection of Voyages and Travels, Some Now First Printed from Original Manuscripts*, 4 vols., edited by Awnsham Churchill and John Churchill, 1: ix–c. London: Awnsham and John Churchill.
- Jacob, Christian. 1999. "Mapping in the Mind: The Earth from Ancient Alexandria." In *Mappings*, edited by Denis Cosgrove, 24–49. London: Reaktion Books.
- Karrow, Robert W., Jr. 1993. *Mapmakers of the Sixteenth Century and Their Maps: Bio-Bibliographies of the Cartographers of Abraham Ortelius, 1570*. Chicago: Speculum Orbis Press for The Newberry Library.
- Krünitz, Johann Georg. 1793. "Land-Karte." In *Von Land-Haken bis Land-Messer*, 82–305. Vol. 60 of *Oekonomisch-technologische Encyclopädie, oder allgemeines System der Staats- Stadt- Haus- und Land-Wirthschaft, in alphabetischer Ordnung*. Berlin: Joachim Pauli.
- La Martinière, Antoine-Augustin Bruzen de. 1722a. "Essai sur l'origine & les progrès de la géographie jusqu'à la découverte de l'Amérique, avec des remarques sur les principaux geographes, Grecs & Latins." *Mémoires historiques et critiques* 2 (4): 49–101.
- . 1722b. "Essai sur l'origine & les progrès de la géographie depuis la découverte de l'Amérique jusqu'à present avec des remarques sur les principaux geographes modernes." *Mémoires historiques et critiques* 2 (6): 13–67.
- . 1726. "Preface." In *Le grand dictionnaire géographique et critique*, 1: vii–xxviii. The Hague, Amsterdam, and Rotterdam: P. Gosse, R. C. Alberts, P. de Hondt; Herm. Uytwerf & Franç. Changuion; Jean Daniel Beman.
- Lake, Crystal B. 2020. *Artifacts: How We Think and Write about Found Objects*. Baltimore: Johns Hopkins University Press.
- Lemaitre, Jean-Loup. 2015. "L'illustration des *Annales de Mabillon*: Jalons pour une enquête." *Bulletin de la société nationale des antiquaires de France* 2008: 60–81. <https://doi.org/10.3406/bsnaf.2015.11978>.
- Lenglet du Fresnoy, Nicolas. 1716. *Méthode pour étudier la géographie*. 4 vols. Paris: Chez Charles Estienne Hochereau.
- . 1741–42. *Méthode pour étudier la géographie*, 3rd ed. 4 vols. Paris: Chez Charles Estienne Hochereau.
- Lois, Carla. 2018. "The History of Geography: Narratives to Discipline the Past and Reinvent Geography as a Modern Discipline." *Isis* 109 (1): 113–15. <https://doi.org/10.1086/697183>.
- Long, Roger. 1742. *Astronomy, in Five Books*. 2 vols. Cambridge: for the author.
- Lubin, Augustin. 1678. *Mercure géographique, ou le guide du curieux des cartes géographiques*. Paris: Christophle Remy.
- Lynam, Edward. 1950. "English Maps and Map-Makers of the Sixteenth Century." *Geographical Journal* 116 (1/3): 7–25. <https://doi.org/10.2307/1789507>.
- Mabillon, Jean. 1703–39. *Annales ordinis S. Benedicti occidentalium monachorum patriarchæ. In quibus non modò res monasticæ, sed etiam ecclesiasticæ historiæ non minima pars continetur*. 6 vols. Paris.
- Maier, Jessica. 2007. "Mapping Past and Present: Leonardo Bufalini's Plan of Rome (1551)." *Imago Mundi* 59 (1): 1–23. <https://doi.org/10.1080/03085690600997464>.
- . 2015. *Rome Measured and Imagined: Early Modern Maps of the Eternal City*. Chicago: University of Chicago Press.

- Mankin, Robert. 2018. "D'Anville, Gibbon et l'espace des empires: La réception britannique du géographe français à travers l'exemple de l'historien anglais." In *Une carrière de géographe au siècle des Lumières: Jean-Baptiste d'Anville*, edited by Lucille Haguët and Catherine Hofmann, 261–86. Oxford: Voltaire Foundation.
- Mather, Cotton. 1702. *Antiquities. The First Book of the New-English History*. Vol. 1 of *Magnalia Christi Americana: or; the Ecclesiastical History of New England, from its First Planting in the Year 1620, unto the Year of our Lord, 1698*. 10 vols. London: Thomas Parkhurst.
- Mayhew, Robert J. 1998. "The Character of English Geography, c. 1660–1800: A Textual Approach." *Journal of Historical Geography* 24 (4): 385–412. <https://doi.org/10.1006/jhge.1998.0098>.
- . 2001. "The Effacement of Early Modern Geography (c.1600–1850): A Historiographical Essay." *Progress in Human Geography* 25 (3): 383–401. <https://doi.org/10.1191/030913201680191736>.
- . 2003. "'Geography is the Eye of History': The Theory and Practice of a Commonplace, 1500–1950." In William Camden, *Britannia (1610)*, v–xi. Bristol: Thoemmes Press.
- . 2010. "Geography as the Eye of Enlightenment Historiography." *Modern Intellectual History* 7 (3): 611–27. <https://doi.org/10.1017/S1479244310000259>.
- . 2011. "Cosmographers, Explorers, Cartographers, Chorographers: Defining, Inscribing and Practicing Early Modern Geography, c.1450–1850." In *The Wiley-Blackwell Companion to Human Geography*, edited by John A. Agnew and James S. Duncan, 23–49. New York: Wiley-Blackwell. <https://doi.org/10.1002/9781444395839.ch3>.
- . 2015. "Enlightening Choices: A Century of Anglophone Canons of the Geographical Tradition." *Journal of Historical Geography* 49: 9–20. <https://doi.org/10.1016/j.jhg.2015.04.016>.
- Mela, Pomponius. 1582. *Pomponii Melae De situ orbis libri tres*. Edited by Andreas Schott. Antwerp: Christophe Plantijn.
- Mercator, Gerardus. 1578. *Tabulae geographicae Cl: Ptolemei ad mentem autoris restituta & emendata*. Cologne: Gottfried von Kempen.
- Meurer, Peter H. 1998a. "Ortelius as the Father of Historical Cartography." In van den Broecke, van der Krogt, and Meurer 1998, 133–59.
- . 1998b. "Synonymia—Thesaurus—Nomenclator: Ortelius' Description of Ancient Geographical Names." In van den Broecke, van der Krogt, and Meurer 1998, 331–46.
- Milanesi, Marica. 1984. *Tolomeo sostituito: Studi di storia delle conoscenze geografiche nel XVI secolo*. Milan: Unicopli.
- . 2010. "Le regard de la postérité: L'âge des découvertes vu au XVIIe siècle et au XVIIIe siècle." *Médiévales* 58: 11–26. <https://doi.org/10.4000/medievales.5856>.
- Millea, Nick. 2007. *The Gough Map: The Earliest Road Map of Great Britain*. Chicago: University of Chicago Press for the Bodleian Library, University of Oxford.
- Mittarelli, Johanne-Benedicto, and Anselmo Costadoni. 1762. *Annales Camaldulenses Ordinis Sancti Benedicti*. 9 vols. Venice.
- von Murr, Christoph Gottlieb. 1778. *Diplomatische Geschichte des portugiesischen berühmten Ritters Martin-Behaims*. Nuremberg: Johann Eberhard Zeh.
- Nichols, John. 1812–16. *Literary Anecdotes of the Eighteenth Century: Comprizing Biographical Memoirs of William Bowyer, Printer, F.S.A. and Many of His Learned Friends; An Incidental View of the Progress and Advancement of Literature in this Kingdom during the Last Century; and Biographical Anecdotes of a Considerable Number of Eminent Writers and Ingenious Artists*. 9 vols. London: Nichols, Son, and Bentley for the author.
- Nie, Hongping Annie. 2019. *The Selden Map of China: A New Understanding of the Ming Dynasty*. Oxford: Bodleian Library.
- O'Donoghue, Yolande. 1977. *William Roy, 1726–1790: Pioneer of the Ordnance Survey*. London: British Library Publications.

- Ogilby, John. 1675. *Britannia, Volume the First, or, an Illustration of the Kingdom of England and Dominion of Wales by a Geographical and Historical Description of the Principal Roads thereof*. London: John Ogilby.
- Ortelius, Abraham. 1570. *Theatrum orbis terrarum*. Antwerp: Gielis van Diest.
- Padrón, Ricardo. 2020. *The Indies of the Setting Sun: How Early Modern Spain Mapped the Far East as the Transpacific West*. Chicago: University of Chicago Press. <https://doi.org/10.7208/chicago/9780226689623.001.0001>.
- Parker, Katherine. 2018. "Pepys Island as a Pacific Stepping Stone: The Struggle to Capture Islands on Early Modern Maps." *British Journal for the History of Science* 51 (4): 659–77. <https://doi.org/10.1017/S000708741800078X>.
- Pastoureau, Mireille. 1984. *Les atlas français, XVIe–XVIIe siècles: Répertoire bibliographique et étude*. Paris: Bibliothèque nationale, Département des cartes et plans.
- Pedley, Mary Sponberg. 1984. "New Light on an Old Atlas: Documents Concerning the Publication of the *Atlas Universel* (1757)." *Imago Mundi* 36 (1): 48–63. <https://doi.org/10.1080/03085698408592571>.
- . 1992. *Bel et Utile: The Work of the Robert de Vaugondy Family of Mapmakers*. Tring, UK: Map Collector Publications.
- . 2005. *The Commerce of Cartography: Making and Marketing Maps in Eighteenth-Century France and England*. Chicago: University of Chicago Press.
- Pedley, Mary Sponberg, and Matthew H. Edney. 2019. "Map Collecting in the Enlightenment." In Edney and Pedley 2019a, 756–59.
- Piechocki, Katharina N. 2019. *Cartographic Humanism: The Making of Early Modern Europe*. Chicago: University of Chicago Press. <https://doi.org/10.7208/chicago/9780226641218.001.0001>.
- Pierse, Síofra. 2013. "Voltaire: Polemical Possibilities of History." In *A Companion to Enlightenment Historiography*, edited by Sophie Bourgault and Robert Sparling, 153–87. Leiden: Brill. https://doi.org/10.1163/9789004251847_007.
- Pollock, Jacob. 2012. "'The Geographical Compass': History, Authority and Utility in the English Voyage Account, 1660–1730." Ph.D. diss., University of Pittsburgh.
- Pomata, Gianna, and Nancy G. Siraisi, eds. 2005. *Historia: Empiricism and Erudition in Early Modern Europe*. Cambridge, MA: MIT Press. <https://doi.org/10.7551/mitpress/3521.001.0001>.
- Poole, William. 2020. "Edward Bernard's Chinese Map." *The Seventeenth Century* 35 (3): 363–88. <https://doi.org/10.1080/0268117X.2019.1600422>.
- Prévost, Antoine François, ed. 1746–89. *Histoire générale des voyages, ou, Nouvelle collection de toutes les relations de voyages par mer et par terre, qui ont été publiées jusqu'à présent dans les différentes langues de toutes les nations connues*. 15 vols. Paris: Chez Didot. <https://doi.org/10.5962/bhl.title.110111>.
- Ptolemy, Claudius. 1584. *Geographiae libri octo recogniti iam et diligenter emendati cum tabulis geographicis ad mentem auctoris restitutis ac emendatis*. Edited by Arnold Mylius. Cologne: Gottfried von Kempen.
- Raidel, Georg Martin. 1737. *Commentatio critico-literaria de Claudii Ptolemaei Geographia, eiusque codicibus tam manu-scriptis quam typis expressis*. Nuremberg: Typis et sumptibus haeredum Felseckerianorum.
- Ramusio, Giovanni Battista. 1563. *Primo volume & terza edizione delle navigationi et viaggi*. Venice: Nella stamperia de Giunti. Reprinted as vol. 1 of Giovanni Battista Ramusio, *Navigazioni et viaggi: Venice, 1563–1606*, 3 vols. (Amsterdam: Theatrum Orbis Terrarum, 1967–70).
- Rennell, James. 1783. *Memoir of a Map of Hindoostan; or the Mogul's Empire*. London: M. Brown for the author.
- Robert de Vaugondy, Didier. 1755. *Essai sur l'histoire de la géographie, ou sur son origine, ses progrès et son état actuel*. Paris: Antoine Boudet.

- Robinson, William. 1840. *The History and Antiquities of the Parish of Tottenham, in the County of Middlesex*, 2nd ed. 2 vols. London: Nicholls and Son.
- Santarém, Manuel Francisco de Barros e Sousa, Visconde de. 1849–52. *Essai sur l'histoire de la cosmographie et de la cartographie pendant le Moyen Age, et sur les progrès de la géographie après les grandes découvertes du XV^e siècle, pour servir d'introduction et d'explication à l'Atlas composé de mappemondes et de portulans, et d'autres monuments géographiques, depuis le VI^e siècle de notre ère jusqu'au XVII^e*. 3 vols. Paris: Imprimerie Maulde et Renou.
- Scharfe, Wolfgang. 1997. "Approaches to the History of Cartography in German-Speaking Countries." In Wolfgang Scharfe, Ingrid Kretschmer, and Hans-Uli Feldmann, *La cartografia dels països de parla Alemanya: Alemanya, Àustria i Suïssa*, 19–41. Barcelona: Institut Cartogràfic de Catalunya.
- Schramm, Manuel. 2014–15. "The Beginnings of Historical Consciousness: Historical Atlases in the Eighteenth Century." *CES Papers—Open Forum* 21: 1–50.
- Shalev, Zur. 2004. "Geographia sacra: Cartography, Religion, and Scholarship in the Sixteenth and Seventeenth Centuries." Ph.D. diss., Princeton University.
- . 2011. "Main Themes in the Study of Ptolemy's *Geography* in the Renaissance." In Shalev and Burnett 2011, 1–14.
- . 2019. "Religion and Cartography." In Edney and Pedley 2019a, 1227–1236.
- Shalev, Zur, and Charles Burnett, eds. 2011. *Ptolemy's Geography in the Renaissance*. London: The Warburg Institute.
- Shirley, Rodney W. 2001. *The Mapping of the World: Early Printed World Maps, 1472–1700*, 2nd ed. Riverside, CT: Early World Press.
- Skelton, R. A. 1972. *Maps: A Historical Survey of Their Study and Collecting*. Chicago: University of Chicago Press.
- Skelton, R. A., and Helen M. Wallis. 1974. "Hakluyt's Maps." In *The Hakluyt Handbook*, edited by David Beers Quinn, 1: 48–69. London: Hakluyt Society.
- Small, Margaret. 2023. "Transformer and Influencer: Giovanni Battista Ramusio's Impact on Western European Geography." *Journal of Early Modern Studies* 12: 39–54. <https://doi.org/10.36253/jems-2279-7149-14383>.
- Sotheby, Leigh, and S. Sotheby. 1810. *Museum Goughianum: A Catalogue of the Entire Collection of Prints, Drawings, Coins, Medals, Seals, Painted Glass, Paintings, Pottery, Brass Monuments, Marble Fragments, Chinese and Other Bronzes, Miniatures, Seals and Miscellaneous Antiquities of the Eminent Antiquary Richard Gough, Esq., Lately Deceased. Which Will Be Sold by Auction, by Leigh and S. Sotheby*. [London].
- Stukeley, William. 1757. *An Account of Richard of Cirencester, Monk of Westminster, and of His Works: With His Antient Map of Roman Brittain; and the Itinerary thereof*. London: Richard Hett for Charles Corbet.
- Talbert, Richard J. A. 2010. *Rome's World: The Peutinger Map Reconsidered*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511686863>.
- Tessicini, Dario. 2011. "Definitions of Cosmography and Geography in the Wake of Ptolemy's *Geography*." In Shalev and Burnett 2011, 31–50.
- Tolias, George. 2011. "Ptolemy's *Geography* and Early Modern Antiquarian Practices." In Shalev and Burnett 2011, 121–41.
- Török, Zsolt. 2021. "A térképtörténet történetének kezdetei: Gottschling, Gregorii és Hauber" [The Beginnings of the History of Map History: Gottschling, Gregorii and Hauber]. *Térképtudományi tanulmányok: Az Eötvös Loránd tudományegyetem térképtudományi tanszékének évi beszámolója* 16: 73–86.
- Tyacke, Sarah. 2001. *Before Empire: The English World Picture in the Sixteenth and Early Seventeenth Centuries*. The Hakluyt Society, Annual Lecture 2000. London: Hakluyt Society.

- Van Duzer, Chet. 2018. "A Unique Early World Map: The Earliest Surviving Map of the World Based on the Geographical Ideas of Pomponius Mela." *Barry Lawrence Ruderman Antique Maps*. September 2018. <https://www.raremaps.com/gallery/detail/56674/world-map-of-pomponius-mela-anonymous-mela>.
- Varenius, Bernhard. 1650. *Geographia generalis, in qua affectiones generales Telluris explicantur*. Amsterdam: Ludovic Elzevir.
- Verstegen, Ian, and Allen Ceen, eds. 2013. *Giambattista Nolli and Rome: Mapping the City before and after the Pianta Grande*. London: Lulu for Studium Urbis.
- The Village London Atlas: The Growth of Victorian London, 1822–1903*. 1986. London: Alderman Press.
- Walters, Gwyn. 1978. "Richard Gough's Map Collecting for the *British Topography*, 1780." *Map Collector* 2: 26–29.
- . 1988. "The Antiquary and the Map." *Word & Image* 4 (2): 529–44. <https://doi.org/10.1080/02666286.1988.10436198>.
- Welser, Marcus. 1591. *Fragmenta tabulae antiquae in quibus aliquot per Rom. provincias Itinera. Ex Peutingerorum bibliotheca*. Venice: apud Aldum.
- Willison, Ian R. 1989. "The National Library in Historical Perspective." *Libraries & Culture* 24 (1): 75–95.
- Withers, Charles W. J. 2013. "On Enlightenment's Margins: Geography, Imperialism and Mapping in Central Asia, c.1798–c.1838." *Journal of Historical Geography* 39: 3–18. <https://doi.org/10.1016/j.jhg.2012.08.018>.
- . 2019. "History of Cartography." In Edney and Pedley 2019a, 631–34.
- Woodward, David. 1987. "Medieval *Mappaemundi*." In Harley and Woodward 1987, 286–370.
- . 2007a. "Cartography and the Renaissance: Continuity and Change." In Woodward 2007b, 3–24.
- , ed. 2007b. *Cartography in the European Renaissance*. Vol. 3 of *The History of Cartography*. Chicago: University of Chicago Press.
- Woolf, Daniel R. 1987. "Erudition and the Idea of History in Renaissance England." *Renaissance Quarterly* 40 (1): 11–45. <https://doi.org/10.2307/2861833>.
- . 2019. *A Concise History of History: Global Historiography from Antiquity to the Present*. Cambridge: Cambridge University Press.
- Wright, Johnson Kent. 2003. "History and Historicism." In *The Modern Social Sciences*, edited by Theodore M. Porter and Dorothy Ross, 113–30. Vol. 7 of *Cambridge History of Science*. Cambridge: Cambridge University Press.
- van der Zande, Johan. 2010. "Statistik and History in the German Enlightenment." *Journal of the History of Ideas* 71, no. 3: 411–32. <https://doi.org/10.1353/jhi.0.0087>.
- Zanetti, Girolamo Francesco. 1758. *Dell'origine di alcune arti principali appresso i Viniziani*. 2 vols. Venice: Stefano Orlandini.
- Zimmermann, K. 2002. "Eratosthenes' Chlamys-Shaped World: A Misunderstood Metaphor." In *The Hellenistic World: New Perspectives*, edited by Daniel Ogden, 23–40. London. <https://doi.org/10.2307/j.ctvd58srh.6>.



Is it a Map? The Map / Not Map Question

Mark Denil
sui generis
 mark_denil_maps@hotmail.com

This paper is an evaluation of the issues raised in my own “Making Explicit What has Been Implicit: A Call for a Conceptual Theory of Cartography,” and Matthew Edney’s “Making Explicit the Implicit, Idealized Understanding of ‘Map’ and ‘Cartography’: An Anti-Universalist Response to Mark Denil” (both published in Cartographic Perspectives 98, 2022).

In the first of these articles I make some proposals about how to go about investigating how a map reader decides that a given artifact is a map, and what that decision means for the user’s relationship with the artifact. In the second, Edney vigorously rejects my argument as, variously: irrelevant, reactionary, subversive, pernicious, obvious, and trite.

What are Edney and I arguing about? Does the map / not map question I raise even exist and, if so, does it matter? Is Edney correct in dismissing it, and are his reasons for dismissing it valid?

This paper examines some of the salient points raised in the Denil / Edney controversy, with an eye to the pragmatic, real-world ramifications of each writer’s positions.

INTRODUCTION

IN ISSUE 98 OF *CARTOGRAPHIC PERSPECTIVES* (2022), readers are treated to not just one, but two peer-reviewed articles on cartographic theory. The first is my “**Making Explicit What has Been Implicit: A Call for a Conceptual Theory of Cartography**” (2022), and the second is Matthew Edney’s “**Making Explicit the Implicit, Idealized Understanding of ‘Map’ and ‘Cartography’: An Anti-Universalist Response to Mark Denil**” (2022).

As Amy Griffin wrote in her “**Letter from the Editor**” introducing the issue: “In the first, Mark Denil advocates that [C]onceptual [A]rt can be used as model for developing a conceptual theory of cartography,” suggesting that such a theory can be used to understand how things that are ‘maps’ can be differentiated from things that are not. “In the second” article, she notes, “Matthew Edney rejects Denil’s argument” (Griffin 2022, 3).

What are Edney and I arguing about? Does the map / not map question I raise even exist and, if so, does it matter?

Is Edney correct in dismissing it, and are his reasons for dismissing it valid?

The differences between our positions are not trivial. Where Edney maintains that maps and map types are so diverse and varied that there is, and can be, no such a thing as a *map* (just individual *maps*), and thus no map can be compared to any other; I point out that *some* sort of abstract, formal, conceptual, state of mapness *must* exist—because, if Edney is correct, the term map is *meaningless* and anyone speaking of “maps” simply *gibbers*.

The purpose of this paper is to sort out whether and why *anyone should care* about this debate. To do so, it will examine some of the key propositions on each side of this dispute, and the methodologies espoused by the participants. It will also introduce some useful concepts with which to frame, understand, and judge the strengths, weaknesses, and value of the positions we each present.



© by the author(s). This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/4.0>.

TO BEGIN AT THE BEGINNING

Matthew Edney and I share some common assumptions. Both of us, for example, see every map as having been defined by culture. However, our understanding of this assumption differs fundamentally.

In this corner . . .

I, for my part, centralize this cultural grounding in *both* map artifact *making* and in map *reading*—and go on to point out that map reading itself is predicated upon a conceptual act of making performed *by the reader*. I have called this making of a map from an artifact a *transfiguration*—an act closely analogous to the transfiguration described in the New Testament of the Christian Bible (Matthew 17:1–8, Mark 9:2–8, Luke 9:28–36), and exactly like the transfiguration the philosopher Arthur Danto (1981) described as the way an artifact becomes an artwork. Understanding this model requires that the investigator conceptually differentiate between the artifact itself (its *matter*) and the understanding imposed upon it by the reader (its *form*); without—and this is important—losing sight of the fact that in reality the transfigured map exists only *symbiotically*. The artifact remains an artifact (you can wrap fish in it, regardless of its conceptual map-hood), but a *map* is an amalgam (or *substance*) of the artifact *and* what the reader has made of it.

In my 2022 paper, I also went on to identify the map / not map inflection—the *is this a map?* decision, the moment of *transfiguration*—as a key point for evaluating not only a particular map, but as a litmus test for evaluating *cartographic theories* as well. I maintain that if a theory cannot account for one thing being a map while another thing is not—or the same thing *being* a map for one person and *not* for another—without reference to its value as a map, then the theory *is not sound*.

. . . and in this corner . . .

Edney, by contrast, maintains that maps come into existence only as the result of *processes*—the primary one being a “spatial discourse” that circulates between map makers and map users. These discourses, he avers, define the entire scope of map being and map meaning—writing that maps only “are what they are within the precise scope of each spatial discourse” (Edney 2022, 58). Because, in his model, each map is a creature of a wholly autonomous spatial discourse—one where the map maker somehow continues to play a dynamic interpretive role long after the map has been made and shipped out the door—one simply

cannot compare one map to another: “there are [just too many] fundamental differences in just what are considered as ‘maps.’” (Edney 2022, 58). Edney further labels as “universalizing” any suggestion that maps have in common anything more than being referred to by the same word, and he aggressively goes after—with bell, book, and candle—anyone that suggests any such commonality exists.

Edney does, however, acknowledge *intention* as a legitimate contributing factor to map-hood. He writes that “there can be no maps unless mapmakers intend to make them” (Edney 2022, 54), although he is no more revealing of how intentions are to be gleaned than he has been about how one joins the magic circle of a spatial discourse.

Sizing up the positions

Right off the bat, we can identify profound incompatibilities between my foundational assumptions and those of Edney. According to Edney, maps are so bewilderingly diverse that “map studies are properly studies of the glorious multiplicity and variety of ways—processes—by which people construe and communicate spatial complexity” (Edney 2022, 58), and that anyone who thinks differently is seeking to “limit and control the ability of map readers to interpret maps” (Edney 2022, 54).

Edney’s model—a model that effectively restricts the interpretation any map reader can apply to a map to the interpretation intentionally imposed by the maker via a hegemonic spatial discourse—is clearly, itself, an authoritarian mechanism to limit and control interpretation. It rules out any and all unauthorized readings—counter readings, improvisational readings, and even misreadings—because any rogue reading would be, by Edney’s definition, illegitimate—not only just plain wrong, but a petulant display of “individuality” (Edney 2019, 53).

In contrast to that, my model allows and facilitates the broadest range of interpretation, largely because it looks at the map / not map question *abstractly*, from a position *before* any interpretation is applied. Because it makes no judgment about the validity, appropriateness, or value of any map / not map decision—or, incidentally, about any resulting *map*—it usefully describes the *entire spectrum* of possible responses and interpretations that might arise: that the artifact is *not a map*, that the artifact *is a map*, that the map is or is not *a specific type* of map, that the map is or is not *valuable* (and / or *believable* and / or *usable* and / or *useful*) as a map, and so forth.

SOME REAL-WORLD SCENARIOS

IMAGINE YOU ARE ATTENDING A RECEPTION IN A MAP gallery: there are maps (to be admired), food (to be eaten), and napkins (for wiping your fingers). *How do you know which is which?* Saying that you “*just know*” is not an option. This is neither a simple nor a trivial question—answering it involves conversance with a host of disparate cultural conventions, and your answer has ramifications going forward.

A MAP / NOT MAP EXPERIMENT

Let a map reader imagine encountering three scraps of paper on the floor (Figure 1). Each artifact is clearly separated from whatever context within which it was originally embedded, and each is crumpled in more or less the same manner. Is there any reason to think that one or more of the artifacts might be maps?

The Edneian approach

In advising a person confronted with the three scraps of paper in Figure 1, Edney would apparently begin by reminding them that maps “are what they are within the precise scope of each spatial discourse,” (Edney 2022, 58) and that “there can be no maps unless mapmakers intend to make them” (Edney 2022, 54). Our observer here, however, has only the three scraps of paper on the floor; where is the *discourse*, and how is one to glean *intentions*? Edney is silent on both of these questions, yet he expects everyone to simply accept as self-evident the existence and (in this case, at least, magical) transmissibility of both discourses and intentions—in much the same way that so many accept as self-evident the existence and operation of the **Invisible Hand of the Free Market** (Figure 2).

A very spatial discourse

One of the primary weaknesses of the Edneian model is its reliance on a so-called “spatial discourse.” Certainly, there *must* be *some sort* of cultural discourse regarding how spatial concepts can and should be communicated; just as there *must* be discourses concerning the plethora of other conventions—symbol vocabularies and grammars, graphic styles and conventions, techniques and standards of craftsmanship appropriate to making—that intersect in the things that a given community recognizes and uses as maps. Why, though, would a specifically *spatial* discourse be the one that governs what it is that makes a map a map?



Figure 1. Three scraps of paper. Are any of them maps? (see end note)

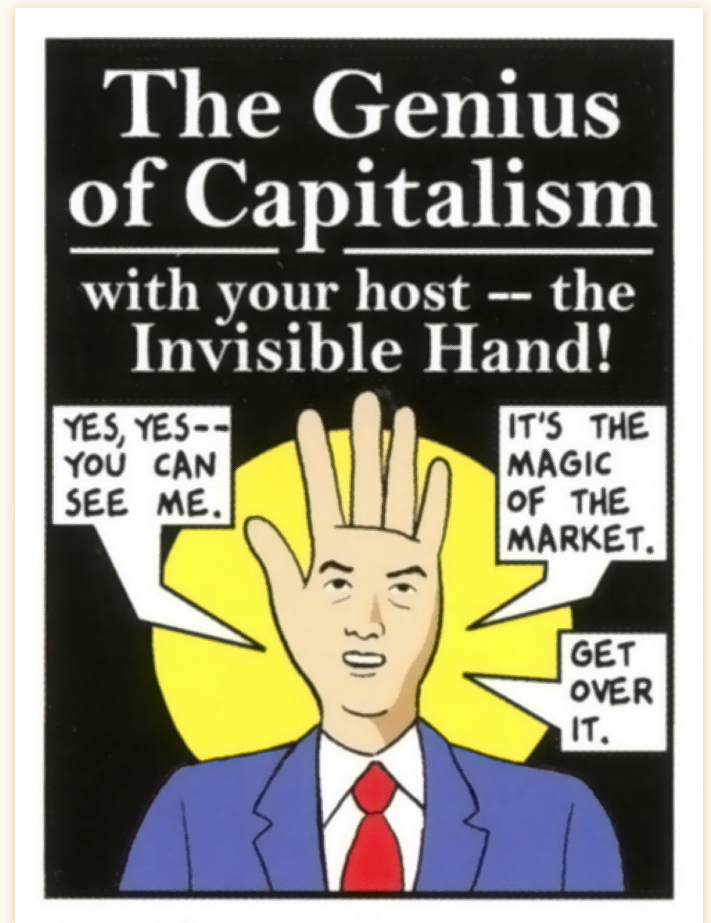


Figure 2. A portrait of the Invisible Hand of the Free Market Man (I.H.O.T.F.M. Man; Perkins 2009), as depicted in the comic **This Modern World**. A typically exciting and inspiring I.H.O.T.F.M. Man adventure can be found [here](#).

Why, too, is this discourse so restricted? Edney only allows such discourses to operate between apparently specific, but completely undefined, producers and equally specific and undefined consumers. He makes clear just how narrow and parochial his sees these individual discourses to be when his example of “substantially different kinds of mapping that have been carried on without regard for one another” is that of “property mapping versus regional/geographical mapping” (Edney 2022, 52). It is apparent that Edney’s entire theoretic structure rests on an absurdity—that the makers and users of cadastral maps have no participation in; access to; interest in; or knowledge of, topographic, or any other kind, of mapping—that when someone makes or reads a cadastral map they *forget* everything they know of other kinds of mapping—and that absurdity is pretty darn hard to swallow.

The diagrams Edney provides (2022, 55) to illustrate the superiority of his producer–consumer–circulatory discourse model over what he calls a “handcuff” model do little to clarify matters. In a personal communication to me, [daan Strebe](#) has remarked regarding to those two diagrams:

I found puzzling his digression into the circle of producer vs consumer. [. . .] I do not see any way that the two conceptions contradict each other. As pertains to a given reading of a given artifact, the dynamic illustrated by [Edney’s] Figure 2 [*captioned “Maps circulate between producers and consumers within spatial discourses”* (Edney 2022, 55)] is irrelevant. Yes, the dynamical process is (normally) relevant to the choices the mapmaker made in creating the map, and it is (normally) relevant to how the reader learns to interpret the map, but that process comprises the ongoing education of the participating mapmaker and the participating map reader, not what goes on when a reader transfigures an artifact into a map.

The notion of “spatial discourse” is clearly both too narrow and too artificial to be of any real value for understanding mapping. Although Edney promotes it as working just like “a linguistic community” (Edney 2022, 56), it is clearly, at best, more like a “company union”—a *transparent fiction*. By contrast, the interpretive communities I discuss actually *include* linguistic communities, social communities, interest communities: *all* the communities to which an individual belongs, has an interest in, or is aware of.

As can be seen, whatever the strengths or benefits of Edney’s flavor of processualism, it simply does not, and cannot, address the map / not map question I am looking to explore: and addressing (and dismissing) my proposition is, ostensibly, the theme of Edney’s 2022 article. The fact that it cannot address such a fundamental issue—*is this a map?*—also casts serious doubts on his claim that processualism is a comprehensive theory of mapping (*see* Edney 2022, 58).

My own approach

I, by contrast, would point out to the finder of the paper scraps that a reader must bring their *skills* and *literacy* to the artifact, and must then choose from amongst those skills—and such precedents as are suggested by their literacy—which to apply and in what manner. “This schema [of mapicity], which includes a paradigmatic vocabulary of appropriate form, a grammatical syntax of application, and a canon of exemplars, is how we recognize suitable candidates for map-ness” (Denil 2012, 77). In other words: *does this look to me like it might be a map?*

Discussion

In short, where Edney looks to a preexisting (and, as often as not, entirely inaccessible) spatial discourse and maker’s intent to ring-fence the viewer’s interpretation, I, on the other hand, fence nothing, but instead place the responsibility squarely on the viewer’s shoulders: the artifact’s map-hood, *and* any subsequent interpretation, is up to *that viewer*. If the viewer recognizes attributes or configurations they associate with *mapicity* (Denil 2011, 2012, 2016), the *viewer* can choose to become a *reader*, and transfigure the artifact into a map. Transfiguration instantly situates the map against a horizon of other maps—an action that both permits and facilitates interpretation. The transfiguration takes place *in the reader’s mind*, but it operates on the combined artifact and concept of what the artifact is, producing an artifact that acquires a conceptual dimension that is a state of map-hood. *Gee willikers*, they say, *this is a map!*

This recognition may well eventually prove premature—or even completely incorrect—but, at least for the time being, the artifact *becomes* the physical embodiment of a map and is placed into whatever context the reader has of “maps”—and the reader *must* have a concept of, and context for, maps or they would not *be* a map reader and would *never* have recognized *any* map.

This literacy and skillset—the very things that make a map reader—are acquired by the reader from the various cultural communities to which they belong. Not every reader commands the same education, and not every reader understands the conventions, dictates, or teachings of even a single community in the same way. Too, folks sometimes just plain disagree.

That a map reader applies their *skills* and *literacy* to interpreting the artifact does *not* mean, or even imply, that “maps are *defined* and *delimited* by their nature strictly as artifacts,” as Edney (2022, 55, *emphasis added*) insists that I am saying. Instead, the issue is whether the artifact *as the reader understands it* displays characteristics denoting mapicity.

Sort of but not quite really maps

Sometimes mapicity signals are recognized but are then dismissed—this is where one gets the notorious *map-like-object* (it *looks* like a map but isn't *really*)—and sometimes features are mistakenly taken to connote mapicity—yielding “the whole phenomenon of ‘cartocacoethes,’ works interpreted as maps that were not created as maps” (Krygier 2008 quoted in Edney 2022, 55). Whatever *reasons* a map reader has for their decision are not under consideration here—but the palpable and very real *effect* of a *positive* map decision *transfigures* the artifact into a map and situates it against a horizon of *things-that-are-maps*. A *not*

map decision consigns the artifact to some other category. In any event, the map / not map decision may be “right” or it may be “wrong,” but—as far as the *recognition* of a map is concerned—the process has worked exactly as described on the tin. In examining the map / not map question one is *not* judging the *correctness* or *appropriateness* of the choice—one is *only* examining *how the choice comes to be made*.

A model like mine accommodates disagreement over mapness by allowing any two individuals to draw different map / not map conclusions concerning a single artifact. In one sense, what this model does is to problematize the term *really* in the phrase *really a map*—and makes it instead a question of *really* for *whom*?

Conclusion of the experiment

What does examination of this thought experiment reveal? It shows that the map / not map question does indeed arise, that it is indeed critical for turning an artifact into a map, and it also shows that at least one currently promoted cartographic (excuse me, *mapping*) theory—Edneian processualism—cannot address it.

This experiment also highlights another feature of my proposal that differs from those of other theories: its abstractness, and its division of abstract theory from value judgment. It divides *ontology* (theory) from *epistemology* (connoisseurship)—*what* we know from *how* we know it.

CARTOGRAPHIC THEORY AND MAP CONNOISSEURSHIP

THEORY VERSES CONNOISSEURSHIP

CARTOGRAPHIC *THEORY* FRAMES OUR UNDERSTANDING of what maps *are* and how we know about them. Map *connoisseurship*, on the other hand, tells us about a particular map, or a group of maps. This is a critical distinction, and one not often made by writers about maps.

How theory and connoisseurship differ

In my 2022 article, I focused exclusively on theory—because at the stage where map / not map initially takes place, one has *nothing else to go on* than a juxtaposition between an artifact and what one thinks maps are. Connoisseurship cannot even begin to operate until and

unless the person examining an artifact has decided, for whatever reasons, that it is a map. Obviously, things don't *end* there, but it *is* where they *start*, and how and why that decision is made frames every subsequent map reading decision—even ones made long after, and potentially about different artifacts altogether.

Theory operates at a level so general that individual maps cannot be inferred from it. No map exists without a theory—and even *I-don't-need-no-stinking-theory* is still a theory. A person without at least a scrap of a theory simply *cannot* be a map reader because such a person *cannot know* what maps are. It must also be kept in mind that not *all* theory is sound.

Connoisseurship, on the other hand, involves *contingent* knowledge about maps and their use, about how and why they are made, about style, and about taste. It tells us *why* map *types* exist, how a given map relates to other maps, and it tells us about *good maps*. It *only* comes into play *after* something has been recognized as a map. One should note, too, that not *all* connoisseurship is sound, either.

Neither theory nor connoisseurship touch upon *ethical* concerns. Maps don't have ethics—people do—and even repugnant people with despicable intentions can make great maps.

Abstract theory allows maps to exist in all their bewildering variety, and it divides the map from the not map. Now, any particular map reader's theory may be limited, but even limited or ill-founded theories are not useless or inoperative. Connoisseurship, by contrast, is situated *in* theory, *in* history, and *in* culture, and it is embodied through criticism. Thus, while theory underpins practice, connoisseurship dwells within theory and criticizes practice. It is to this contingent grounding that Joyce Carroll Oates referred when she wrote that “there can be . . . no criticism for all time, nor even for much time” (Oates 1998, 40).

Theory does not reckon value—it instead provides us with ways of identifying things to which it is appropriate to apply valuing criteria and tests. No map is *more* of a map than any other map. Connoisseurship, on the other hand, is all about value. Some maps are *better* than others and it is connoisseurship that tells us how and why. As can be seen, the theory and connoisseurship registers are complementary, and a dialog between the two is essential for finding a complete, comprehensive view of the field as a whole.

CONFLATING THEORY AND CONNOISSEURSHIP PRODUCES IDEOLOGY

Unfortunately, almost everyone writing on cartography will, at some point, *conflate* theory with connoisseurship—their theories orbit around what they like to speak of as *real* maps; what they see as *good* maps; the maps of which they *approve*. In this way, their *so-called* theories are really only map criticism. This is not to say that map criticism is bad, or unimportant—indeed, it is sophisticated criticism that helps us move beyond the surface details of any cultural artifact to uncover the complex and interconnected

elements that inflect them. However, when criticism drives and frames theory, the result is simply *ideology* and—as the Indian-British post-colonialist critical theorist Homi K. Bhabha remarked—ideology is “*what we think we see without really looking*” (1998, 48 *emphasis in original*).

CARTOGRAPHIC THEORY

Many mapping theorists fall into the camp wherein theory means only “legitimate” theory—a rarefied thing that is only truly understood and engaged by philosophic elites. Noël Carroll—an American philosopher considered by some to be one of the leading figures in contemporary philosophy of art—has, for example, written that

The sublime tap-dancing of Bill “Bojangles” Robinson and John Bubbles is, on any unprejudiced view, art, but it strains credulity to think that anything like a theory, even under a generous construal of that term, could be thought of as a condition for the existence of this dancing. . . . There were existing theories of dance, but we have no reason to think that Robinson or Bubbles subscribed to them; indeed, we may have some reason to think that they would not have subscribed to them. (Carroll 1993, 102)

There are clear advantages, however, to a more *broad, flexible, and pragmatic* understanding of what constitutes theory. Theory is more usefully seen as a general term for *what* and *how much* each individual knows about (in this case) maps—however much or however little that person may know. If someone knows maps exist—it is a part of their theory (maybe even all of it). An individual's personal map theory is what makes them a map *reader*, and the recognition that any sound general theory must *itself* be flexible enough to accommodate (*not* incorporate!) all the various weird and wacky personal theories that might come along is what makes my inclusionary understanding of theory *pragmatic*.

A note on pragmatism

The purpose of pragmatic theory is not to provide a *true* picture of the world, but to help us to *act more effectively* within it. Pragmatic theory recognizes that *any* map reader may hold almost *any* ideas about maps—and that any truly *valid* theory has to allow that to be so.

Theory is not always sound

A map reader's personal theory need not be logically consistent; it need not be philosophically complete; it may, in fact, be utter nonsense—consider, for example, Gerald Fremlin's homologue theory (2005), William Rankin's anti-representational theory (2016), or the writings of the Object Oriented Ontology people (Rossetto 2019)—but, nonetheless, whatever theory the reader holds, *that* is the way they understand maps. Their theories about maps delineate a framework through which they see and understand maps, and through which they operate as a connoisseur. Every map reader is, in this sense, a connoisseur.

MAP CONNOISSEURSHIP

Bernard Berenson (1865–1959) was an American art historian specializing in the Renaissance. His judgments were for many years widely respected in the art world, and—despite some recent scholarship raising issues about business-related conflicts of interest—he is still seen as the very model of the connoisseur. In his 1898 essay (published in 1902), *Rudiments of Connoisseurship*, Berenson defined connoisseurship as “the comparison of works . . . with a view to determining their reciprocal relationships” (Berenson 1962, 122), and noted that “it proceeds by the isolation of the characteristics of the known and their confrontation with the unknown” (Berenson 1962, 123). He maintained that “the Sense of Quality is indubitably the most essential equipment of a would-be connoisseur. It is the touchstone of all evidences of all the possible morphological tests he may be able to bring to bear upon the work” (Berenson 1962, 147–148).

As can be seen, the connoisseur draws attention to significant aspects of the works in question; draws parallels and contrasts; and identifies relationships. The connoisseur is primarily concerned with how *good* the work is, and their analysis takes into view both the single, isolated work and the horizon against which that work is situated. This is because, as the Scottish artist David Batchelor pointed out, works acquire “meaning by being placed in a relationship of difference with related antecedent works” (Batchelor 1991, 55). If the maker “fails to establish such a relationship, . . . that work will tend to be regarded simply as irrelevant” (Batchelor 1991, 53). He went on to say:

But that relationship, that likeness, is itself not simple or unmediated. It is subject to complication and development in a variety of possible ways

and for a variety of possible reasons. For a work to express some kind of critical or qualified relationship with its antecedents it will require some feature which may be read as indicative of such a qualification” (Batchelor 1991, 53).

Thus, the first task of a connoisseur is to place works in relationships that enrich a work's meaning—for themselves and for others.

That said, we must also remember that connoisseurship is *always* situated—that it occurs inside the context of theory. It always “takes place” as the British philosopher Christine Battersby wrote, “in the context of certain evoked *traditions* which bring along with them *standards* for discriminating particular qualities and features” (Battersby 1991, 38 *emphasis in original*). Those traditions are bequeathed to us by our interpretive communities through broad cultural mechanisms that may or may not include such narrow and artificial constructs as Edneian spatial discourses. Every map owes more to other maps than they do to whatever they purport to be about, in exactly the same way that, as the Swiss art historian, aestheticist, and educator Heinrich Wölfflin (1864–1945) remarked, all paintings owe more to other paintings than they owe to direct observation (Gombrich [1960] 2000, 317).

Thus, one role of the erudite connoisseur lies in introducing us to complex, challenging, little-known, or obscure works, and in elevating and deepening our understanding. Recognized connoisseurs are usually heard with attention, but this is not to say that legitimate judgment comes only from authority.

In fact, every map reader—enabled and constrained as they all are by their education and experience—has the final word for their own understanding. They reach that understanding by drawing upon their full intellectual experience—not only on received knowledge—but also on *connections, analogies, and interpretations* they each cook up on their own.

This has, in fact, been my position since at least 2006, when I wrote: “We all of us make maps that are judged each and every time they are considered for use. What is seen on or read into a map is up to the user, and interpretation (what the user wants / expects / can recognize) constrains the facts discovered: not the other way around” (Denil 2006, 5).

There are, however, some boundaries . . .

That “final word” caveat notwithstanding, however, map readers are also each *themselves* judged by the value others place on their judgments. As Richard Rorty remarked: “Truth is what your contemporaries let you get away with saying” (1979). If a particular map reader’s reading is too far afield from that of their contemporaries, they will find themselves cut off from others, and unable to agree with them—and if they go far enough down that personal interpretation road, they risk being considered insane. On the other hand, some specialized maps—nautical charts, for example—come loaded with very strict rules for construction and use. Ignoring those rules can lead to tragedy, loss of life, and legal liability.

Conclusions about theory and connoisseurship

It seems clear that most map theorists—including Edney—conflate theory and connoisseurship, to the detriment of the soundness of their theories. My strategy of divorcing them, and examining their interactions, is what is needed in order to avoid a descent into ideology—an authoritarian ring-fencing of map-hood, meaning, and interpretation. To examine what maps *are*—in a pragmatic, abstract, and broadly applicable sense; without making universalizing pronouncements—one must avoid getting sidetracked off what makes a map, and onto what makes a map *good*.

INDIVIDUALISM AND ANTI-INDIVIDUALISM

This discussion has placed quite a bit of emphasis on individual agency in establishing both personal map theory and connoisseurship, but it is important that one not lose sight of the fact that I am arguing that all of a map reader’s understandings are rooted in the frameworks bequeathed to them by their cultural communities. An individual recognizes maps because they have *learned* how to recognize them—yet they exercise *their own* judgment in recognizing them. They can tell a good map from a less-good map because they have *learned* how to tell them apart—yet they bring criteria *of their own choosing* to that decision. Their understanding is not solely imposed from above or outside, but it behooves them to be accommodating of the predilections of their contemporaries—and of their forebearers—and to leverage those predilections to recognize, make, and read maps.

Edney’s notions of individuality and materiality . . .

That Edney singles out “individuality” as one of the many sins of his “Cartographic Ideal” (2019) is not surprising—to acknowledge existence of *any* individual’s agency would mean surrendering the hegemony of the spatial discourse, and like any authoritarian system, processualism cannot tolerate such undermining. Thus, my pragmatic foregrounding of individual agency in symbiosis with communal culture draws Edney’s ire. He writes that my “arguments reveal the . . . persistent preconceptions of individualism and materiality,” and goes on to elaborate that “the preconception [of individualism] further holds that maps are externalized expressions of an individual’s neurological schemas and that an individual modifies their own neurological schema to accommodate what they read in the map” (Edney 2022, 54). There is no explanation whatsoever as to what all this nattering about “neurological schemas” is supposed to mean—just as there is no evidence presented that I, or anyone else, for that matter, holds any such absurd opinions.

Edney himself defines “individuality” in a nine page section (64–73) of Chapter 3 in his 2019 book. He begins by asserting that “the ideal [of individuality] construes the making and using of maps to be strictly individual, cognitive work” (Edney 2019, 64), later explaining that an individualist believes that all maps “are unmediated replications of their makers’ own, internal ‘cognitive maps’” (Edney 2019, 64). By the end of his first paragraph about “individuality,” Edney has identified it as “the foundation for unwarranted racist and sexist characterizations about the intellectual capacity of entire groups of people” (Edney 2019, 64)—a statement, incidentally, that begs the question of if there is ever a *warranted* racism or sexism—and then goes on for a further eight pages with a stream-of-consciousness embroidery on the canvas he has thus cut from whole cloth. It is quite a performance, and is followed up with another two page [Busby Berkeley](#) number on “materiality” (Edney 2019, 74–75), wherein he denounces everyone who has ever noticed that maps are *also* artifacts by accusing them of imagining that maps are *only* artifacts “made at fixed points in time” (Edney 2019, 74)—and *nothing else*. Both are textbook-worthy examples of paralogism.

. . . and why they do not apply here

While it is possible that people exist that hold individualistic and materialistic ideas like the caricatures Edney

presents, it is obvious that I am not amongst them. Edney seems to have missed, or misunderstood, the way my

form/matter analysis model holds that the physical graphic artifact alone is *not* the map.

MY EVOCATION OF CONCEPTUAL ART

IN CALLING FOR A CONCEPTUAL CARTOGRAPHY, modeled on Conceptual Art, I am attempting to evoke a fundamental rethink of the entirety of mapping as an intellectual enterprise. Conceptual Art, as a movement, incorporated a wide variety of activities and practices—each and every one of which challenged the art viewer on multiple grounds.

THE VALUE OF CONCEPTUAL ART AS A MODEL

The map / not map question is very similar to the art / not art question that Conceptual Art explicitly addresses. There is nothing inherent in *any* artifact that necessarily classes it as a map, or as art—or as both, or as neither. Individuals, in becoming map readers or art viewers, will over time form a category of map, or of art, that is defined by what they expect a map, or an artwork, to *do*, to *allow*, to *facilitate*. These expectations constitute the formal concept of map or art in each individual's mind. Because, in both cases, these conceptual entities are mapped back *onto* the user's perception of the artifact, the conceptual entity can easily be, and often is, conflated *with* the artifact so that it *seems* that the *artifacts themselves* are the maps and / or artworks. Conceptual Art short-circuits this reflexive conflation by distinguishing sharply between *conception* and *perception*: the one being “pre-”, and the other postfact” (LeWitt 1967).

A key element in many Conceptual Art works is the division between the concept of the artwork, and its physical or other manifestation—the same division I make in regard to maps. Often, conceptual works are “delivered” for exhibition as sets of open-ended descriptions that also serve as titles—for example, Sol LeWitt's 1993 *Wall drawing No. 26. A one-inch grid covering a 36" square. Within each one-inch square, there is a line in one of the four directions*. Another example would be Lawrence Weiner's 1979 *Many colored objects placed side by side to form a row of many colored objects*. In works like these the physical manifestation is incidental, and left to the accident of choice or interpretation of the individual installing it. In these instances,

the “works” are the open-ended instructions—and this is largely why these examples are *not* included here as figures; you *have* the title, so you *have* the work.

Nonetheless, the manifestation is not without interest. Yoko Ono's 2010 performance *Voice Piece for Soprano* (cited in Denil 2022, 15) is a performance of her 1961 work by the same name (Ono [1964] 2000 *unpaginated*):

Scream.

1. against the wind
2. against the wall
3. against the sky (1961 autumn)

The poetic instructions on the page and the vocalization at the microphone are both *Voice Piece for Soprano*—they can be placed in conjunction, in opposition, in parallel, or in intersection, or they can be taken to be completely separate and independent. Ms. Ono's intention need not enter the picture—the status of *either* as art is *entirely* up to the *audience*.

Works of this type represent just one thread from the tapestry of Conceptual Art interrogations of the concept of art, but they serve to illustrate the fundamental challenge for which I am calling.

As I have previously remarked, *all* Conceptual artworks challenge each viewer to accept it as an artwork, or not. Any viewer is free to say *no*, and this is one of the challenges I am inviting mapmakers to take on—how far are *you* willing to push *your* mapmaking, not just stylistically, but *conceptually*, in order to explode reflexive conflation? Do *you* have the audacity to explore the edge of your audience's expectations, and of being just as happy if you happen to transgress someone's bounds?

The fact remains that opening up that reflexive conflation of concept and artifact—conception and perception—something that happens without even thinking—is harder to do than it might at first appear.

MORAVEC'S PARADOX

Others have taken on similar challenges: consider, for example, the seismic paradigm shift that artificial intelligence (AI) research underwent with the recognition of Hans Moravec's paradox—"that the hard problems are easy and the easy problems are hard" (Pinker 1994, 190). Map readers answer the map / not map question effortlessly—it arguably occurs below the level of conscious awareness—but this seeming ease is precisely what makes the way it is solved so difficult to examine. In 1986, the AI researcher Marvin Minsky noted that "in general, we're least aware of what our minds do best [. . . and . . .] we're more aware of simple processes that don't work well [like playing chess or doing higher mathematics] than of complex ones that work flawlessly," like, for example, picking up a pencil or recognizing a map (Minsky 1986, 29). Randall Munroe has also remarked on this **phenomenon**, and his readers provide a discussion of it on the wiki [here](#). The seeming simplicity and corresponding practical difficulty of addressing how one identifies a map (beyond obvious reasons that apply only to specific maps) makes studying map / not map complicated.

It was really only when Artificial Intelligence research turned to the *easy-for-us* but *hard-to-get-computers-to-solve* problems that the field began to climb out of its progress (and funding) doldrums. Getting to that point, though, was a major hurdle. For years researchers proposing examination of *easy-for-us* issues in AI faced accusations remarkably similar to the ones often thrown at me: *Why bother?*

It is my contention, however, that I make a reasonably sound case: both for asking the map / not map question and for using Conceptual Art-type strategies and tactics to crack the centuries-old *what is a map* nut. Even if this approach does not solve it, it should at least expose its sinews for examination.

WHAT DOES CONCEPTUAL MEAN?

Understanding my call for a Conceptual Cartography—one analogous to Conceptual Art—and my distinction

OVERALL APPROACHES TO THE OVERALL ISSUE

THE ANALYTICAL APPROACH USED BY EDNEY DIFFERS fundamentally from the one I employ. Edney's processualist approach restricts any map's meaning (the interpretation

between the map artifact and the conceptual map into which it is transfigured, requires an understanding of the term *conceptual* that is not widespread in the cartographic community. Most hearers will, at first, likely equate it with "mental maps," or "cognitive maps," as discussed, for example, by A. Jon Kimerling, Aileen Buckley, Phillip Muehrcke, and Juliana Muehrcke in their 2016 edition of *Map Use: Reading, Analysis, Interpretation*. In the "Preface" they state that they "make a clear distinction between the tangible cartographic map and the mental or cognitive map of the environment that we hold in our heads" (Kimerling et al. 2016, xi). However, when they remark that "it is the map in our minds, not the map in front of our eyes, that we use to make decisions," and go on to "stress that cartographic maps are valuable aids for developing better mental maps" (Kimerling et al. 2016, ix) it is clear that they are dealing *only* with what, in this paper, has been termed connoisseurship—judgments on the quality of individual map artifacts. The "mental maps" they discuss only come into being *through a map reading*, and thus *cannot* be the abstract conceptual maps I discuss. The "mental maps" of *Map Use* are the *result* of a reading, while my conceptual maps are what *make reading possible*. It can thus be seen once again that Edney's accusation that my propositions are "in line with the dominant agenda of modern academic cartographers" (Edney 2022, 53) are groundless—for *whom* does Edney mean by "modern academic cartographers," if *not* the likes of Kimerling, Buckley, Muehrcke, and Muehrcke? My conceptual map is clearly *not* the same as, or even vaguely like, the "mental" or "cognitive" maps of Western cartographic orthodoxy.

Nor, by any stretch of the imagination, is my proposed cognitive cartography an all-encompassing, totalizing, or blanket theory in itself. Rather than defining or explaining maps, it instead provides an avenue for interrogating maps, mapping, and the discipline of cartography, and for exposing and examining the very sort of Moravec's paradox-like—difficult to isolate, yet essential to understand—aspects of these phenomena that are otherwise so fugitive and slippery.

that any map is permitted) to what lies "within the precise scope" (Edney 2022, 58) of map-ness as defined by the spatial discourse and intentions that pertained when

it was made. Maps are, for both him and I, both cultural and historical, but, of the two, only he sets up explicit—if poorly defined—channels through which legitimate interpretation can run.

GEORGE DICKIE'S INSTITUTIONAL THEORY OF ART

In 1974, the late George Dickie (1926–2020) proposed a theory for art quite similar in many respects to Edney's for mapping. In Dickie's Institutional Theory, the status of art-hood is handed down from what he called Art World Institutions—galleries, museums, critics, historians, and others that mutually engaged in an artistic discourse—and these Art World Institutions constitute the final word on any art / not art question. Dickie would, no doubt, both recognize and approve of many aspects of Edneian processualism: both theories hold that the artifacts discussed “are what they are within the precise scope” (Edney 2022, 58) of what your betters have decided, and that anything else is just “individuality” (Edney 2019, 53). Unlike Edney, however, Dickie clearly separated *being* from being *good*. In the Preface to his 1988 book, *Evaluating Art*, Dickie writes that “the institutional theory of art is supposed to be a *classificatory* theory of art—a theory that explains why a work of art is a work of art. Why a work of art is valuable or disvaluable is an additional question” (Dickie 1988, ix *emphasis in original*).

EDNEY'S IS SYSTEM OF MAP VALUE

For Edney, by contrast, the issue of *being* is conflated with, and subsumed by, the issue of *value*. In fact, the only real mechanism Edney allows is one of connoisseurship—a subjective judgment on how well or ill a map was made—and because his theory shares this mechanism with the common run of map theories, one can thus see that it is Edney that is, despite his protests to the contrary, firmly “in line with the [theories] of modern academic cartographers” (Edney 2022, 53).

My approach is more pragmatic: at the level of map recognition, it is strictly abstract—reserving value judgments for later stages where such judgments can be informed by connoisseurship. My application of a purely abstract, intellectual, separation of the artifactual map from the conceptual map—the first as present in the hand, and the second as an idea formed in the map user's mind—allows for a clear division of aspects pertinent to an artifact's instantiation

from those aspects resulting from the reader's interpretation. Evidence of my concern with map value—both how well a map is made and with factual and ethical correctness—is abundant from my other writing. My 2022 paper, however, is concerned with decisions that *must* occur *before* value enters the picture. It is my proposed hylomorphic division—a division that occurs *only* in the mind, and that is a prerequisite for any value judgments—that I suggest not only has utility for finding core commonalities amongst all things anyone calls maps, but that can also do so *without* falling into the trap of blanket universalism so central to 1970s era cartographic positivism, and to which Edney so vigorously objects.

UNIVERSALISM AND ANTI-UNIVERSALISM

In his 2022 paper, Edney places tremendous emphasis on his repeated claims to anti-universalism—and foregrounds those claims by including the term in his paper's title—but what does anti-universalism actually mean? According to his 2019 text, the full title of the Idealist sin is *singularity and universality* (Edney 2019, 55), and he identifies it with the “normative” map. He goes on to maintain that *any* and *every* non-processualist *must* perforce believe *all* maps are—as William Rankin wrote—“singular, universal record[s] of geographic fact that includes everything worthy of attention, and nothing more” (Rankin 2016, 3 quoted in Edney 2019, 101), and that they must further believe that “all maps must, therefore, have the same essence” (Edney 2019, 101). If one accepts these self-inflating scarlet-letter labels, it really doesn't matter *what* I *actually* proposed: *because* I reject Edney's “recent anti-universalist [processualist] argument,” I *must perforce* be proposing that “that maps constitute a singular phenomenon” (Edney 2022, 51).

Plato's mouthpiece Socrates was especially skillful in employing the thin edge of such self-inflating definitions—for example, that “the temperate man, being, as we have described, also just and courageous and holy, cannot be other than a perfectly good man, nor can the good man do otherwise than well and perfectly whatever he does; and he who does well must of necessity be happy and blessed, and the evil man who does evil, miserable” (Plato 380 BCE). Socrates' line of reasoned points is—like Edney's—vivid and forceful, but it is—again, like Edney's—not actually interconnected: it is not so much a chain of reasoning as a scattering of tilting, algae covered stepping stones requiring precarious leaps from one to the next.

WHY UNIVERSALISM IS SUCH AN ISSUE FOR EDNEY

The processualist / universalist dichotomy Edney posits takes the familiar *privileged term / denigrated term* form common in much of the triumphalist–positivist theories epitomized in the writings of Joel L. Morrison (1977)—albeit, obviously, with the terms swapped-round. The “scientific” positivists of the 1970s sought to define a single “unified body of theory” based on a “fundamental paradigm” (Morrison 1977, 58) for all maps. Their goal was to establish “cartography [as] the detailed study of a communication channel,” and “cartographers as information communication scientists” (Morrison 1977, 69), by placing “emphasis . . . on defining the *processes* which operate within the science of cartography” (Morrison 1977, 59 *emphasis added*).

While the righteous frenzy with which those self-styled “scientific” doctrines were originally promoted has rather fallen from fashion, the ideas themselves persist in the background miasma. Indeed, in many cases they continue to be taught to aspiring cartographers by certain pedagogues who have, at least, learned to couch their sermons in somewhat less evangelical terms. Given this historical inheritance, and the echos of it that continue to be heard, Edney is not far wrong to agitate against the discredited notions he identifies as *Idealist*. He is wrong, however, to see antediluvian positivist sinners in anyone questioning his own doctrines—and he is *also* wrong to promote his processualism as either *anti*-universal or as a viable universal alternative.

WHY I FOCUS ON THE MOMENT OF TRANSFIGURATION

As has been mentioned, the moment of recognition—the *Ab-ha!* moment—when an artifact is recognized as a map, is an inflection that launches map reading. Before

that inflection, *there is no map*. After transfiguration, an avalanche of cascading decisions has been triggered that will frame all subsequent map reading. To be a map is to exist within a context of mapicity—of map-hood—and to be situated in a landscape—against a horizon—of other maps. To *be* a map is to be a *type* of map. To be a map is to have a *purpose*. To be a map is to be “in a relationship of difference with related antecedent works” (Batchelor 1991, 55). I have identified this existence as having gone beyond simply *having* meaning to the achievement of a state of meaning *embodiment*. Things that embody meaning foster *belief*—and, as I have maintained since at least 2003, *belief* is the cornerstone of *persuasion*; and persuasion is the reason a map exists.

Edney complains that when I contrast (meaning-*embodying*) maps to mere (meaning-*bearing*) texts, I am somehow insisting “that maps and written texts are necessarily distinct” (Edney 2022, 53). However, Edney’s universalizing inflation of my statement cannot stand up to scrutiny. Written texts can, indeed, come to embody meaning—religious texts come immediately to mind—but such texts are never considered *mere* texts by their adherents. Such texts have instead been transfigured into the embodied Word of whatever power or deity it is to which the adherent renders cult. Yet, even in the case of religious texts, it is still, in fact, *only in the mind of the adherent* that the leap (or *transfiguration*, to use Arthur Danto’s [1981] term that I have adopted) to meaning embodiment takes place.

It seems clear that when a map reader recognizes a map, that the essence of the artifact changes in a palpable and fundamental way. It is no longer what it was before, and it becomes a conceptual entity—that is, a thing sharing properties and relationships with other transfigured conceptual entities—that it previously was not. In going from *not map to map*, it has acquired an *essence*.

DO MAPS HAVE AN ESSENCE?

DO ART WORKS HAVE AN ESSENTIAL NATURE?

IN 2008 DENIS DUTTON DISCUSSED THE VARIETY that occurs in art practices, and the controversies that arise when unfamiliar practices are encountered.

In a famous remark in [his 1913 book] *Art*, Clive Bell says that “either all works of visual art have

some common quality, or when we speak of ‘works of art’ we gibber” (Bell [1913] 1958, 17). He meant, of course, that they have in common more than being referred to by the same word—there must be a some deep reason why that word is applied to such apparently different objects. This

fundamental truth, as Bell realized, has at least as much pertinence in the discourse of cross-cultural aesthetics as it has for disputes about visual art within Bell's (and our) culture. I have the impression that many of the theorists who have written of "art in our sense" suppose the meaning of the term is a function of its class referents; even if they might deny it as a bald assertion, they write implicitly as though "our sense" of the term is governed by "our" referents, "the only ones we know." The two problems suggested by this are, first, that if our sense of "art" were determined by referents, that sense would therefore be constantly changing, as it is extended daily to refer to objects and performances offered both from within our culture and from beyond it. But, second, how would we even know when to extend the application of "art," if we didn't have some principle of application which validates bringing new objects and performances under it? There must be stable elements in its meaning; to deny this entails that we go about arbitrarily calling anything art. (Dutton 2008, 458)

DO MAPS HAVE AN ESSENTIAL NATURE?

Map *artifacts* have certain characteristics that lend support to an essence, but do not, by themselves, confer it. For example, intentionally created map artifacts are, generally: skillfully made (at whatever level of skill is available); produced in recognizable, conventional styles epitomized by

a canon of exemplary examples (no maps are completely unrelated to other maps); subject to a critical vocabulary and grammar of attributes (a map utterance either adheres to some known map dialect or it goes unrecognized and can never be a map); and (once recognized / transfigured) treated as special objects (maps).

Following Bell's lead, I have argued that there *must* be something common amongst all things humans have recognized, used as, or called, "maps," even if those commonalities become increasingly abstract as the individual examples under consideration become more widely disparate. I maintain that a map's essence is rooted in its map-hood—to its transfigured state—and to be a map is to be a map amongst other maps.

It is indisputable that all attempts to isolate those commonalities have, to date, proven inadequate. Edney, speaking from a post-positivist (or post-Idealist, if you will) position denies the possibility of finding any commonality at all. I, in contrast, have proposed that both the failures and the denials stem from ill-founded investigations—traceable, in most cases, to the extreme difficulties attendant upon coming to grips with questions that *seem* to answer themselves. My proposition is that one needs to abstract out the contingent elements of individual mapping traditions and practices—the elements that are the core concern of connoisseurship—and to intellectually decouple the conceptual map from the artifactual one. While this tactic carries no guaranties of success, is the only one that holds a reasonable promise of producing practical results.

SOME REAL-WORLD EXHIBITS

PROCESSUALISM IN ACTION

The Art of Terrestrial Diagrams in Early China

Michelle H. Wang's *The Art of Terrestrial Diagrams in Early China* (2023) examines some graphic artifacts excavated from tombs dating from the fourth to the second centuries BCE that are seen as examples of a tradition of diagrammatic maps (*ditu*) that would be prepared for inclusion amongst a deceased person's grave goods to assist that person in their postmortem journey to the afterlife. These artifacts were previously known only from references in commentary texts; many written long after the tradition had, apparently, lapsed. One of these commentators, Pei Xiu (244–271 CE)—author of an influential, late third

century CE treatise that laid out six principles of map-making emphasizing the methodologies of painstaking surveys—was especially scathing. This seems not dissimilar to the way second-century CE Gnostic writings were, until the 1945 discovery of Egypt's [Nag Hammadi](#) library, almost unknown save from the anti-heretical writings of early Christian Church Fathers who denounced and suppressed them.

Wang is at pains to situate the *ditu* artifacts she is studying in a diametric opposition to the parallel tradition—the one

later exemplified by Pei Xiu, and that she identifies with a *cartographic ideal* (a term she mentions explicitly, and for which she cites Edney)—that eventually overwhelmed the diagrammatic *ditu* tradition. For her, the *ideal* is equally embodied by *both* Pei Xiu’s six principles *and* by present-day “normative” maps, and she further characterizes the map / diagram dichotomy as one between *representation* (what Wang says “maps” do) and *worldmaking* (what she tells us these “diagrams” do).

Interestingly, she also acknowledges that maps are *propositional*; quoting: “a map—any map—is a proposition about the world” (Bol 2016, 211 quoted in Wang 2023, 6), a position that I, myself, have espoused since at least my 2003 paper *Cartographic Design: Rhetoric and Persuasion*—“the aim of the [map making] endeavor is persuasion, to convince someone to believe something” (Denil 2003, 50).

Thus, Wang is evoking two conflicting theoretical frameworks—Edney’s *maps as processes* and Bol’s (and my) *maps as rhetorical argumentation*. Where Edney would likely characterize—to use Wang’s terms—maps and diagrams as “substantially different kinds of mapping that have been carried on without regard for one another” (Edney 2022, 52); Bol’s characterization would likely be of rival propositions in a debate: the question being about which is more useful, usable, and persuasive for a given audience in a given situation (*see* Denil 2003, 2011, 2012).

Issues with Wang’s processualist straitjacket

The plain fact of the matter is that *any* map only represents by proposing that some sound reason exists for seeing the world the way it is presented by *that* map—every map proposes that some important aspect of the wider milieu is “really” like it is depicted—and this means that every map effectively *makes a world*. Thus, *both* the maps Wang terms terrestrial diagrams *and* the maps she characterizes as prioritizing some level of representational accuracy are clearly *both* worldmaking (in that they construct a proposed world) *and* representational (in that they present a persuasive stand-in for a world—either existing or envisioned)—yet the processualist framework Wang favors *requires* a polar opposition between the two types and for what they do.

None of this implies that Wang is wrong to focus on the distinction between the two types. Each type is clearly the fruit of very different—and, as can be seen from the

denunciatory writings of Pei Xiu and others, rival—mapping traditions. Artifacts from both traditions were clearly skillfully made; each were produced in recognizable, conventional styles likely epitomized by a canon of exemplary examples; the “diagrams” were as likely to be subject to a critical vocabulary and grammar of attributes as were the “maps,” and both were treated as special objects—just special objects targeted at *different audiences* with *different needs*. In short, each type of graphic conformed to dictates of traditions that could be characterized as an *ideal*. That one of the traditions eventually triumphed in China—a triumph that effectively effaced all evidence of the other tradition save examples that were actually buried in tombs before the purge—is important to the maps as artifacts, and to their place in history, but not to any normative map *vs.* terrestrial diagram or representational *vs.* worldmaking dichotomy.

The map / not map question—in the form of a normative map / terrestrial diagram dichotomy— however, is one Wang sees as central to her thesis. In its support she conjures other binaries, for example, between drawing as a “naive” practice and drawing in what she calls a “normative,” “representative,” mode, or between topology (epitomized by Beck’s 1933 *London Underground* map) and reference (this time expressed in the 1908 *London Underground Railways Pocket Map*—the one that Beck’s map replaced). Wang’s discussion of the nature of topology as a branch of mathematics and its application in understanding the topological nature of the terrestrial diagrams is quite important and it is very useful in explicating the construal of space they employ. However, she has a hard time bringing this into line with the diagram *vs.* map dichotomy dictated by her adherence to processualism—the one she frames as world making *vs.* world representing.

The 1972 New York subway map—map or diagram?

Wang cites Massimo Vignelli’s masterful 1972 New York subway map as an example of a topological diagram that was eventually withdrawn as a “failure” because it did not conform to the “representational” dictates of the cartographically idealist worldview of the subway-riding public (2023, 167–173). However, as Michael Bierut explained,

The problem, of course, was that Vignelli’s logical system came into conflict with another, equally logical system: the 1811 Commissioners’ Plan for Manhattan. In London, Henry Beck’s

rigorous map brought conceptual clarity to a senseless tangle of streets and neighborhoods that had no underlying order. In New York, however, the orthogonal [*sic*] grid introduced by the Commissioners' Plan set out its own ordered system of streets and avenues that has become second nature to New Yorkers. Londoners may be vague about the physical relationship of the Kennington station to the Vauxhall station: on the London underground map, Vauxhall is positioned to the northwest of Kennington when it's actually to the southwest, and it doesn't seem to bother anyone. On the other hand, because of the simplicity of the Manhattan street grid, every New Yorker knows that the Twenty-eighth Street number 6 train stops exactly six blocks south and four blocks east of Penn Station. As a result, the geographical liberties that Vignelli took with the streets of New York were immediately noticeable, and commuters without a taste for graphic poetry cried foul. (Bierut 2007, 137)

Conclusions from the Terrestrial Diagrams in Early China exhibit

There *must* have existed conventions amongst the makers and (eventual) users of *ditu* artifacts for expressing, describing, and delineating the post mortem world in a manner deemed of utility to the deceased. It should be obvious that surveyors' conventions and tools are of little importance in that expression, description, or delineation—and that the map-hood *vs.* diagram-hood of the artifacts themselves had just as little bearing on it as well. Wang closes her text with the statement: “if maps represent the visible, then diagrams make sense of the invisible spaces between, leaving room for ambiguity and contingencies” (Wang 2023, 173). The key word in that sentence is *if*: there is no *if*. Her posited map / diagram dichotomy is a false one, and, in this instance at least, map and diagram are interchangeable terms.

It reminds one of the (perhaps apocryphal) story of the traveler recounting his visit to Lake Geneva and lac Léman in Switzerland, who—when a listener remarked that the two were, in fact, synonymous—replied that in his opinion lac Léman was by far the more synonymous of the two.

It appears that Wang is attempting to break free of one set of restrictive misconceptions (judging the *ditu* by inappropriate parochial criteria) by taking refuge in another (Edneian processualism). While “process” may be of some use in explicating some aspects of her topic, it simply cannot be stretched to cover all she attempts to engross. In short, the overburden of constant contrast to a posited “normative map” or “cartographic ideal” is little more than the imposition of an ill-fitting and superfluous theoretical template—an exercise that confuses rather than illuminates the unique qualities of these extraordinary artifacts and of her otherwise excellent study.

So the issue in New York was *never* one of representation versus worldmaking—as Wang suggests—but rather a collision between two different representations based on two different diagrammatic world-making systems. It was *never* a difference in *underlying theory*, but a *value based difference*—comparable to the popularity of south-at-the-top (*not* upside-down) world maps in the southern hemisphere. One might loosely paraphrase Cassius from Shakespeare's *The Tragedy of Julius Caesar* (I.ii.147): while many preferred the 1979 replacement map to the Vignelli, the fault lay not in the 1972 publication being a diagram, but instead in themselves.

CONCEPTUAL CARTOGRAPHY IN ACTION

WHAT, ONE WONDERS, MIGHT A CONCEPTUAL MAP—such as those for which I am calling—look like?

MONSTER TAXONOMY, A POSSIBLE CONCEPTUAL MAP EXAMPLE

A recent work by the artist **Markus Denil**, *Monster Taxonomy* (Figures 3 and 4), might qualify as one type of

the Conceptual Map work I have been advocating as being of investigatory utility. This work on paper looks like a diagram or a map that, like other map artifacts, invites transfiguration, reading, and interpretation. Upon examination, however, there seems to be no rhyme or reason to any of the graphic, despite appearing to push so many map-ish buttons. The “map” teeters on a map / not map inflection; alternately inviting and frustrating readings.

This teetering is, in fact, quite deliberate; as the artist writes:

My most recent and ongoing body of work is a multimedia exploration of masculinity by way of Monster Energy. This exploration began with a large print titled *Monster Taxonomy*. This work was created to look like a diagram or a map that could be read and deciphered. Images of each of the distinctive cans [of] the myriad flavors of Monster Energy drinks are scattered over the page. There seem to be groups and clusters of containers, their proximity implying relation—this being Waldo Tobler’s so-called First Law of Geography, and one of the fundamental assumptions used in all spatial analysis. It states that “everything is related to everything else, but near things are more

related than distant things” (Tobler 1970, 236). Overlaid on the constellation of cans is a tangle of looping lines that further seem to group cans that are sometimes quite widely separated, implying a different clustering, based on some criteria other than spatial proximity. The many grouping lines overlap, and blend together as they are not differentiated by any symbol dimensions and can be almost impossible to sort out—especially as their compass expands beyond a few cans. Text featuring terms associated with sexual and gender identity—some more mainstream than others—at first appear to be labels for either the spatial clusters or the groups enclosed by the outlined polygons, but these, too, soon disappoint the map reader: there seems to be no rhyme nor reason to any of it. The ‘map’ refuses to be read.

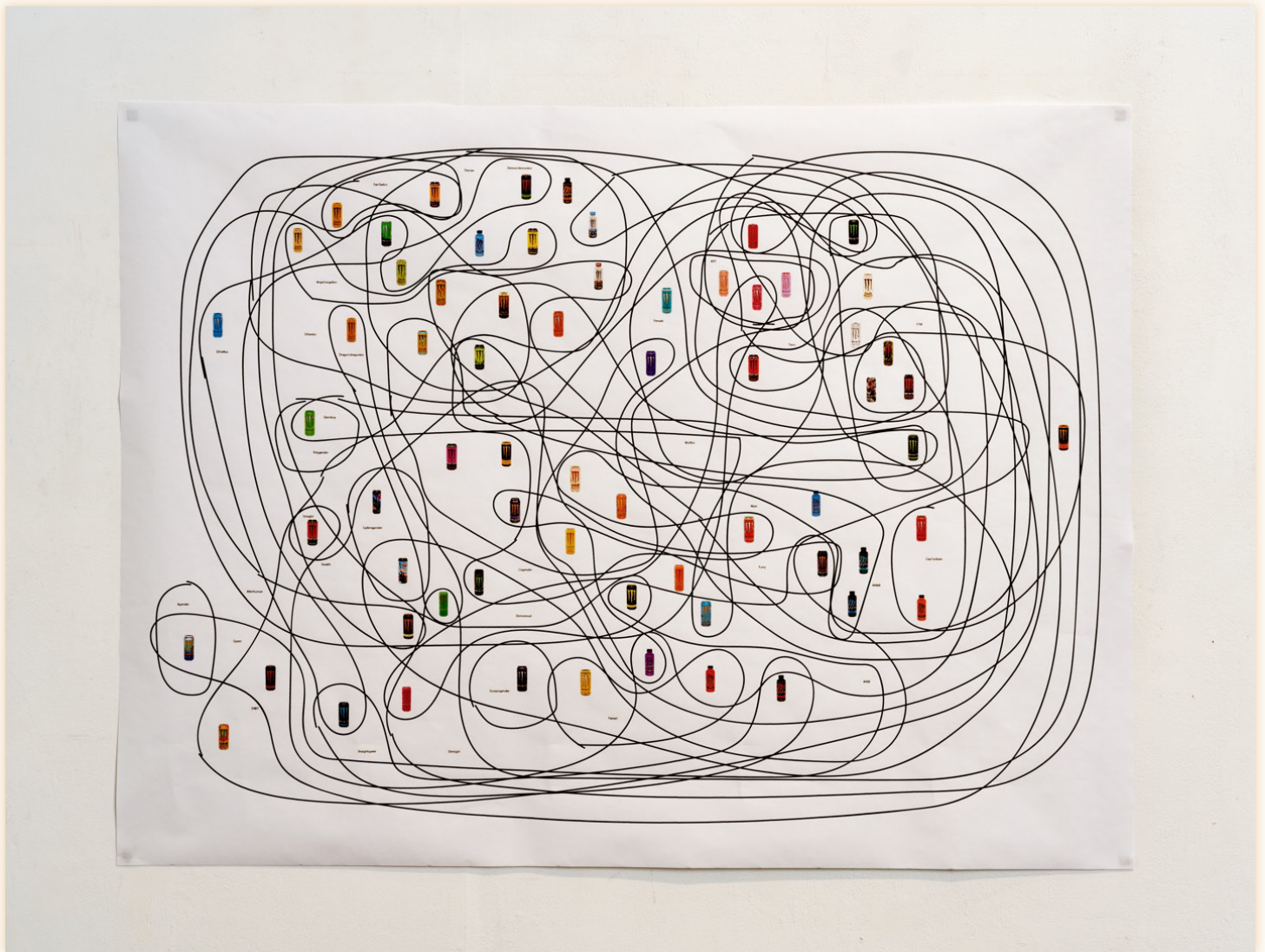


Figure 3. Markus Denil. 2023. *Monster Taxonomy*. Inkjet print. 36 x 48 inches (91.4 x 121.9 cm).



Figure 4. Detail from *Monster Taxonomy*. Markus Denil. 2023. Inkjet print. 36 x 48 inches (91.4 x 121.9 cm).

I became intrigued by the expansive web of flavor profiles of the different Monster Energy drinks, and the increasingly specific *type* of guy each one is aimed at. *Assault* for the battle-ready boys, *Rehab* for the ones waking up after an intoxicated rager, and *Mean Bean* for the guy who still wants coffee, but just can't stand the weak BS of the third-wave coffee house anymore. I couldn't help but see the similarities between this capitalist driven world of commodified identities and the ever-expansive encyclopedia of gender and sexual identities of the young online gender warriors. Each hyper-specific label comes paired with a flag, often a symbol, and sometimes an etymological breakdown of the term. These ostensibly counter-cultural guerrillas seem to be only one step away from each being

paired with their own Monster flavors, which is where works titled *Stealth FTM transmasculine truscum*, identifies as "man"; *Straight stealth ENBY. Aromantic. Masc-leaning omnisexual*; and *CisHet heteroromantic, super-straight. Masc feral Wolf Therian* came from.

In the drawings [*separate, related works; not shown*] the cans become characters. Their titles are their sexual, gender, and romantic identifies—a quick and concise description of exactly what and who they are and what type of partner they're seeking. Simple and easy, they've squeezed themselves so deep into their respective corners that there's no wiggle room left in their projected identities.

On one hand, a significant number of queers are fighting for these increasingly fixed and specific labels to describe every facet of their gender and sexual identity, while on the flip side there are those who have adopted a post-gender identity, moving beyond the use of pronouns and labels all together. I'm troubled in both directions. It seems to me that neither is working all that well.

Perhaps it's about remaining in a state of becoming. Unfixed, but actively moving toward something, looking for a way to balance delicately somewhere in the in-between. Or maybe not so delicately, but instead balancing aggressively, assertively, and unapologetically—firmly establishing a presence in the fluctuating tides of growth, embracing the fluidity of transformation, and standing resolute in the midst of a perpetually shifting identity. As the magnetic poles of the extremities pull with such force, it can be hard to stay upright, but that's the challenge. (2024 22–29)

Thus, it can be seen that *Monster Taxonomy* does, arguably, function as a map—albeit a map into an unbalanced and problematized social / gender / commercial space—but as a map every bit as problematic as the topography mapped.

ANOTHER POSSIBLE EXAMPLE

In October of 2023, in the map gallery at the North American Cartographic Information Society (NACIS) Annual Meeting, Bethany Craig displayed a graphic entitled *they mark me out as being trans* (Figure 5). It was one of a series of works in a project that she discussed in a talk delivered at that same conference, entitled “**Unsettled: Scars and Landscape**,” that “makes visible the blurriness of time, memory, and space of and on the body by combining qualitatively collected photographs and coordinates of bodily scars and GIS technology.”

The graphic consists primarily of three elements: the title, a semi-transparent greyscale hillshade of a ridged landscape, and a semi-transparent color photo of what seems to be a reddish scar on pale skin. A rectangular text block, set in a tall modernist sans-serif typeface significantly different from (and larger than) that used for the title, sits to the left of the main graphic.

Note that the illustration shown here was captured from the [YouTube](#) video of Craig's talk, and differs slightly from the printed copy displayed in the conference map gallery. In this image, the text block is missing, and the left hand edge of the scar photo is cropped differently.

The statement in the map displayed in the map in the gallery read:

Whether we choose their presence, or they are inflicted upon us not under conditions of our own choosing, the scars on our bodies hold memory. These “scar maps” blend together affects, geographies, and memories found, imprinted, and created through the body as a cartographic reimagining.

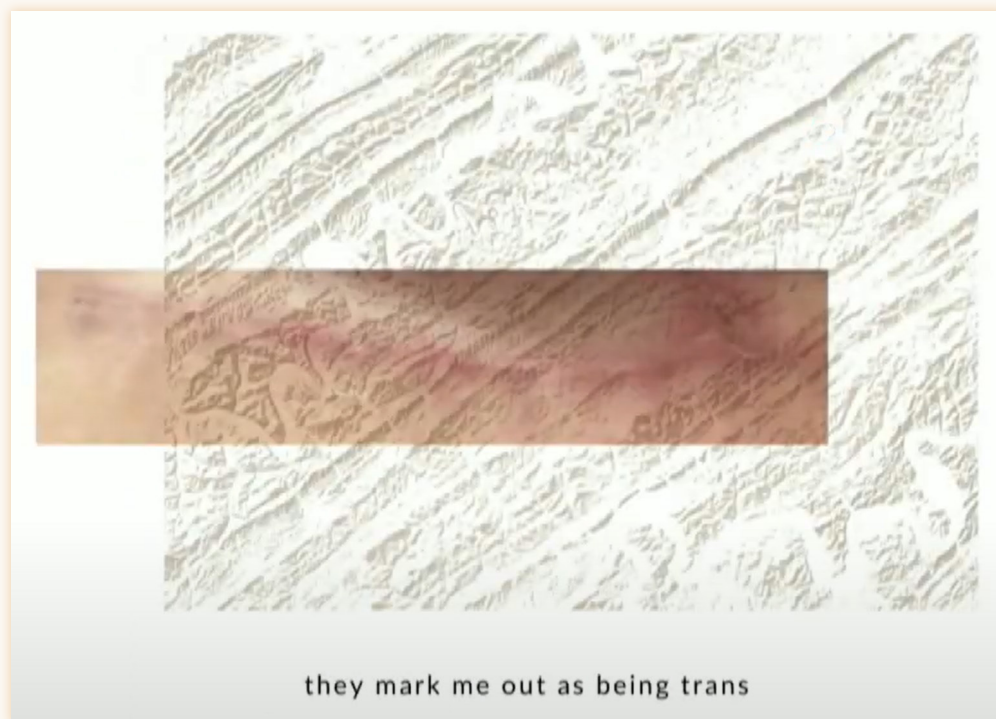


Figure 5. Bethany Craig. *they mark me out as being trans*. Note that this digital image differs slightly from the printed version displayed in Pittsburgh and discussed here.

This is a picture of a scar from a trans masculine top surgery which took place at a hospital in East Tennessee. The scar is overlaid onto a map of the hospital's exact geographic location.

That Craig intends the works to be read as maps seems clear from her explicit references to them as “maps”—specifically, “these ‘scar maps’” and “overlaid onto a map” in the text on the gallery-displayed version, and from remarks she made at various points in her lecture.

It strikes me that *they mark me out as being trans*, and other examples of Craig's “scar map” works, could well exist—at least for some viewers—in the contested space between what some accept as maps and others do not. I maintain, in fact, that they raise some interesting questions about what constitutes a map.

The explanatory text, referring as it does, to both “scar maps” and to the scar being “overlaid onto a map,” raises a certain ambiguity of the relationship between the scar and hillshade. Is the scar an integral part of the map, that is to say, a mapped feature? Is it a non-map element juxtaposed with the mapped terrain? It seems that the text identifies it as both, simultaneously.

Even without the text, the map-hood of *they mark me out as being trans* retains a degree of ambiguity. The only graphic element that it shares with other artifacts that are commonly accepted unproblematically as maps is the hillshade, and a hillshade by itself is—if you will pardon the pun—really little more than a shadow of a “map element.” It is certainly not *invalid* to use a hillshade alone, but it is somewhat *obscure*—and is arguably, but not necessarily, elitist: how many non-map-making audiences (the venue *was* a *NACIS* conference, after all: a map-making and map-reading audience if ever there was one) could be relied upon to recognize or read a “naked” hillshade?

In both presentations, the map appears without furniture—furniture being those features or elements that afford accessibility or usability to any map—like scale notations, feature labels, location keys, and the like. Sometimes map furniture is referred to as “marginalia,” and there are some commentators that insist that such “decorations” are imposed only to adhere to some sort of “mask” of “normativity.” Both assertions are clearly nonsensical: map furniture is what makes map use possible, in that same way that horse furniture—saddles, bridals, stirrups,

etcetera—makes equestrianism possible. Sure, be as paleo as you fancy—eat only nuts, berries, and gravel; ride only bareback; or dispense with Americans with Disabilities Act (ADA) type affordances in your own home—but if you expect others to use your map you should supply some sort of accessible finger hold here and there. You can have a map without furniture, but a map is always less accessible without it. In a very real sense, a map without furniture sails hazardously close to the map-ness wind, risking an unintended jibe—the sailing metaphors are apt—and being dismissed as a map and instead interpreted some other, unexpected, way.

The relationship of the scar to the topography might also be examined. The “scar” may well be “overlaid onto a map of the hospital's exact geographic location,” but here, too, ambiguities abound. That scar on this map would seem, at a very rough estimate, to be over twenty-two miles long—quite large for a hospital, or a scar—but perhaps the image is *centered* on “the hospital's exact geographic location.” This still leaves open the relation between the land forms of the southern Appalachian Mountains and any medical procedures performed at a facility there. Was the decision to undertake the operation a reaction to, or prompted by, or in some manner influenced by, the admittedly remarkable topography south west of Knoxville? I can't say. I myself know that although my own body carries scars from several traumatic injuries, none are really tied to topography—but this is not to say that mine is the only possible experience.

Perhaps the long, slicing, shape of the scar is meant to echo the folded and gouged landscape? If so, that might have been clearer if the scar was oriented to run parallel to the ridges and valleys. Or, again, perhaps if the scar was rotated to run directly across the topographic trend, it would resonate to the note of imposition. Allowing the scar's imposition on the body to echo the way retreating glaciers dropped melt water rivers atop the landscape—carving out the water-gap and wind-gap scars so typical of the whole Appalachian range—would certainly be a powerful image.

In reaching for possible interpretations of *they mark me out as being trans*, it should not be thought that I am attempting to corral interpretation into some sort of academic or normative cartographic straitjacket. Quite to the contrary, I am searching amongst the very wide range of cultural references available to me through my education and experience—references pointedly not restricted to cartography.

I am, for example, familiar with the work of the German Romantic painter Philipp Otto Runge (1777–1810), noted for his employment of a quite personal iconography—a personal vocabulary and grammar of symbol and meaning—as famously employed in his 1808 painting *The Morning* (Figure 6). Upon encountering this picture, I believe I can identify a variety of iconographic features—signs signaling meaning—but these signs do not seem entirely in line with any meanings I can decipher. That *meaning* was *intended* I do not doubt: my recognition of the artifact as an artwork carries with it that assumption. My art-historical literacy informs me that Runge’s works are so freighted with idiosyncratic meaning that even a well-informed connoisseur can never be quite sure as to what that meaning might be, and, in fact, I cannot even be entirely confident that I am looking in the “right” places to discover the signs I assume Runge has placed before me. I have only *my* interpretation, and, as I know, *interpretations create the very facts that prove them.*

Similarly, that the scar-topography linkages seemingly referenced in *they mark me out as being trans* are not immediately accessible, or maybe not even accessible at all, is not a problem. I am just dealing with the questions anyone encountering any work like this must face—this graphic looks in so many ways like a map (and in some cases we are even told it is a map: by text on the printed version and / or directly by the maker in a lecture), but do I believe that it is?

So, are the works of the *Unsettled* project maps or not? They *are* for *me* if I decide they are: what are they for *you*?

MONSTER TAXONOMY AND THEY MARK ME OUT AS BEING TRANS AS CONCEPTUAL MAP EXAMPLES

It should be kept in mind that in calling for a Conceptual Cartography, I am not prescribing any particular look, feel, use, affordance, or any other dimension of connoisseurship



Figure 6. Philipp Otto Runge. *The Morning* (1809–10), 152 × 113 cm. Hamburger Kunsthalle: Hamburg, Germany.

for any map—I am instead calling for a destabilization and problematizing of map / not map expectations; not for its own sake but in order to expose the sub-conscious map / not map inflection that must always occur. This is something both *Monster Taxonomy* and *they mark me out as being trans* appear to do—in spades—vibrating back and forth over the map-hood line.

Obviously, two artifacts reviewed by a single reader is only a beginning, but these readings serve here as examples of the sort of artifact that explores the edge of an audience’s expectations—one that may or may not transgress the bounds any particular reader places between map and not map.

CONCLUSION

THIS PAPER HAS EXAMINED THE DENIL–EDNEY DEBATE with a view to determining what the disputed issues are and the validity of the arguments presented. It seems clear that there is indeed a fundamental map / not map question lying either entirely neglected, or unsatisfactorily addressed, by all other theories of cartography, maps, and mapping. While map makers and map users have gotten along fine for some considerable time without addressing it, it is also clear that no theory of maps, mapping, or cartography can make any claim of generality without addressing map / not map.

RING-FENCING

What, then, of Edney’s charge that I somehow seek to “ring-fenc[e] both ‘cartography’ and ‘the map’” (Edney 2022, 58)—with, it is strongly implied, no good intentions? It is interesting that Edney himself is happy to fence *in* Beck’s *London Underground* (Edney 2019, 218) and fence *out* the Çatalhöyük drawing (Edney 2019, 68; Denil 2022, 11)—whatever one thinks of his reasons for placing his fences as he does—yet he claims that fencing is somehow “self-defeating” (Edney 2022, 58) if done by anyone else.

Clearly, *everyone* who reads maps fences some artifacts *in* and others *out*—for *anyone* to say “*this is a map*” or “*this is not*” is, in fact, ring-fencing. It is only a *refusal* to ring-fence—*refusing* to differentiate between a map and a not-map—that is self-defeating. Anyone who cannot, or will not, divide maps from not maps *is not*, and *cannot be*, a map reader. Such a person only *gibbers* when speaking of maps.

SOME COMMON QUALITY

This paper has demonstrated that it is valid to seek some common quality among the plethora of maps—for without *some* common quality the word “map” is meaningless—and that one can seek that quality without joining the myrmidons of 1970s cartographic positivism that so haunt Edney’s dreams. I have also shown that any mapping or cartographic theory of general utility must be *abstract*—so abstract, in fact, that no individual map could be inferred from it, although any and all maps must be able to be ascribed to it. That theory itself, however, has yet to be fully defined—although some of its dimensions

are becoming clear. I further maintain that my propositions about a Conceptual Cartography offer a reasonably useful way of investigating it.

THEORY AND CONNOISSEURSHIP

This paper has examined the relationship between theory and connoisseurship; the importance of each, and the hazards of basing the former on the latter. Because standards of value and disvalue are volatile and contingent, any cartographic theory that is based on *good* maps is of only limited utility. Such “theories” cannot account for the fact that a *bad* map is every inch a *map* as a *good* map.

PRAGMATIC INDIVIDUALISM

By acknowledging and accepting the role played by individual interpretation—framed and guided by some level of mapicity bequeathed by that individual’s education and cultural community—my approach is shown to be pragmatic, in the great tradition of American Pragmatism. Now, one *could* object to the very openness of my concept of theory: thinking that if everyone’s and anyone’s possibly fantastical “theory” is “operative,” then, in effect, anything goes. However, I am *not* saying that: I *am* saying that while everyone has a theory, some theories are *better* than others; that only *some* theories are *sound*. That said, in order to be generally applicable, any sound theory has to take into account the variability of individualized theory and interpretation. I am *not* saying everyone is *right*, but I am *acknowledging* that even if map readers are quite mistaken about their readings, *they are still reaching a reading*. Thus, even Edneian processualists can get by on their flawed theory—I simply suggest that there are advantages to trying to understand what is really going on.

THE EASY PROBLEMS ARE ALWAYS HARD

Finally, this paper has discussed the main, real-world, obstacle to achieving the goals I have set for my proposed Conceptual Cartography: the obstacle embodied in the Moravec paradox—the inescapable fact that “that the hard problems are easy and the easy problems are hard” (Pinker 1994, 190). It is notable that grappling with Moravec’s paradox will require not only the making of maps, but *also* their reading *and* a discourse circulating around their making and reading. Clearly, were Edney’s spatial

discourses not only unworkably narrow and artificial, but also almost completely imaginary, they might be of some utility here. Nonetheless, if the conceptual map artifacts themselves are engaging, the challenges they present are appealing, and a knowledgeable and sophisticated

audience can be attracted to the give and take, then a great deal can be learned. It will—like Conceptual Art—likely take some time and effort to sort out, and—again, like Conceptual Art—it is never likely to be mainstream, but it should, at least, be fun.

End note: On the left of Figure 1: *Collier's World Atlas and Gazetteer*. 1939. New York: P. F. Collier and Son. Page 19.

In the center: *New Books: Fall/Winter 2022*. Catalog. University of Oklahoma Press. Pages 17–18.

On the right: A printout of the drawing on Wall 14, Level VII of the Neolithic settlement of Çatalhöyük (or Çatal Hüyük), Turkey.

REFERENCES

- Batchelor, David. 1991 "Abstraction, Modernism, Representation." In *Thinking Art: Beyond Traditional Aesthetics*, edited by Andrew Benjamin and Peter Osborne, 44–58. London: Institute of Contemporary Arts.
- Battersby, Christine. 1991 "Situating the Aesthetic: a Feminist Defense." In *Thinking Art: Beyond Traditional Aesthetics*, edited by Andrew Benjamin and Peter Osborne, 31–44. London: Institute of Contemporary Arts.
- Bell, Clive. (1913) 1958. *Art*. New York: Capricorn.
- Berenson, Bernard. 1962. *Rudiments of Connoisseurship*. New York: Schocken.
- Bhabha, Homi K. 1998. "Dance This Diss Around." In *The Crisis of Criticism*, edited by Maurice Berger, 41–50. New York: The New Press.
- Bierut, Michael. 2007. *Seventy-nine Short Essays on Design*. New York: Princeton Architectural Press.
- Bol, Peter K. 2016. "Exploring the Propositions in Maps: The Case of the 'Yuji tu' of 1136". *Journal of Song-Yuan Studies* 46: 209–224. <https://doi.org/10.1353/sys.2016.0007>.
- Carroll, Noël. 1993. "Essence, Expression, and History: Arthur Danto's Philosophy of Art." In *Danto and his Critics*, edited by Mark Rollins, 102–103. Cambridge, MA: Blackwell.
- Danto, Arthur. 1981. *The Transfiguration of the Commonplace: A Philosophy of Art*. Cambridge, MA: Harvard University Press
- Denil, Mark. 2003. "Cartographic Design: Rhetoric and Persuasion." *Cartographic Perspectives* 45: 8–67. <https://doi.org/10.14714/CP45.498>.
- . 2006. "Denis Wood's article 'Map Art.'" *Cartographic Perspectives* 55: 4–5. <https://doi.org/10.14714/CP55.322>.
- . 2011. "The Search for a Radical Cartography." *Cartographic Perspectives* 68: 7–28. <https://doi.org/10.14714/CP68.6>.
- . 2012. "A Disquisition on Cartographic Style and Taste: With Attendant Remarks Upon Aesthetics, Clarity, Design, and Mapeuticity." *Cartographic Perspectives* 73: 75–88. <https://doi.org/10.14714/CP73.711>.
- . 2017. "Storyed Maps." *Cartographic Perspectives* 84: 5–22. <https://doi.org/10.14714/CP84.1374>.
- . 2022. "Making Explicit What Has Been Implicit: A Call for a Conceptual Theory of Cartography." *Cartographic Perspectives* 98: 5–27. <https://doi.org/10.14714/CP98.1691>.
- Denil, Markus. 2024. "Not Quite, But Not Quite Not." MFA thesis, Syracuse University. <https://surface.syr.edu/thesis/824/>.
- Dickie, George. 1974. *Art and the Aesthetic: An Institutional Analysis*. Ithaca, NY: Cornell University Press
- . 1988. *Evaluating Art*. Philadelphia: Temple University Press

- Dutton, Denis. 2008. "But They Don't Have Our Concept of Art." In *Arguing About Art*, 3rd ed, edited by Alex Neill and Aaron Ridley, 448–463. New York: Routledge.
- Edney, Matthew H. 2019. *Cartography: The Ideal and Its History*. Chicago: University of Chicago Press. <https://doi.org/10.7208/chicago/9780226605715.001.0001>.
- . 2022. "Making Explicit the Implicit, Idealized Understanding of "Map" and 'Cartography': An Anti-Universalist Response to Mark Denil." *Cartographic Perspectives* 98: 51–60. <https://doi.org/10.14714/CP98.1765>.
- Fremlin, Gerald. 2005. *Maps as Mediated Seeing: Fundamental of Cartography*. Victoria, BC: Trafford Publishing.
- Gombrich, E. H. (1960) 2000. *Art and Illusion: A Study in the Psychology of Pictorial Representation*. Princeton: Princeton University Press. <https://doi.org/10.1353/book.114736>.
- Griffin, Amy L. 2022. "Letter from the Editor." *Cartographic Perspectives* 98: 3–4. <https://cartographicperspectives.org/index.php/journal/article/view/1795>.
- Kimerling, A. Jon, Aileen R. Buckley, Phillip C. Muehrcke, and Juliana O. Muehrcke, 2016. *Map Use: Reading, Analysis, Interpretation*. Redlands, CA: Esri Press Academic.
- Krygier, John B. 2008. "Cartocacoethes: Why the World's Oldest Map Isn't a Map." *Making Maps: DIY Cartography*. October 13, 2008. <http://makingmaps.net/2008/10/13/cartocacoethes-why-the-worlds-oldest-map-isnt-a-map/>.
- LeWitt, Sol. 1967. "Paragraphs on Conceptual Art." *Artforum* 10: 79–83.
- Minsky, Marvin. 1986. *The Society of Mind*. New York: Simon and Schuster.
- Morrison, Joel. 1977. "The Science of Cartography and its Essential Processes". *The Nature of Cartographic Communication, Monograph No. 19, Cartographica*. edited by Leonard Guelke. 58–71. Toronto: B. V. Gutsell.
- Oates, Joyce Carol. 1998. "Confronting Head-on the face of the Afflicted." In *The Crisis of Criticism*, edited by Maurice Berger. New York: The New Press.
- Ono, Yoko. (1964) 2000. *grapefruit: A Book of Instruction and Drawings*. New York: Simon and Schuster.
- Perkins, Dan [Tom Tomorrow, pseud.]. 2017. *Tom Tomorrow: 25 Years of Tomorrow*. Vol. 2, 272. San Diego: IDW Publishing.
- Pinker, Steven. 1994. *The Language Instinct*. New York: Harper. <https://doi.org/10.1037/e412952005-009>.
- Plato. 380 BCE. *Gorgias*. <https://freeclassicebooks.com/Plato/Gorgias.pdf>.
- Rankin, William. 2016. *After the Map: Cartography, Navigation, and the Transformation of Territory in the Twentieth Century*. Chicago: University of Chicago Press. <https://doi.org/10.7208/chicago/9780226339535.001.0001>.
- Rorty, Richard. 1979. *Philosophy and the Mirror of Nature*. Princeton: Princeton University Press.
- Rossetto, Tania. 2019. *Object-Oriented Cartography: Maps as Things*. New York: Routledge. <https://doi.org/10.4324/9780429437441>.
- Tobler, Waldo R. 1970. "A Computer Movie Simulating Urban Growth in the Detroit Region." *Economic Geography* 46: 234–240. <https://doi.org/10.2307/143141>.
- Wang, Michelle H. 2023. *The Art of Terrestrial Diagrams in Early China*. Chicago: University of Chicago Press. <https://doi.org/10.7208/chicago/9780226827476.001.0001>.



The Map on your Map: Ten Things to Consider When Making A Locator Map

Vicky Johnson-Dahl (she/her)
vicky@vickyjohnsondahl.com

This article is adapted from the author's 2023 Practical Cartography Day presentation.

Locator maps play a small, under-appreciated role in cartography. These little maps offer viewers quick, broad geographical context that situates the main map within its surroundings and helps the user quickly grasp where the focus area lies within a larger region. In this article, we'll make some small changes to improve the locator on a simple map of a trail in Orchard Park, NY (Figure 1).

While the concept of a locator map is straightforward, the choices a cartographer makes in designing it can significantly impact its effectiveness. A well-crafted locator map enhances the primary map by adding value without overwhelming or distracting from it. We'll examine key considerations in designing a locator map, from framing and placement to labeling and scale, ensuring that your locator map is both functional and visually engaging.

The best part about these tips: they're all pretty quick! At least in my experience, the locator map is one of the last things you do to complete a map layout, almost as an afterthought. So when you're working on your locator map . . .

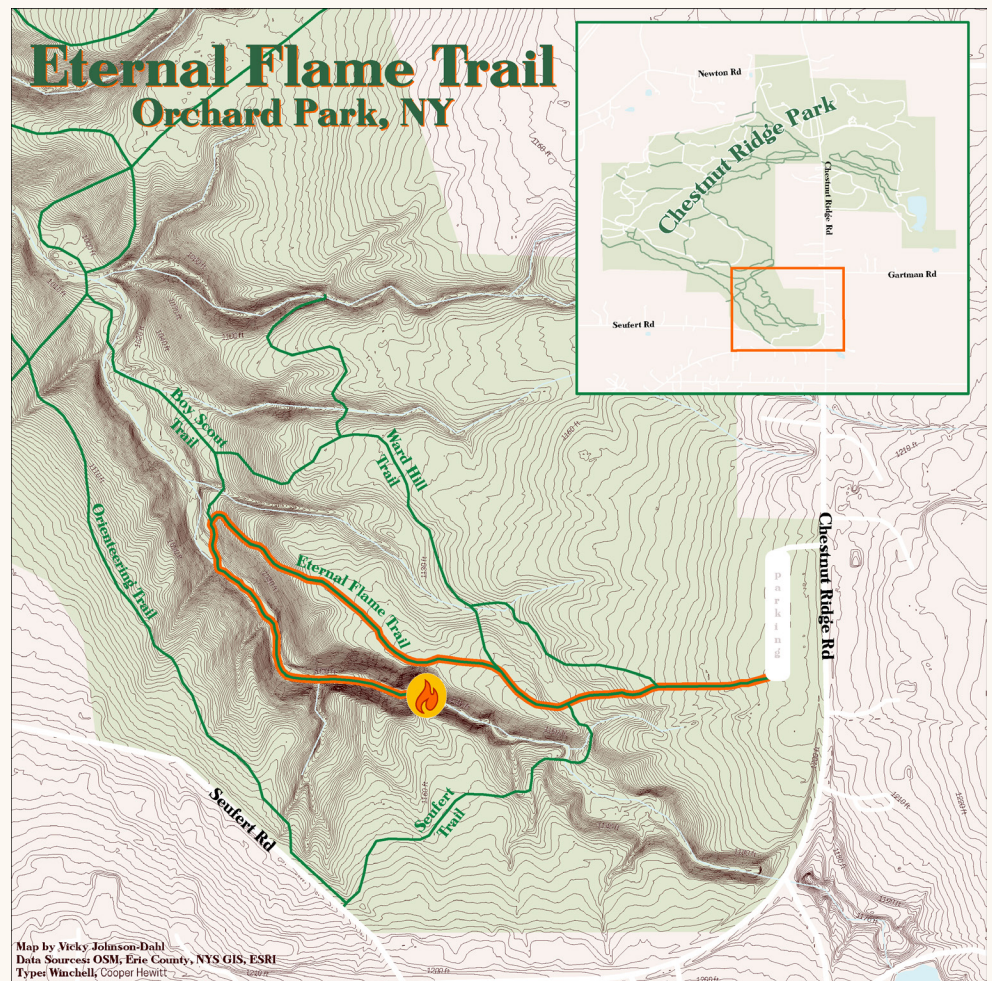


Figure 1.

1. CONSIDER THE FRAME

Adding a drop shadow is the single easiest way to make your locator map pop (Figure 2). It's just a flat box shifted slightly down and to the side. It only takes a second to add, and gives the impression that your locator map is floating above the main map, adding a little visual dimension and



© by the author(s). This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/4.0>.

interest. I like a box for this, but a blurred, drop shadow effect is nice, too. It doesn't affect the content of either map, but just makes the locator look a little sharper. A drop shadow only takes seconds to implement. Simple, quick, and effective.

2. CONSIDER THE OUTLINE

Your locator map doesn't have to sit inside of a box. If your locator is based on an area (a country, for example, or as shown in Figure 3, a park), you don't need to show what's outside that area, you can just show the area polygon itself.

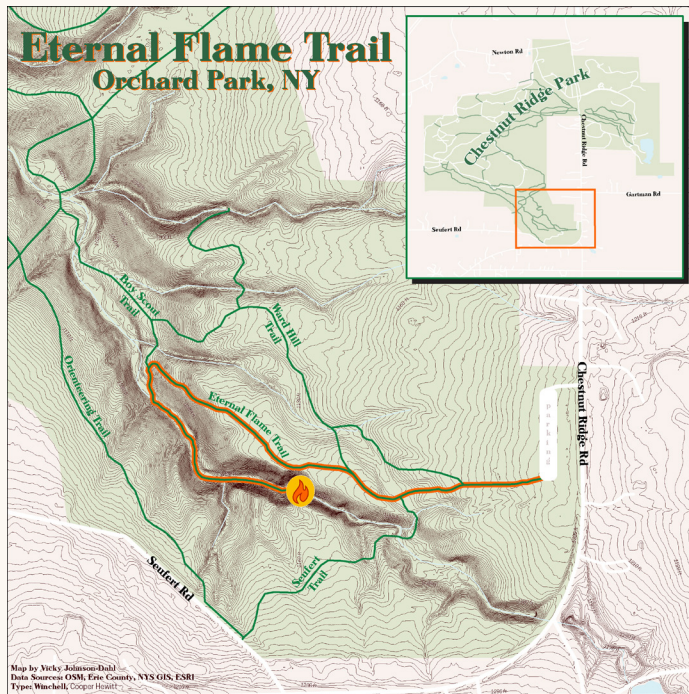


Figure 2.

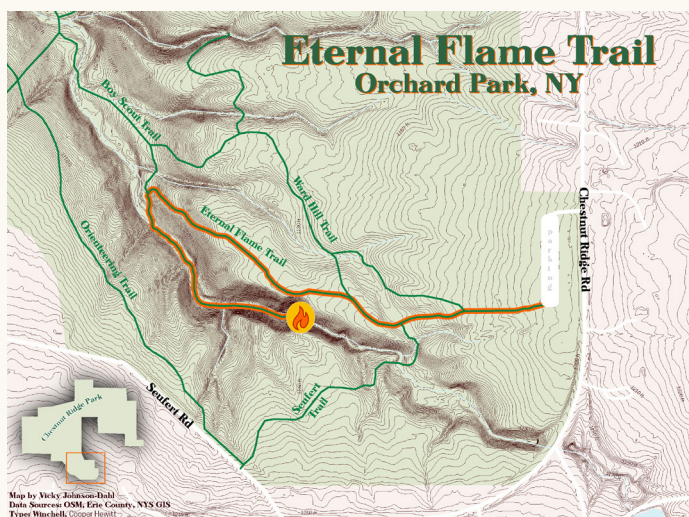


Figure 3.

Note that you may have to change some aspects of the map in order to keep it from blending in with the map underneath or being mistaken as an element on the main map.

3. CONSIDER THE PLACEMENT

The locator map doesn't have to be shoved into the corner. Use the space available to you, and fit the locator on the page where you have open space. This is especially useful when your allotted page area needs to hold other information, like explanatory text or this admittedly underwhelming photo (Figure 4).

This also comes in handy where you have something irrelevant and distracting. If it's something likely to invite problems outside of your content—like a nearby disputed border irrelevant to your subject area—the locator map can give you literal cover.

4. CONSIDER THE BRANDING

Make sure your inset map fits in with the rest of the page layout (Figure 5). This works especially well when you're working with strict limitations, map standards, or design guidelines—it's a way you can add personality while keeping the maps thematically consistent. Here, the inset background shape mirrors that of the main map with rounded corners.

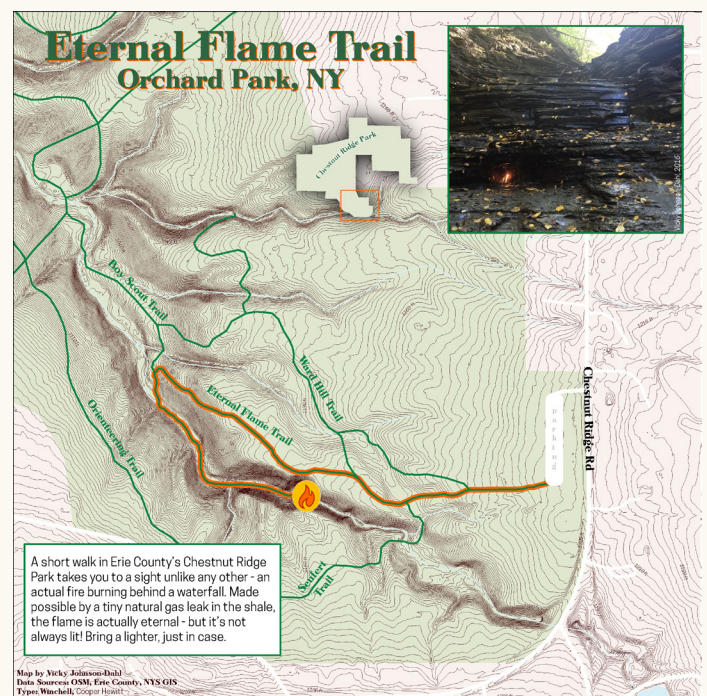


Figure 4.

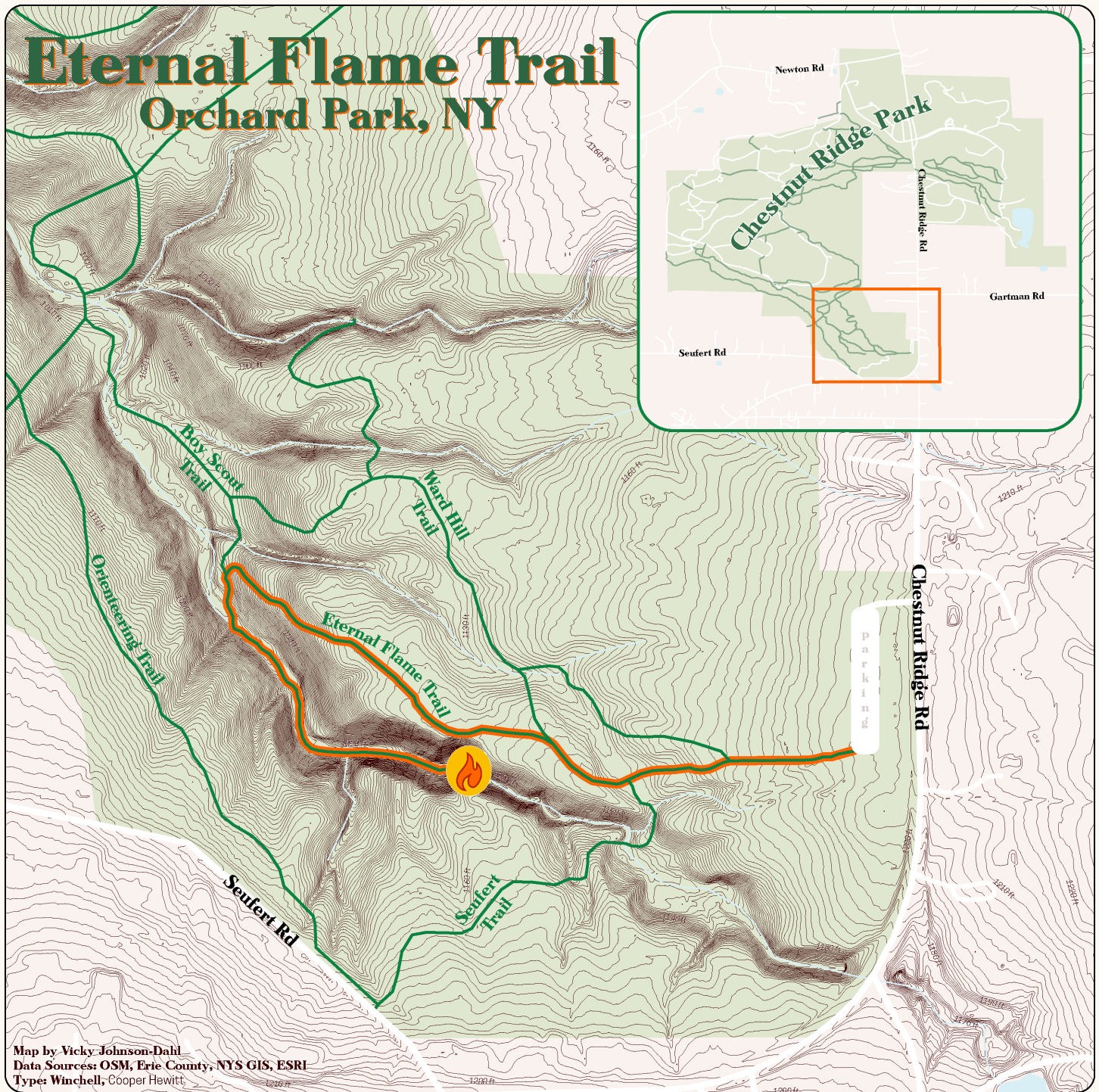


Figure 5.

5. CONSIDER THE LABELS

Text is precious on a map. It also takes up a lot of space—I have a theory that the longest names are given to the smallest polygons and I have some iffy math to back that

up—but in a locator, which is a constrained space, you have to make tough calls. What I am suggesting here is: leave as many labels off as possible. Figure 1 has the park and street names, but the outline-free versions, like Figure 4, work with even less.

6. CONSIDER THE EXTENT

How much do you really need to show? What is the minimum necessary so the viewer can orient themselves? What is the maximum that is still sensible for the context? Work in that middle space to identify a scale that does the most for you and your audience. The locator in Figure 6 shows the county, for example, instead of just the park.

7. CONSIDER MARGINALIA

You'll note that none of these locator maps have a north arrow or scale bar. Why would it? It's just for reference.

8. CONSIDER CONTEXT

Most of these tips are about doing less. Once you've done less, you've removed the extraneous clutter and your locator map can be more useful. What other contextual information can you add to the locator that broadens the map's overall utility? For example, the locator in Figure 7 shows where the trail is in Western New York, and how far it is from another notable waterfall in the area.

9. CONSIDER THE VIEW SCALE

This one goes hand in hand with the previous tip: keep an eye on that other stuff. Remember that the locator map is small (Figure 8). You can save yourself a lot of time by viewing the map at actual size, or printing it out. The text on locator maps can get pretty small, so you want to make sure that you keep it legible. It can be a nasty surprise right at the end when you think you've finished your map, and you then have to go back and rearrange and redesign so that the locator is usable.

10. CONSIDER RECYCLING

You made a locator map you like? GREAT. You just saved future you a bunch of time. When you're making a locator map, keep the foundational document, and keep the layers clean and

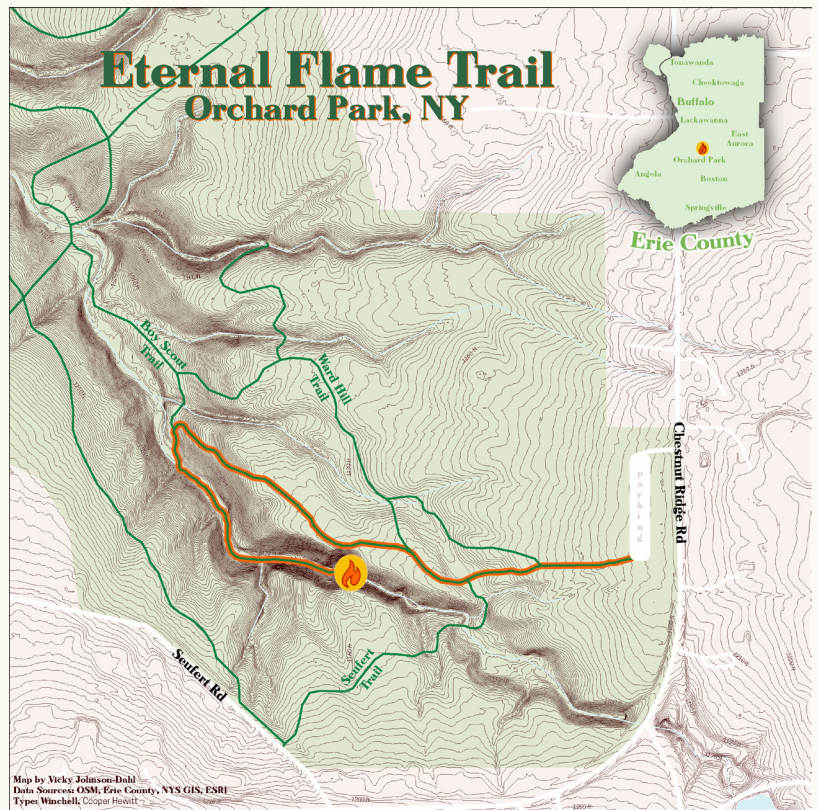


Figure 6.

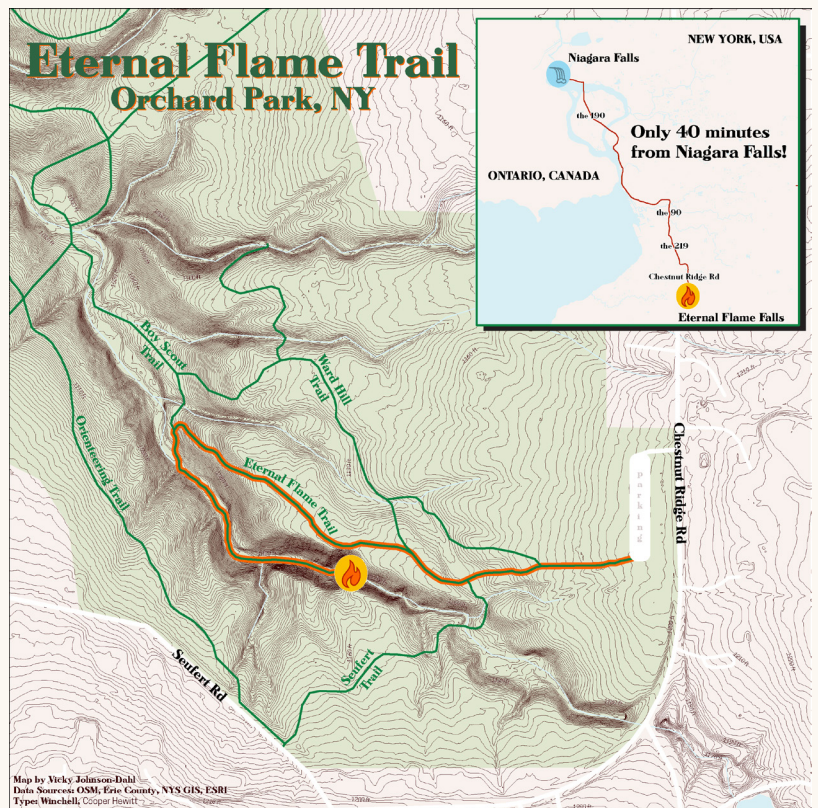
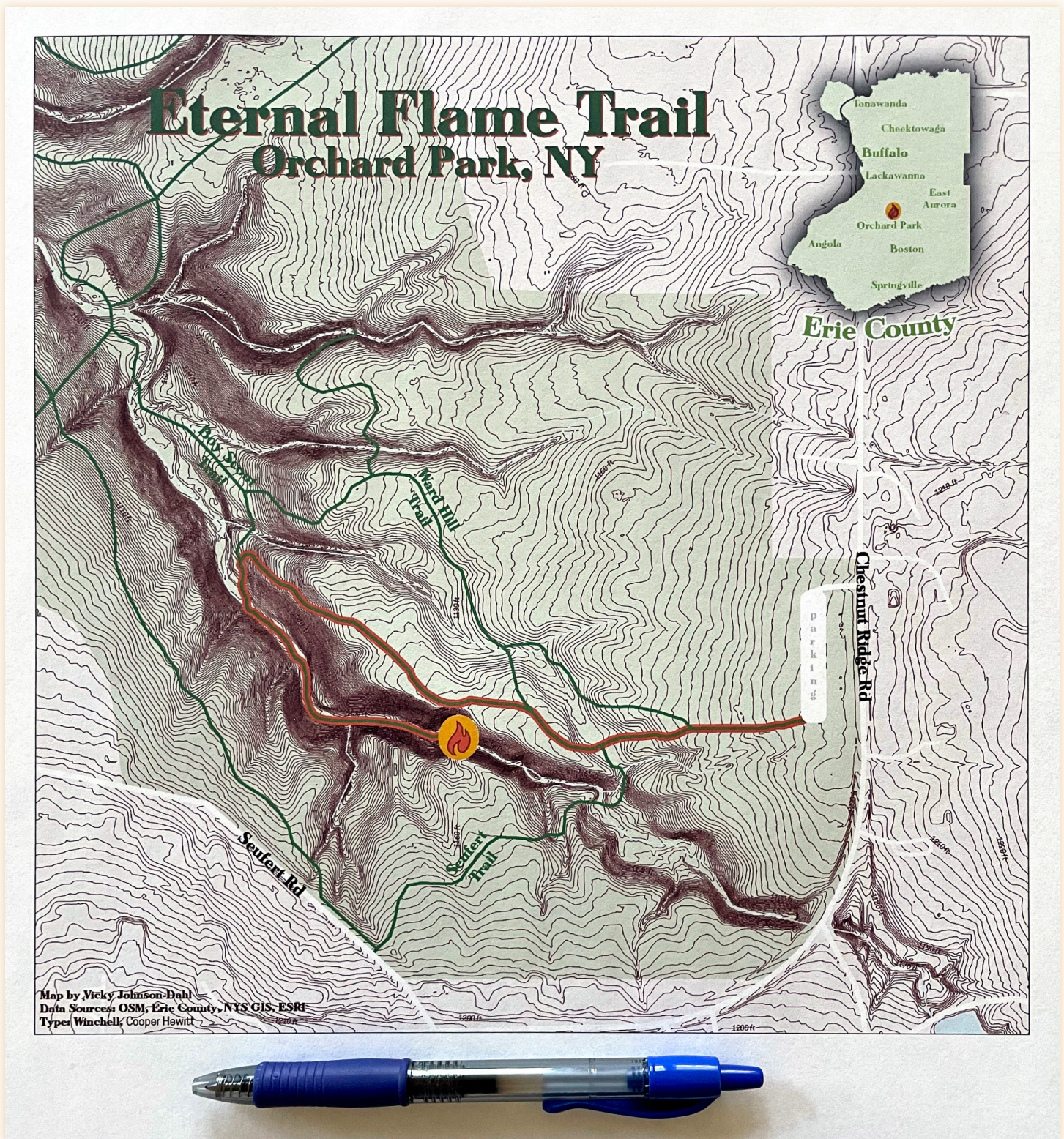
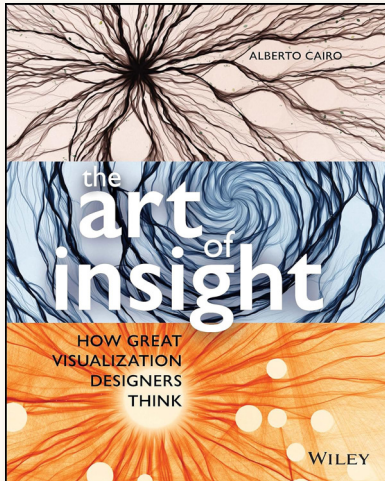


Figure 7.

labeled so you can paste that on your next map. You can adjust the content, the extent indicator, and the aesthetics, but you should never have to recreate the structure. When you find yourself doing difficult work on the fly, save yourself precious minutes. Copy and paste.

Hopefully these ten tips—just one at a time, or a few in combination—give you some ideas for your next locator map. A couple of easy little tweaks can make a big difference!





THE ART OF INSIGHT: HOW GREAT VISUALIZATION DESIGNERS THINK

By Alberto Cairo

John Wiley & Sons, 2023

301 pages, including numerous figures

Paperback: \$40.00, ISBN 978-1-119-79739-5

Review by: Lily Houtman (they/them), The Pennsylvania State University

The Art of Insight: How Great Visualization Designers Think by Alberto Cairo features conversations with numerous visualization designers about the paths they took to creating some of their most unique stories. Cairo interviews over twenty data journalists and other data visualization experts, filling the book with images of the stunning graphics they have produced (along with a URL for the full story below each graphic). Each chapter features narrative and context from Cairo, although the inclusion of lengthy quotations also allows each designer to speak for themselves. *The Art of Insight* is Cairo's fourth book, and is much more conversational than his other works, so readers looking for a "How To" guide may prefer one of his more instructional books. These conversations, however, are important and enjoyable, and get at the heart of what many of us love about design. This book will be of interest to cartographers looking to gain inspiration from great designers, but it also covers data visualization more broadly.

Cairo has divided the book into four sections: "Pragmatists," "Eccentrics," "Ambassadors," and "Narrators," and this permits each designer tell their own story while allowing Cairo to develop some broad, overarching themes, tying the collection together. Most sections feature six or seven interviews, though the first is shorter, at two. Most of the interviews are with a single individual about multiple pieces they have designed, although Chapter 18 features an interview with three members of the same news organization, *Axios*. Cairo provides plenty of his own commentary throughout the book, but the page

design simplifies the task of distinguishing speakers, as his words are in black while the interviewee narratives are in a bright blue. Many of the images in the book are interesting on their own, while others will inspire the reader to open them on their computer to view them in full form. URL links are provided below each graphic.

In many of the chapters, Cairo describes the career paths these visualization designers took to get to their current jobs. Many did not begin in visualization-oriented careers, arriving instead via other avenues—information that may be inspiring to any readers at the beginning of, or hoping to switch, their careers. He also takes a global perspective, interviewing designers who have lived and worked in many parts of the world. While a majority of the projects discussed are ones published in news media or other formal platforms, some are personal projects. The variety of perspectives makes each chapter unique, keeping the book enjoyable and full of new ideas to discover.

It would be difficult to summarize every interview chapter in this short review, so I will instead share example stories from three of the chapters—one each from the "Eccentrics," "Ambassadors," and "Narrators" sections—that stood out to me.

Cairo opens the "Eccentrics" section (Chapter 3, "The Eternal Wanderer") by interviewing Jaime Serra. The chapter begins, as do most of them, with a discussion of what Cairo likes about the subject's work. Many of the

interview subjects are Cairo's friends and people he admires, which lead to conversations that are personal and detailed, and therefore joyful to read. Cairo highlights that Serra was one of the first data journalists in Spain, shaping the field through sometimes unconventional publications. For example, many of the data stories Serra shares are about his personal life, and include [daily coffee habits](#), [a road trip he took when quitting cigarettes](#), and even [his daily sex life for a year!](#) These stories are a reminder of the fun, human side of data visualization. Cairo also includes an in-progress image from one of Serra's pieces (Figure 1), highlighting how the brilliant visuals we all admire take hours of thoughtful work.

In the "Ambassadors" section, Cairo interviews Amanda Makulec (Chapter 10, "The Good Fighter"), who similarly writes stories of a deeply personal nature. Although motherhood, and particularly breastfeeding, can be a

taboo subject, Makulec published a piece on breast milk bags, which turn out to sometimes vary considerably in size from what the labels claim. As Makulec says, "1.5 oz is very different from 2 oz when you're feeding a tiny human" (127). Makulec also shares a sadder personal story about a tweet she posted a few years ago, sharing the loss of her second child. Unfortunately, anti-vaxxers, stumbling upon an earlier tweet where she reported her COVID-19 vaccination during her pregnancy, claimed it was the vaccine that caused her child's death. As someone trained in public health, she found these accusations particularly troubling. Cairo shares that he, too, has been attacked online for posting about his child; in his case, one of his children that "is part of a minority that is subject to conspiracy theories and harassment" (128). These personal anecdotes from Cairo and Makulec, while not clearly tied to data visualization, help to show the humans behind the visualization and make the reader feel like they are part

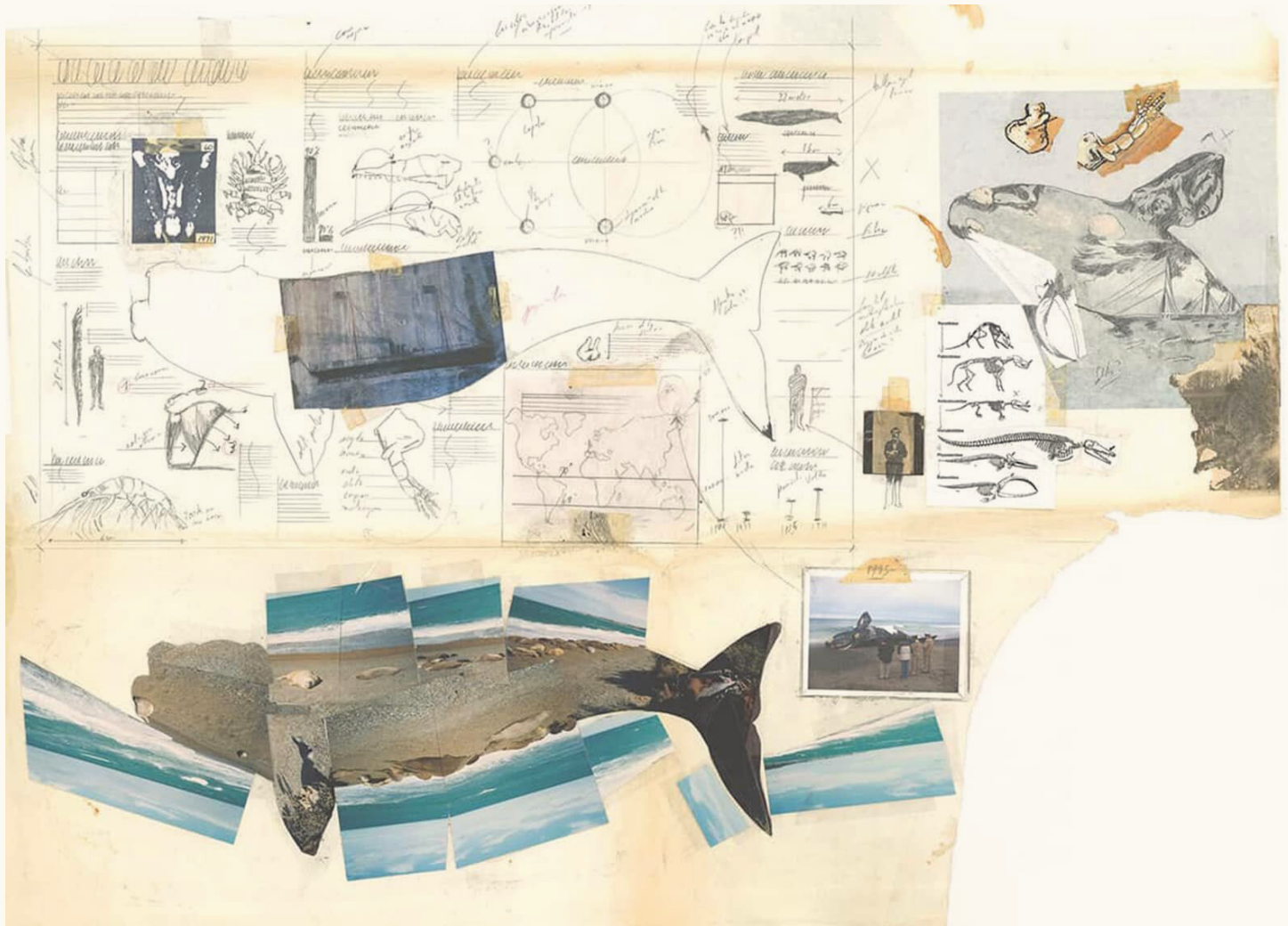


Figure 1. In progress work from Jaime Serra's infographic, *La ballena Franca* ("The Southern Right Whale"). This particular image can be seen on [Serra's blog](#), and is featured on page 52 of *The Art of Insight*.

of a close-knit conversation. The remainder of the chapter goes on to detail the thoughtful ways Makulec thinks about data visualization for public health. Figure 2 shows some of her visuals for one [article](#), and is also exemplary of Cairo's skill in selecting figures for this text. This visual is interesting enough to draw the reader's attention when static (I imagine Cairo had to exclude many amazing graphics because they may not translate well to the page!), yet still inspires additional exploration online to gain the full experience.

Cairo's interview with Gurman Bhatia makes up Chapter 19, "Visceral Visualizations," found in the "Narrators" section. Bhatia spent time in the United States but later returned to her home country of India to work as a graphics reporter. She describes how her initial excitement about working in Milwaukee, Wisconsin, gave way to homesickness during the very long, and ultimately unsuccessful, process of obtaining a work visa. Once her work visa application was rejected, she was excited to move home, closer to her parents, and work for a variety of Asian newspapers. One of her data visualizations for the *Hindustan Times*, "[Women are fading out from Bollywood music](#)," featured the decline of female singers across Bollywood movies. Her research into the genders of singers in the top fifty Bollywood movies between 1950 to 2017 (the year prior to publication) involved manually seeking out information on each singer, as no database existed. The project took months to put together, but it was driven by passion, and reading about it prompted me to imagine stories that would inspire a similar dedication of time and effort. Cairo also shares another of Bhatia's stories, "[A window into Delhi's deadly pollution](#)," that features hourly time-stamped photographs. While still clearly a *data* visualization, Cairo admits that this story made him think differently than a traditional visualization on the same subject might, and encourages other visualization designers to similarly think outside of the box.

Throughout *The Art of Insight*, Cairo captures not just the beauty and power of the visuals themselves, but the spirit of the humans behind the designs. This commitment to showcasing individuals is particularly important in our fast-paced modern world where ideas can blur together, and visuals are often viewed without an awareness of who it was that made them. It is also important in a world of increasing automation and artificial intelligence, demonstrating that many of the most breathtaking visuals are

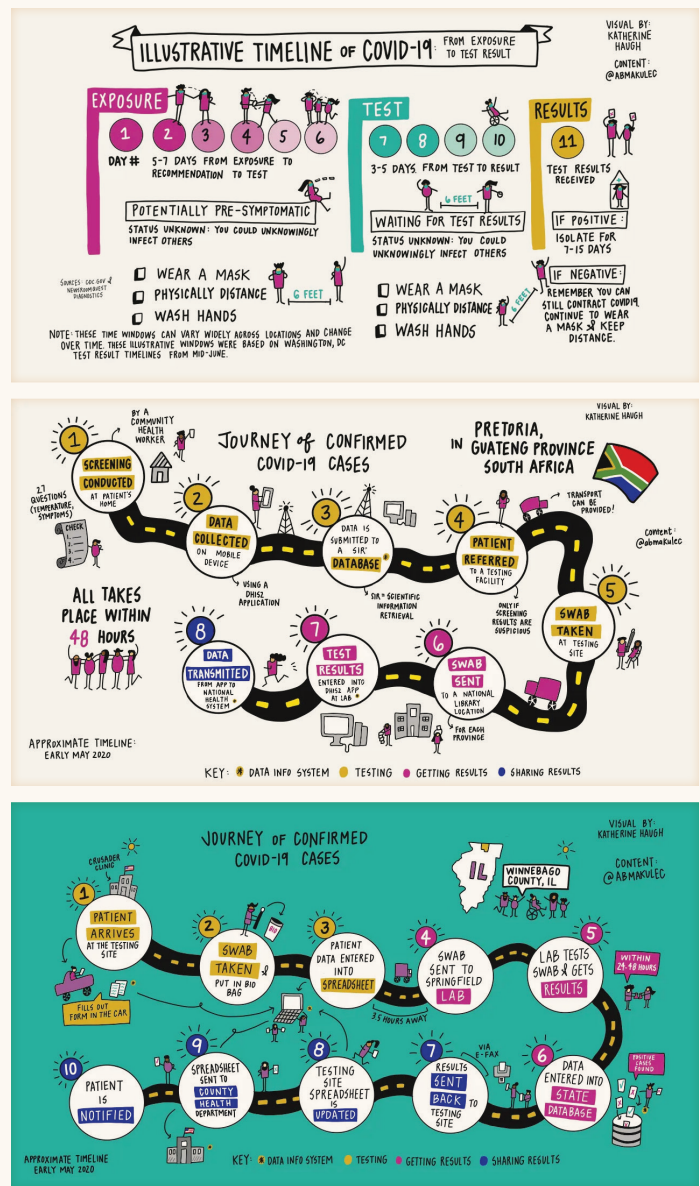


Figure 2. Figures by Katherine Haugh for Amanda Makulec's story "How is COVID-19 Case Data Collected" (137).

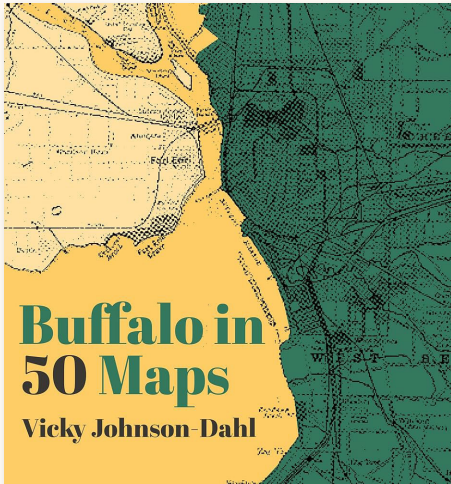
still made by slow, careful human processes. Many designers, of course, make use of automation and code in crafting beautiful visuals, but they do not typically rely on them exclusively, seeing them instead as useful technologies in a well-stocked toolbox.

I do wish the book was formatted in a way that included the full name of the designer on each page of the chapter about them. It is a minor criticism, perhaps, but I think that it would better align with the book's mission of emphasizing individual designers—and would be a particular help for people who, like me, are bad at remembering names.

I highly recommend this book to any cartographer who seeks to add beauty to their design. While most of the examples are not cartographic, many of the broad ideas can be extrapolated to maps. Every reader may not enjoy every chapter, but in a collection of over twenty interviews,

everyone will enjoy at least some of the stories. Please be warned, though, that many of the examples are best enjoyed interactively on a computer, and therefore you may lose many hours exploring their beauty.





BUFFALO IN 50 MAPS

By Vicky Johnson-Dahl

Belt Publishing, 2023

109 pages

Hardcover: \$34.00, ISBN 978-1-953368-48-5

Review by: Kimberly L. Campbell

I WILL PUT THIS DISCLOSURE AT THE TOP—I AM married to a Buffalo Bills fan and I read this book to get some Buffalo facts to impress my husband and in-laws. If you are in a similar situation, and need to impress a Bills fan in your life, or if you are otherwise genuinely curious about this city—this book is a good place to start.

As a part of Belt Publishing’s urban cartography *50 Map* series (which includes *Cleveland in 50 Maps* and *Detroit in 50 Maps*) this book aims to give you a feeling for what Buffalo is really like through a range of maps that vary in topic and technique. While not *technically* a book of fifty maps (it has, in fact, more than that)—this book contains a large collection of Buffalo-themed maps that show that this city is more than hot wings, cold winters, and a potentially haunted but stellar football team.

The book is organized into four sections named after various nicknames for the city. The first section, “Queen City of the Lakes,” gives context for the city through boundary, elevation, and street pattern maps, to name a few, plus one (28–29) comparing Buffalo’s shape and extent to those of other US cities. The second section, “City of Good Neighbors,” introduces the character of Buffalo’s citizens through maps of the neighborhoods and demographics. The third section, “City of Light,” aims to show how Buffalonians move about their city. Finally, the “City of No Illusions” section shows the reality of current day Buffalo through mapping specific places of interest.

In section one, we learn about how Buffalo began and how it grew. The early years followed a familiar historical pattern—from forced sales of native land, to tensions between and influences from different communities of settlers. Buffalo’s population exploded after it was chosen over the village of Black Rock as the location for the western terminus of the Erie Canal—completed in 1825—ballooning from a population of 2,000 to 10,000 in the eleven years between 1822 and 1833. By 1943, however, the city had reached its modern extent, and stopped expanding geographically.

This initial section contains minimalistic maps that ultimately achieve their goal in providing context for the city. For example, the map of the “Buffalo Borders” (22–23) uses only white space and the names of the communities bordering Buffalo to outline the city. My favorite map from this section is “Avenues, Streets, and Roads” (26–27), which gives some insight on, as the author calls it, the “weird non-pattern” of urban planning influenced by whatever was thought fashionable by planners at the time. I also felt a connection with the elevation map (24–25). Speaking as someone from northern Illinois, I am familiar with having lived in a place with a great deal of snow but very little topography upon which to enjoy it. We also get the first reminder of Buffalo’s rust belt city status in the “Vacant Land” map on page 32. Copious amounts of vacant land can be seen inside the city, particularly in the eastern portion—not unlike many other North American post-industrial cityscapes.



© by the author(s). This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/4.0/>.

In section two, starting with a map of the city neighborhoods (44–45), we get a sense of the people that live in Buffalo. Most of the city’s thirty-five neighborhoods are named after inconspicuous things or provide nods to the city’s history—like the neighborhoods of Black Rock (the almost Buffalo, as the author puts it) or Seneca-Cazenovia (named for the eighteenth-century indigenous orator). Then, your eyes rest on the neighborhood of Fruit Belt. This neighborhood is named for its abundant cherry, peach, and other fruit trees, many originally planted by German immigrants. Today, these trees are protected by a Fruit Belt Community Land Trust tasked with defending the neighborhood from often aggressive and unapologetic redevelopment (46–47).

Section three shows how Buffalonians travel across their city. In a story that, again, echoes that of other rust belt cities, former industrial hubs are impacted by suburban sprawl and overwhelmed with high numbers of personal cars—resulting in an underdeveloped transit system and overdeveloped highways. The commuting pattern map on pages 72–73 show that many Buffalonians today travel outside of Buffalo for work—and you can’t help thinking back to the “Vacant Land” map on page 36 where we saw such large swaths of vacant land where the city has demolished abandoned and uninhabitable homes.

The final section of the book shows Buffalo’s current day reality. We see the changes in the grain elevator infrastructure—a clear symbol for the industry that once dominated the region (94). We also see the demographic changes as the immigrant populations shift and evolve over time, as reflected in the evolving pattern of former Catholic church locations (92–93).

Amongst all these obvious signs of change I especially love the inclusion of the parade map (96–97), because it is a reminder that there are still plenty of things for the people of Buffalo to celebrate—including St. Patrick’s Day, Juneteenth, Puerto Rican and Hispanic Day, and even Dyngus Day (the last of which I had to Google).

Some maps in the book don’t add much to the conversation; “Traffic Violations” doesn’t seem to show anything particularly unique to Buffalo; and while the “Cheerio

Smell” map (82–83) is a fun bit of trivia, it, too, doesn’t add much to the reader’s understanding of the city.

I wish some maps had a bit more context; mostly because I was curious. For example, I wish we could have seen where the village of Black Rock (a settlement almost as old as Buffalo itself) was in the initial maps instead of having to wait until the general “Neighborhoods of Buffalo” map on page 44. Similarly, I think that it would have strengthened the “Race and Ethnicity” maps (32) to have included a label for Main Street, even though the author explicitly claims that despite the street’s importance to neighborhood ethnicity, it doesn’t need a label because its location is shown “clear as day” in the dot pattern. Perhaps it is clear as day—to the author—but it was not for me.

Some maps lost their impact due to symbology choices. For example, the “Fruit Belt” map (46–47) left me with more questions than it answered. I found that my eye immediately wandered away from the Fruit Belt, landing instead on the neighborhood directly to the north—Masten Park—which appeared to have more fruit trees than the Fruit Belt, which was apparent, regardless of the desaturated symbolization colors. I would have liked either an explanation of that or for the author to just keep the symbology in that specific neighborhood.

I think the strength of this collection of maps lies in its mixture of maps that bring levity and maps that touch on more serious topics. For example, “Driving into Buildings” (77) made me laugh out loud, while “Redlining” (48–49) provided the serious context for the race and ethnicity maps (32–35)—and even for the “Vacant Land” map (36–37) in section one—showing how this practice still molds and defines the city today; often in negative, far reaching ways.

Overall, this book is very clearly a love letter to the author’s hometown. The maps shown vary from dot density to tessellating hexagons (my personal favorite) and show us that Buffalo is more than chicken wings and winter. It is a place of art, celebration, and places to see actual buffalo (or, more correctly, as the author reminds us, bison). But, most importantly—and here I echo their final sentiment—GO BILLS!





THE NATIONAL ATLAS OF KOREA FOR CHILDREN

By Jeongchang Seong, Andrew Ivester, Junghwan Kim, and Hojin Jung.

Edited by Seungho Lee and Chul Sue Hwang.

Ministry of Land, Infrastructure, and Transport; and National Geographic Information Institute (NGII), Republic of Korea, 2017.

107 pages

Free online (see “Obtaining this Atlas,” below), ISBN 978-89-93841-27-5

Review by: Aimée C. Quinn, Northern Arizona University–Yuma

IF I WANTED TO TEACH MY CHILDREN ABOUT THE traditions, cultures, and works of my ancestors, I would want an atlas like the fifth volume of the revised *National Atlas of Korea*. It is specifically designed for children, and every page contains maps, illustrations, and language carefully selected to nourish a child’s mind and fascinate their imagination. This volume is new to the *National Atlas* and is intended “to help our children to better understand their nation and to foster a great pride in their nation” (preface). Throughout the atlas, the entire Korean Peninsula is frequently referred to as “Korea,” and several of the maps show it undivided, although many also differentiate the two Korean republics.

Like the other four volumes of the *National Atlas of Korea*, it is beautifully bound—this one features boards covered in a sandstone colored cloth—with the Korean and English titles imprinted on the endpapers. The front and back covers also sport drawings of a colored globe encircled with icons. Unfortunately, these icons do not match the ones used in the table of contents to identify each section, and that, arguably, is a missed opportunity for a compelling design feature. These icons could also have been a playful feature in the “Coloring Maps” section in the back, tying these maps to specific sections of this atlas.

The main body of the atlas is divided into six thematic sections—“Korea: a Story in Maps,” “Korea in Context,” “Natural Setting,” “People and Culture,” “Challenges and Responses,” and “Global Connections”—each containing

a number of short chapters. The thematic sections are preceded by two pages detailing who worked on, edited, and administratively oversaw the atlas. Although not explicitly labeled “appendices,” there are also four additional chapters appended to the end of atlas. The first is a fourteen-page collection of “Coloring Maps” for children: individual outline maps of the South Korean provinces decorated with sometimes quite detailed line drawings of local landmarks, flora, and fauna. These maps are followed by a detailed, six-page map of the entire Korean Peninsula, including the Democratic People’s Republic of Korea (i.e., North Korea). Finally, the atlas closes with a map index and list of photo sources. The first thematic section, “Korea: a Story in Maps,” is hardly a “section” at all, as there is no text, and it is unclear what “story” is being told. All we get is an enhanced aerial image of Korea—an image not included in table of contents or map index, or credited in the photo sources—on page 8, facing a political map of the same area on page 9.

The chapter “Where is Korea?: Map Projections and Global Connections” opens the second section, “Korea in Context,” and introduces the young reader to the various ways map projections distort perspectives, perceptions, and, ultimately, the story told by the map. Illustrative analogies such as likening Goode’s projection to an orange-peel and Bonne’s to a heart both provide a grounding in basic cartographic terminology and set a tone for the rest of the atlas. However, more background information should have been included early in this section,



© by the author(s). This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/4.0/>.

introducing young readers to all the different kinds of maps in the atlas, and the tools used to create them.

The text in this section speaks of maps as affording access to a *story of a place*, rich in history, and a *story of a people*, steeped in a culture that supported their way of life. However, “Korea in Context” moves through history very quickly, using a single map from 1402 to represent over five centuries of the Joseon Dynasty (1392–1910), and then jumps to the post-World War II division of Korea, a time-sequence of the 1950–1953 Korean War, and the demilitarized zone created by the 1953 armistice. The section ends with a NASA satellite image showing the disparity in nighttime illumination between the two Koreas, a difference the text ascribes to unequal economic development. Although the war and its tragedies are handled carefully, the entire historical timeline is highly compressed and it is not clear what impression of the context young readers are expected to form. Nonetheless, it all ties together sufficiently to introduce readers to the third section: “Natural Setting.”

The “Natural Setting” section uses simplified geologic and topographic maps alongside color photographs to illustrate the next part of the peninsula’s story. It is one of the best-written portions of the atlas, with language that is precise and to the point. Statements like “The geology of the Korean peninsula is very important for interpreting the tectonic relationship between Korea, China, and Japan. As the East Sea was formed, it separated Japan from Korea and uplifted the eastern part of the Korean Peninsula” (22) provide a simple description of how the Korean landmass developed, in language accessible to young readers. Other parts of this section illustrate the composition of the ground, forests, waters, and atmosphere with well-drawn climographs and several soil, watershed, and weather maps. Numerous photographs are used to showcase the wide variety of fossils, trees, plants, mammals, birds, and ocean life indicative of the biological diversity found throughout the nation. The text in these few pages (26–36) is more scientific than that in other parts of the atlas, and is clearly addressed to older readers, but the writing style here and throughout the volume maintains an admirable factual elegance.

Pages 38 through 52 cover “People and Culture”—the heart of any civilization—and this section of the atlas discusses Korea’s transformation from the traditional to the modern. A multitude of color illustrations fills this section

of the atlas, including photos of food, people at worship, festival posters, and a variety of charts, plans, maps, and other material. It is rich with art that introduces the reader to the Korean way of life. This children’s atlas provides a simple review of what presently constitutes a “Korean culture”—unlike Volume One of the *National Atlas* series, which instead described how Korean culture evolved over time.

Korea’s population density is illustrated with a dot density and a choropleth map, while a cartogram is used to show how the population has moved towards the cities and away from the mountains. As the population changes, so does housing, transportation, and the economy, and these phenomena are also explored with maps, graphs, and photos. For example, traditional housing and transportation corresponded with the natural elements, but modern times require more modern means to house and transport citizens. There is a photo array of housing transformation on page 46. As the atlas notes, “in Korean society, there is a high level of enthusiasm, and spending, for education” (48), so education gets a look, too. Overall, this atlas section provides an informative look at significant cultural influences, but much of the data date from 2010 to 2014, making some of the information several years old at the time of publication. The next section—“Challenges and Responses”—is aptly titled. Korea is facing many challenges—particularly those stemming from climate change, such as environmental degradation, natural disaster, energy challenges, et cetera. The mountainous terrain of the Korean Peninsula, crisscrossed by high ranges and cut by numerous rivers—particularly the Nakdong and Han—somewhat isolates Korea from its Asiatic neighbors. The Nakdong is the longest river in South Korea, and flows southwards from the Taebaek Mountains to the Korean Strait that separates the peninsula from Japan. The Han River begins at the confluence of the Bukhan and the Namhan rivers, and flows into the Yellow Sea—providing water for much of South Korea, including the city of Seoul. All the rivers provide water to much of the nation, yet due to population increases, river conservation and restoration have become major challenges. Since the beginning of this century, soil erosion and natural disasters have challenged governments to choose which is a higher priority to provide the resources and technological development required to maintain a balance with the Korean population and culture. The “Challenges and Responses” section provides an in-depth discussion of the work undertaken, and the significance and difficulties of the work yet to be done.


The last section, “Global Connections,” educates the reader about Korea’s place in the world today. It begins with hospitality, a traditional mainstay in Korean culture. The story moves to a measurement of the satisfaction felt by the many Koreans who have emigrated abroad, bringing their culture with them into the global mainstream. Maps in this section illustrate global partnerships and major research expeditions—just the kind of things to spark national, civic, and cultural pride in the minds of a young readership. There is an overall sense of satisfaction in the tone in the concluding pages of this atlas. The reader should be content to know that they have learned something about this nation, as the authors are very proud of their *National Atlas of Korea for Children*.

OBTAINING THIS ATLAS

All volumes of the *National Atlas of Korea* are available online for viewing or download in Korean and English at no cost by visiting nationalatlas.ngii.go.kr.

Distribution of the five hardcover volumes of the atlas has been delegated to the Korean Geographical Society (KGS). We are told that KGS is distributing a very limited number of the books for \$150 per volume (excluding shipping). It is suggested that interested parties contact KGS directly at this address: Korean Geographical Society, 1413-ho, 213-12, Saechang-ro, Yongsan-gu, Seoul, 140-871, Korea.





Cartographic Perspectives (CP) publishes original articles demonstrating creative and rigorous research in cartography and geographic visualization under open-source licensing. Papers undergo double-blind peer review; those accepted for publication must meet the highest standards of scholarship, address important research problems and issues, and appeal to a diverse audience.

Articles should be submitted online, in OpenOffice, Microsoft Word, or RTF file format. Each manuscript is reviewed by the editor, one or more members of the editorial board, and at least one external reviewer. By uploading to the CP website, authors agree to not submit the manuscript elsewhere until the CP editor has reached a decision. Any submitted manuscript must not duplicate substantial portions of previously published material.

GENERAL GUIDELINES

Content should be submitted online via the *Cartographic Perspectives* website, cartographicperspectives.org.

AUTHORS: The article should credit all persons who made a substantial contribution to the work discussed. Authors are encouraged to list their preferred gender pronouns beside their name. Listing of an institutional affiliation is optional. An email address is required for all authors listed.

STYLE: Grammar and punctuation should conform to the latest edition of the Chicago Manual of Style. Manuscripts may make use of American, Canadian, British, or other regional spelling conventions, as long as they are used consistently throughout.

OPINION/RESPONSE PIECES: CP welcomes topical responses to previously published articles. The length of such pieces may vary; however, we suggest 2,000 words or less as an informal guide.

ILLUSTRATIONS: Maps, graphs, and photos should convey ideas efficiently and tastefully. Graphics should be legible, clean, and clearly referenced by call-outs in the text. Sound principles of design should be employed in the construction of graphic materials, and the results should be visually interesting and attractive.

- Images must both be embedded in the manuscript, and sent as separate files.
- Images in raster format must, at minimum, be 1000px wide; at least 2000px is strongly preferred.
- Where possible, graphics should have a transparent, rather than a white, background.
- The editors reserve the right to make minor adjustments to illustrations.
- Care should be taken to avoid color choices that will not be discernable by readers with color vision impairments.

- For vector files, fonts should be embedded or converted to outlines.
- Type sizes below 6 point should be avoided.
- Captions should not be part of the illustration. Instead, please supply captions within the text of the article.

For questions on specific guidelines for graphics, please contact Assistant Editor Daniel P. Huffman for more information: daniel.p.huffman@gmail.com.

PERMISSIONS: If a manuscript incorporates a substantial amount of previously published material, including reproducing images, the author is obliged to obtain written permission from the holder of the copyright and to bear all costs for the right to use copyrighted materials.

LICENSE: Articles submitted to CP will be distributed under the Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International license. For a description of the terms of this license, please see: <http://creativecommons.org/licenses/by-nc-nd/4.0/>.

PEER-REVIEWED ARTICLES

TITLE: The title serves as the author's invitation to a diverse audience. It should be chosen wisely. The title section should include the full names of the authors, their email addresses, and their academic or professional affiliations.

ABSTRACT: An abstract of 250 words or less should summarize the purpose, methods, and major findings of the paper.

KEYWORDS: Five to ten keywords should be listed at the end of the abstract.

REFERENCES: References should be cited parenthetically in the text, following the author-date system found in the latest edition of *The Chicago Manual of Style* (chicagomanualofstyle.org). When making a direct quote, include the page number. Example: (Doe 2001, 38).

Books: Invert the first author's name (last name, first name, and middle initial). Middle initials should be given wherever known. For books with multiple authors, authors' names are listed in the order in which they appear on the title page, with the last author's name preceded by a comma and *and*. Note: With more than six authors, invert first author's name and follow it with a comma and the words *et al.* without italics in the reference list.

The general format is: Name of author(s). Year. *Title in Italics*. City of Publication: Publisher Name.

Robinson, Arthur H., Joel L. Morrison, Phillip C. Muehrcke, A. Jon Kimerling, and Stephen C. Guphill. 1995. *Elements of Cartography, 6th Edition*. New York: John Wiley & Sons.

Articles in Periodicals: Author's or authors' names as in *Books*, above. Year. "Title of Article." *Title of Periodical*, volume number, page numbers, DOI if available. Follow punctuation and spacing shown in the following example.

Peterson, Michael. 2008. "Choropleth Google Maps." *Cartographic Perspectives* 60: 80–83. <http://doi.org/10.14714/CP60.237>.

Articles in edited volumes: Name of author(s). Year. "Title of Article." In *Title of Edited Volume*, edited by [Editor's or Editors' names, not inverted], page numbers. City of Publication: Publisher's Name.

Danzer, Gerald. 1990. "Bird's-Eye Views of Towns and Cities." In *From Sea Charts to Satellite Images: Interpreting North American History through Maps*, edited by David Buisserset, 143–163. Chicago: University of Chicago Press.

Websites: Websites should generally be referenced in running text with a hyperlink ("On its website, the [Evanston Public Library Board of Trustees](#) states..."). If a more formal citation is necessary, use: Name of author(s). Year. "Title of Document." *Title of Complete Work (if relevant)*. Access date. URL.

Cartography Associates. 2009. "David Rumsey Donates 150,000 Maps to Stanford University." *David Rumsey Map Collection*. Accessed January 3, 2011. <http://www.davidrumsey.com/blog/2009/8/29/david-rumsey-donates-150-000-maps-to-stanford>.

Maps: Maps should be treated similarly to books, to the extent possible. Specific treatment may vary, however, and it is often preferable to list the map title first. Provide sufficient information to clearly identify the document.

A Plan of the City of New York and its Environs. P. Andrews, sold by A. Dury in Dukes Court, St. Martins Lane, surveyed by John Montessor, 1775.

E-mail correspondence: E-mail messages may be cited in running text ("In an e-mail message to the author on October 31, 2005, John Doe revealed...") instead of in a note or an in-text citation, and they are rarely listed in a bibliography or reference list.

Additional examples: For additional examples, please consult the latest edition of *The Chicago Manual of Style*, (chicagomanualofstyle.org).

DOI NUMBERS: DOI numbers for references must be included whenever available. You can look up DOIs at www.crossref.org/SimpleTextQuery.

REFERENCES LIST: The list of references should begin in a separate section, immediately after the text. Entitle the section "References" and list all references alphabetically by the author's last name, then chronologically. Provide full, unabbreviated titles of books and periodicals.

FOOTNOTES: Footnotes should be used sparingly: i.e., only when substantive enough to amplify arguments in the text. They should be addressed to a single point in the manuscript.

UNITS OF MEASURE: *Cartographic Perspectives* uses the International System of Units (metric). Other units should be noted in parentheses.

EQUATIONS: Equations should be numbered sequentially and parenthetically on the right-hand edge of the text. If special type styles are required, instructions should be provided in the margin adjoining the first case of usage. Authors should carefully distinguish between capital and lower-case letters, Latin and Greek characters, and letters and numerals.

TABLES: Tables should be discussed in the text and denoted by call-outs therein, but the meaning of a table should be clear without reading the text.

Cartographic Perspectives

Number 104, 2024

The Journal of **ncis**

