

Art Inquiries

Volume 18 | Issue 4

Article 4

12-31-2023

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Houston, Kerr. "Images of Maps and Connotative Tendencies in Early Republican America." 18, 4 (2023). https://scholarscompass.vcu.edu/artinquiries_secacart/vol18/iss4/4

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Images of Maps and Connotative Tendencies in Early Republican America

Kerr Houston

n general, historians of horology are unanimous in characterizing timepieces produced in late eighteenth-century Britain and America as unprecedentedly accurate—and as important elements in the formation of a rigorously chronopolitical culture. Following Christian Huygens's revolutionary application of a pendulum to the movement of a clock, around 1660, clockmakers developed new and increasingly reliable escapements, refined their devices to moderate air resistance, experimented with combinations of materials that could accommodate subtle changes in temperature, and crafted clocks that could withstand both the turbulent motions of a ship at sea and the nuanced demands of scientists.2 Predictably, London was a leading center of production and consumption, but extremely reliable timepieces were also constructed in Paris, the Black Forest, Amsterdam, and Philadelphia—where, in the 1780s and 1790s, David Rittenhouse

Figure 1. Benjamin Willard, brass dial from musical tall case clock, c. 1789, 18 ½ x 13 in. (47 by 33 cm). Mabel Brady Garvan Collection, Yale University. Photograph courtesy Yale University Art Gallery.



constructed a series of clocks that were, as Alexis McCrossen has observed, "astonishingly precise." To be sure, clocks and watches remained costly items, affordable only to the relatively wealthy; as of 1800, less than a quarter of Americans owned a mechanical timepiece of any kind. Nevertheless, an increasingly extensive network of public clocks facilitated the intensification of a temporal culture that was characterized, as E.P. Thompson famously noted, by a growing emphasis on synchronization, exactitude, and discipline.4

Unsurprisingly, this interest in precision characterized the design and manufacture of most tall case clocks, among the most expensive and reliable of all eighteenth-century time-reckoning devices and the outcome of an intricate series of contributions by cabinetmakers, smiths, braziers and the clockmakers who assembled the movement.5 Typically between seven and nine feet tall, such floor clocks featured a wooden case that housed the pendulum and the substantial weights powering the movement and the striking. Most could run for a week before resetting, and a few could go a full month. In the clock's hood, steel hands indicated the hour, minute, and second by pointing to engraved or painted markings on the dial plate. This plate usually communicated other data as well. A tall case clock finished around 1789, for example, features a dial bearing the name of the Massachusetts clockmaker Benjamin Willard, along with the date and the current phase of the moon (fig. 1). In addition, highly detailed hemispherical maps of the world implied an interest in the science of cartography and

the close measurement of space.⁶ Admittedly, the general air of scientific rigor in Willard's clock was softened slightly by a quartet of painted floral sprigs and a menu of seven available melodies: organic form and popular art, supplementing science. Nevertheless, the general impression evoked by such a clock is one of careful calibration and mathematical precision.

Comparable examples multiply quickly. Take, for instance, a tall case clock assembled by Eli Terry, around 1792, and now owned by the Yale University Art Gallery (fig. 2). A skilled mechanic, Terry would transform the field of clockmaking; in later years, his innovative use of a water-powered mill and interchangeable parts facilitated clock production on a mass scale.7 In this example, however, Terry's workshop was still relying on traditional techniques in producing an elegant, hand-wrought specimen. The handsome cherry case is crowned with a large hood, which is in turn capped by a pagoda-shaped pediment whose pierced fretwork reflects a broad interest in Chinese forms.8 Flanked by two carved columns, the glazed door reveals an elaborate brass plate featuring carefully engraved hour numerals, a seconds dial, a calendar aperture, and arabesques in the corners (fig. 3). As with Willard's clock, the arched top features a painted moon dial, a lunar calendar, and a pair of engraved hemispherical maps. In addition, like Willard's clock and many other high-end American

Figure 2. Eli Terry, tall case clock, 1792–93. Mabel Brady Garvan Collection, Yale University. Photograph courtesy Yale University Art Gallery.





clocks made in the years shortly before 1800, Terry's timepiece foregrounds exquisite craftsmanship, a tidy finished neatness, and meticulous engineering.

But this impression of exactitude fades with a closer look at the maps on Terry's clock—which are executed with a remarkably casual looseness.

To be sure, the longitudinal and latitudinal lines and degree markings imply an interest in systematic specificity. In the left hemisphere, for example, we can clearly discern North and South America, appropriately linked by an isthmus, while the Baja California peninsula is also apparent. Beyond those details, however, the two maps seem flatly

Figure 3. Eli Terry, detail of brass dial from tall case clock, 1792–93, 17 ½ x 12 in. (43.5 x 30.5 cm). Mabel Brady Garvan Collection, Yale University. Photograph courtesy Yale University Art Gallery.

uninterested in any geographical exactitude. The contours of South America are arbitrary; further west, we can make out several inexplicably large landmasses in the middle of the South Pacific Ocean. The right hemisphere is even more confusing. Is this meant to be Europe? Asia? The meandering contours bear no meaningful resemblance to either continent, and the lack of any reference to Africa only intensifies our sense of disorientation. Nor do the apparent textual labels help: on close inspection, they reveal themselves as nothing more than nonsensical series of random letters and meaningless squiggles. Superficial signs of precision and science quickly give way to a blithe informality or complacence.

Terry's clock is far from alone in this regard. For example, the dial of a handsome clock made around 1780, by Pennsylvanian clockmaker Adam Brant, now owned by Lisa Minardi, also features two hemispherical maps, each of which is likewise subdivided by a series of longitudinal lines. It is virtually impossible to tell which map corresponds to what part of the globe. Fluid squiggles take the place of discrete continental boundaries-the effect is more calligraphic than cartographic. Or consider a case clock assembled around 1805 by Isaac Brokaw of Bridgetown, New Jersey.9 Like Willard's 1789 clock, it employs transfer-printed hemispherical maps in an even freer manner.10 In Brokaw's dial, the outline of Africa is comprised of largely arbitrary angles, and India dissolves into a thicket of invented islands. Call them rough maps, bad maps, or loosely rendered maps: in any event, they constitute an odd but pervasive genre. Placed just above eve level on some of the most intricate and accurate machines of their age, these maps suggest a casual disregard for the

intricate workmanship and precise engineering that surrounds them.

So how, then, should we understand this tendency? Several possible explanations quickly come to mind, but none ultimately satisfies. Could the roughness of these maps result from poor artistry or limited technical ability? Likely not-in many cases, the loosely rendered maps are coupled with competently rendered systems of marking. In the dial of Terry's clock, for instance, the engraving is precise and competent; the longitudinal and latitudinal lines are crisp and the quality of line consistent. The hemispheres were evidently the work of a practiced, accomplished engraver.11 Might that engraver perhaps have had a limited familiarity with, or access to, detailed maps that could have served as a template? Again, such a prospect seems unlikely, since reliable, inexpensive, and highly specific maps of the world were widely available in eighteenth-century North America. Indeed, as Martin Brückner and other scholars have noted, widespread American interest in geography led to a vibrant market for maps in the late 1700s.12 Moreover, many of these maps offered double-hemisphere images of the world, such as a 1775 print by Robert Sayer (fig. 4), or the opening map in Jedediah Morse's popular Geography Made Easy, first published in New Haven in 1784 and soon reissued in a number of subsequent editions. Cumulatively, this yielded a culture in which a dedicated boy could produce—with a bit of effort, an encyclopedia, and a globe as models—a highly detailed rendering of the world as, in fact, 13-year-old Charles Barrell did in 1797 (fig. 5). Attributing the rough quality of maps in contemporary clock dials

to a shortage of relevant models, a disinterest in geography, or technical ineptitude thus feels inconsistent with the surrounding visual evidence. Instead, this persistent feature demands a different explanation.¹³

In this article, I argue that such rough maps were part of a much larger tendency—visible in a variety of artistic genres in the late 1700stoward evocation and suggestion rather than simple emulation. As the eighteenth century unfolded, Anglo-American writings on aesthetics eschewed a dogmatic insistence upon mimesis and articulated an intensifying conviction that roughly executed images could effectively convey a subject or a concept. This tendency was evident, for example, in favorable references to loose handling in paintings, in the growing value assigned to sketches, and in a lively interest in graffiti as well as visual rebuses. It was apparent, too, in the explosive popularity of caricatures, which ignored traditional academic notions of skill, employing instead a reductive linear shorthand and a fundamentally abstract element.14 It was manifest as well in the mounting frequency with which artists employed arbitrary marks and strokes in granting an impression (rather than attempting to offer an exacting copy) of a given subject. To be fair, this general turn away from mimesis toward evocation and connotation has occasionally been noted.15 Its appearance, however, in clocks—among the most expensive and complex devices extant at the time—has apparently not been observed, either by horologists or by historians of visual and material culture. This article contends that early republican American clocks can and should be

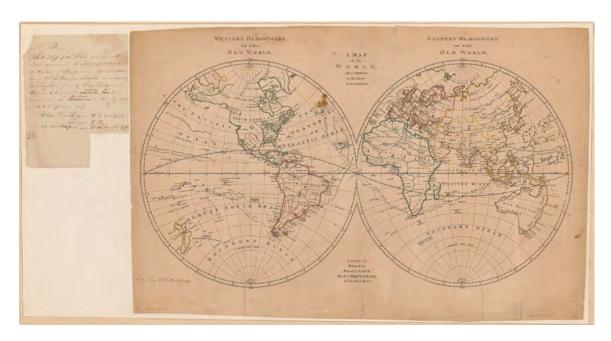
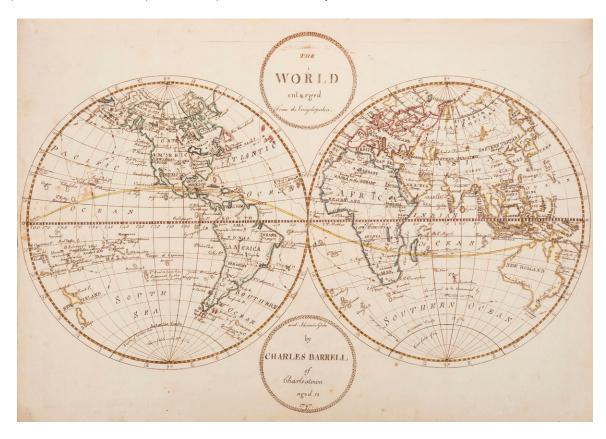


Figure 4. Robert Sayer, *A map of the world according to the latest discoveries*, c. 1775. Hand-colored print on paper, 17 11/16 x 27 15/16 in. (45 by 71 cm). Photograph courtesy Library of Congress.

Figure 5. Charles Barrell, *The World Enlarged,* from The Miscellaneous Works of Charles Barrell, 1797, 19 5/8 x 13 3/4 in. (50 x 35 cm). Joseph Downs Collection of Manuscripts and Printed Ephemera, Winterthur Library.



seen in relation to broader artistic developments. Moreover, I observe that an accent upon temporal precision was apparently distinct from an interest in geographical accuracy. Rather, the connotation of exhaustiveness could evidently suffice, as clocks reminded viewers of global space, without precisely describing it-because, while time and space were intricately connected, a clock could only indicate time in terms of here, rather than there. Viewed in these ways, the loosely rendered maps featured in the dials of numerous clocks need not be read as the products of poor workmanship, nonchalance in the name of efficiency, or simple geographic ignorance. Instead, we understand them more fully only when seeing them in relation to a common embrace, in early republican American visual culture, of artistic connotation, abstraction, and imaginative work.

From Mimesis to Abstraction

Maps have been understood and explained in many ways over the years—as pictures, as texts, as systems of signs-but their fundamentally mimetic aspect has long been acknowledged by historians of cartography.16 Imitation was a central, and often embattled, topic in eighteenthcentury Anglo-American writing on the arts. Familiar with ancient Greek discussions of artistic mimesis, Enlightenment-era poets, painters, and philosophers regularly endorsed the idea that an underlying goal of the arts involved close imitation of the world at large.17 As Alexander Pope famously put it, in a 1711 essay, "First follow Nature." 18 Over the

course of the 1700s, however, the doctrine of mimesis was repeatedly qualified, delimited, and tested—until it reached a breaking point. Indeed, a substantial body of scholarship details the profound theoretical shift that took place in the late 1700s, as mimetic theory gave way to novel notions of artistic expression and nuanced doctrines of taste and judgment.¹⁹

Some of the period objections to mimetic theory are relatively clear and easily summarized. For one thing, critics acknowledged with increasing frequency that the various arts involved distinct degrees or forms of imitation. In 1757, Edmund Burke conceded that poetry and rhetoric affect by sympathy rather than imitation. Five years later, Lord Kames went still further, declaring that, "Of all the fine arts, painting only and sculpture are in their nature imitative."20 Mimesis, it seemed, was not a unifying artistic principle after all; at most, it was typical of only some of the arts. But was it in fact even that? As some writers pointed out, even painting and sculpture did not always copy from nature; rather, they often sought to improve upon and idealize it. Such an idea, of course, had already been articulated by Italian Renaissance theorists, and was explored by Jonathan Richardson as early as the 1720s.21 It was given an influential endorsement, though, by Sir Joshua Reynolds in his third Discourse, delivered in 1770. Skilled painters, he contended, attempt to transcend individual variations and accidental deficiencies, aiming instead to communicate "one common idea and central form, which is the abstract of the various individual forms belonging to that class."22 Art,

in other words, aims at distillation and synthesis rather than rote copying. While some theorists still clung to imitation as an important artistic principle, their arguments became increasingly conditional and qualified; some argued, for example, that artists imitated natural principles or an underlying order. The imitation of nature thus became, as René Wellek observed, a concept now expected to accommodate every kind of art, "from literal naturalism to the most abstract idealization, and all stages in between."²³

Strict notions of mimesis were under pressure from other directions as well. One of the most notable ways in which this played out involved a demonstrable interest, in some artistic circles, in the radical simplification of communicative form. If the function of art is representational, some artists wondered, what is the minimal threshold for effective representation? Annibale and Agostino Carracci implicitly raised such a question in the late 1500s in a series of reductive visual puzzles: simple linear schemata supposedly representing involved subjects, such as a bricklayer working with a trowel behind a wall in such a way that only the tips of his head and tool are visible.24 Such an image eschewed all incidental detail, with the subject matter distilled into pure linear form or geometry—resulting in a nominally representational picture that verged on the abstract. In the mid-1700s, such examples intrigued William Hogarth, who repeatedly expressed his own interest in reductive visual communication. In a 1758 print, for example, Hogarth described a drawing "of a certain Italian Singer that Struck at first

sight, which consisted only of a Straight perpendicular Stroke with a Dot over it."25 He allegedly boasted, moreover, that he could draw a sergeant holding a pike and entering an alehouse while being trailed by his dog with only three strokes of a pencil. As Ronald Paulson has observed, Hogarth "was evidently fascinated with the possibilities of discovering the essential form of an object, or reducing an object to this essential form [...] Hogarth was seeking a recognizable representation at its most elemental."26

In that sense, Hogarth was far from alone in rendering individuals by means of a focus on a revealing or essential quality, for the increasingly popular work of British caricaturists often aimed at a comparably elemental recognizability. Here again, Italian art offers a useful precedent. In the 1630s, Gian Lorenzo Bernini executed a deft linear sketch of Scipione Borghese, managing to convey, in only a few lines, the pompous seriousness of the cardinal. As Irving Lavin noted, the image involves an extreme, exaggerated simplicity.27 Bernini's

drawing thus stood behind the flood of caricatures washing across Britain in the 1760s and 1770s, in what Sir E.H. Gombrich deemed "a fashion almost amounting to a craze in society." Of course, British caricaturists often worked in a

Figure 6. Alexander Cozens, plate XV from *A New Method of Assisting the Invention in Drawing Original Compositions of Landscapes*, 1785. Lift-ground aquatint and engraving on paper, 10 9/16 × 14 1/8 in. (27 × 35.7 cm). Open Access Image from the Davison Art Center, Wesleyan University. Photograph: R. Lee.



markedly satirical idiom, tending toward aggressive distortions of form in order to provoke humorous effects.²⁹ Still, underlying such imagery was a basic supposition that in the process they were getting at a deeper truth that transcended mere outward appearance.³⁰

Perhaps predictably, the popularity of both visual puzzles and caricatures was accompanied by a growing regard for loose, evocative handling. By the late 1700s, the ability to suggest by means of rough, gestural marks was widely prized. Such a development is partially discernible in the growing interest in sketches, often celebrated for an immediacy known as prontezza and praised for their ability to imply general ideas.31 It was also related, as M. Dorothy George has shown, to the popularity of caricature as a hobby among amateurs in the 1760s, a trend that soon led to the wide acceptance of "incorrect but expressive drawing."32 It further informed contemporary analyses of finished paintings, as in Reynolds's discussion, in his fourteenth Discourse, of Gainsborough's emphatically gestural brushwork. "It is presupposed," held Reynolds, "that in this undetermined manner there is the general effect; enough to remind the spectator of the original; the imagination supplies the rest."33 Indeterminacy, generalization, and imagination: in Reynolds's view, a central strength of Gainsborough's work lay in its ability to imply and evoke, rather than to merely record. Perhaps the most radical application of these ideas, though, appeared in a 1785 instructional manual in which Alexander Cozens recommended using ink blots as a means of generating landscape forms (fig. 6).34

Arguing that such a technique "necessarily gives a quickness and freedom of hand," Cozens stressed the ability of blots to evoke, through a sort of visual shorthand, more complex forms.³⁵

In a variety of ways, then, the mimetic model was yielding to a realization that abstraction and suggestion could play valuable communicative functions. In certain cases, this realization was the subject of explicit analysis, as in George Berkeley's widely read inquiry into representation—which, he concluded, was ultimately dependent upon arbitrary conventions.36 In other cases, it was merely implicit—as in Ezra Stiles's remark, regarding his 1770-71 portrait by Samuel King, that the books and astronomical devices in the painting "are more descriptive of my Mind, than the Effigies of my Face."37 Regardless of the difference in emphasis, both Berkeley and Stiles were pointing to the perceived efficacy of connotative symbolism, as opposed to literal mimetic denotation. They were thus typical of an era in which, as Jules Prown once wrote, "[t]he palpable replication of natural forms gave way to twodimensional abstractions [and] pictures of things were used in place of the thing itself."38

Maps, Impressions, and Concepts

Replication gave way to abstractions: to be sure, the interests of Royal Academicians were remote in setting and spirit from the workshops of early republican clockmakers, and American painters and engravers were often no more than indirectly familiar with the evolving challenges

to mimesis. Yet the tendency toward abstraction was undeniably widespread, cutting across media, artistic genres, and contexts on both sides of the Atlantic. For example, it was also markedly discernible in eighteenth-century images of maps, which commonly reflected the growing taste for simplification, distillation, and an emphasis on general effect. For a well-known early instance of this phenomenon, we might turn to The Orgy, from Hogarth's popular series A Rake's *Progress* (fig. 7). In the background of the chaotic scene, a maid seems to set fire to a large double-hemisphere map. Of course, there is a moralizing component in play here; Hogarth likely intended the map to be seen as a symbol of a secular, worldly life characterized by the exchange of commodities and bodies for sale. When we look more closely, though, several details are discernible: we can just make out, for instance, a title ("Totus Mundus"), hints of landmasses, and a pair of figures in the lower right corner. Still, the rendering is nothing like the highly detailed depictions of maps and globes visible in, say, Hans Holbein's The Ambassadors or Jan Vermeer's Art of Painting, which clearly allude to specific, identifiable sources.39 Instead, Hogarth's loose markmaking frustrates any attempt to perceive more specific details. As a result, we are left with, in the words of Geoff Armitage, "the impression of it being a map, rather than the image being a strict copy."40 Evocation replaces mimesis as an operational term.

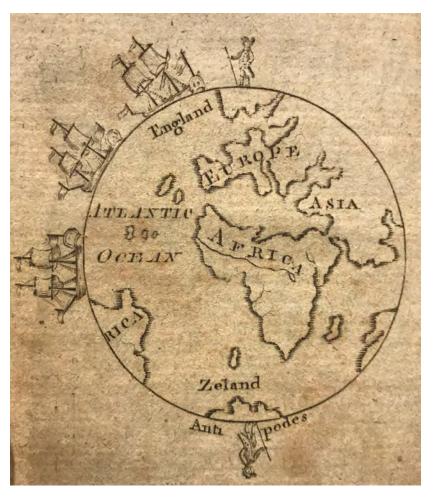
The many prints circulating broadly on both sides of the Atlantic offer further examples of the tendency.⁴¹ In Matthew Darly's 1772 *The Fly*





Figure 7. William Hogarth, *A Rake's Progress Ill: The Orgy*, oil on canvas, 1734. 24 5/8 x 29 5/8 in. (62.5 x 75.2 cm). Photograph: © Sir John Soane's Museum, London.

Figure 8. Anonymous, *An Extraordinary Gazette, or the Disappointed Politicians*, 1778? Etching and mezzotint on paper, British Cartoon Prints Collection, Library of Congress Prints and Photographs Division. Photograph courtesy Library of Congress.



Catching Macaroni, for instance, a preening dandy bestrides the earth's two poles as he seeks his frivolous quarry. The partially visible hemispheres are clearly labeled (Antartick Circle and Artick Circle), while longitudinal and latitudinal lines are rendered with some care.42 There is, however, no substantial interest in evoking actual landmasses-for these are not intended to be reliable, functioning maps. Rather, they are cursory indications of the obsessive habit of a foppish youth. Similarly, in a 1778 etching, a klatch of British politicians reviews developments in the former American colonies, two prominent wall maps occupying much of the background (fig. 8).43 A caption above the larger map states that it depicts British America in 1762, while the smaller is labeled "A map of America belonging to the English in 1778." As a pair, then, they offer a concise history of Britain's North American possessions, yet neither map is meant to be geographically accurate in any specific sense. The larger one includes several colonial site names but displays a flippantly relaxed attitude toward topography, placing New York to the west of Charleston and relying on loose graphic squiggles to suggest rivers or borders. The smaller map consists, in turn, of nothing but a cloud of wriggling snakes: a metaphorical allusion to the revolution that had taken place. Obviously, precision is not a goal

Figure 9. Detail of plate from Jedediah Morse, Geography Made Easy: being an Abridgement of the American Geography, 3rd ed. (Boston: Samuel Hall, 1791), 3 15/16 x 6 7/8 in. (10 x 17.5 cm).

here; rather, the maps are meant to suggest an eroding empire.⁴⁴ The larger idea matters more than any topographical particulars.

Interestingly, loosely rendered maps can even be found in American geographical textbooks, such as the third edition of Morse's popular Geography Made Easy, published in 1791 (fig. 9). In the book's opening pages, Morse discusses gravity and the roundness of the Earth, acknowledging that "many find it difficult to conceive how people can stand on the opposite side of the globe without falling off."45 The accompanying print offers a visualization of the problem, as two colossal men stand on opposite poles of a hemisphere, and a trio of ships ply the seas—all demonstrating, cumulatively, the phenomenon of gravity. Notably, the image includes several clearly labeled continents, while England and the Atlantic Ocean are also indicated. But, in general, the image's geographical strategy is, like its inconsistent scale, pronouncedly informal. The shape of Europe is barely recognizable, Africa is crossed by an imaginary river and bears little resemblance to the continent's actual form, and New Zealand (labeled "Zeland") appears, inexplicably, in the southern Atlantic. Once again, mimesis and accuracy are jettisoned in the name of an overarching concept—in this case, the Earth's gravitational pull.

Cumulatively, then, such images illustrate a general embrace of abstraction and suggestion. They

also call to mind Gombrich's famous observation that pictures are not statements that can be simply judged true or false. Rather, the truthfulness of any image depends upon the syntactical claims made about it.46 In many late eighteenth-century images of maps, the implicit claims no longer depended upon absolute mimesis, but upon general evocation. Instead of purporting to offer an exhaustively detailed replica of a particular map, such images gestured toward a type of object, or an idea. Consider as example the American painter Ralph Earl's 1784 portrait of his second wife, Ann Whiteside Earl (fig. 10). In her lap, she holds a partially unrolled map, a compass rose occupying one corner. The rest of the map, however, consists primarily of mere squiggles and wavy lines. Does the map lie? Not at all for we understand (as did Ezra Stiles in 1771) that its primary function is emblematic rather than mimetic. It is the sitter's implied conversance with a tool of knowledge that is at issue here, rather than our sense that this is any specific map.

It is critical to recognize that this was a choice, and that British and American artists working in the late 1700s could and did employ starkly different idioms, sometimes rendering their subjects with a highly mimetic level of detail, while other times employing a looser, more impressionistic style hinting at the essence of the subject. Indeed, they could even shift between these options in a single image. In the portrait just discussed, Earl rendered his wife and her clothing in an exceptionally sensitive manner; here, evidently, sartorial specificity mattered.⁴⁷ Sometimes, the details of maps also mattered. In Earl's 1798



group portrait *Mrs. Noah Smith and her Children*, one of the boys holds an opened book, revealing a foldout, two-hemisphere map. In this case, the level of detail and representative fidelity is high: high enough, in fact, to allow a scholar to speculate that it refers to one of Morse's geographies, keyed to specific grade levels.⁴⁸ This is not just any map, then. Instead, it points to the boy's familiarity with a specific body of knowledge appropriate to his age.⁴⁹

A similar range of approaches to the rendering of tools of geographical knowledge is evident in certain tradesmen's cards. In a card made in

Figure 10. Ralph Earl, *Ann Whiteside Earl*, oil on canvas, 1784. 46 5/8 x 37 7/8 in. (118.4 x 96.8 cm) Mead Art Museum, Amherst College, Amherst, MA. Gift of Herbert L. Pratt (Class of 1895).

the mid-1700s for Thomas Jeffreys, a London-based engraver, geographer, and printseller, the reclining figure in the lower right touches a globe depicted in considerable detail (fig. 11). Without difficulty, we can identify the individual continents; in fact, the globe features even more local details, denoting Ireland, Florida, and several Caribbean islands. Of course, such detail makes sense in a card advertising



Figure 11. Anthony Walker, trade card made for Thomas Jeffreys, engraving, 18th century, $6 \cdot 15/16 \times 9 \cdot 13/16$ in. (17.7 x 24.9 cm.). Courtesy of the Metropolitan Museum of Art.

an engraver and geographer: precision is naturally important here. Interestingly, though, at the bottom of the card we see a haphazard collection of books and manuscripts, two of which are open to pages labeled "Maps." These maps, strikingly, share none of the globe's interest in geographical specificity, as each consists of a few wavy lines, merely suggesting the idea of a generic territory instead of any actual state. Perhaps this relaxed attitude is due in part to the small scale of the forms, or to the fact that they occupy a marginal, heavily shadowed portion of the composition. Regardless, they employ a distinct syntactical logic: instead of mimicking, they evoke. Or, in more exacting semiotic terms, they prioritize connotation rather than denotation. As Nelson Goodman once argued, "A picture must denote a man to represent him, but need not denote anything to be a manrepresentation."50 By the same logic, the images at the base of the trade card are what we might accordingly call map-representations rather than denotations of specific maps.

We can perhaps better understand, at this point, the considerable variety of map forms visible in American tall case clock faces made in the 1780s and 1790s. Recall that many of these clocks included richly detailed hemispherical maps, offering highly specific and largely accurate renderings of the world's form as it was understood at the time. In the example by Benjamin Willard in which continents and oceans are clearly labeled, New Zealand is correctly placed, and landmasses like the Arabian peninsula and Indian subcontinent are distinctly recognizable.51 Such details contribute to a general effect

of precision and order: an aesthetic embodied more generally by the clock itself, which took advantage of such recent innovations as elongated pendulums, mercury, and ivory pallets in an attempt to produce a highly reliable accounting of time. Instruments like Willard's also suggest that the map was to be seen as a map: as a potentially usable display, that is, of geographical knowledge. Such a form aspires to mimetic accuracy and functions in a denotative register: its governing idiom is representative.

On the other hand, clocks by Terry, Brant, Brokaw, and many other contemporary examples seem largely satisfied with evocation and connotation. Rather than aspiring to precise reliability, they seem content with the communication of a concept or, to reprise Prown's useful distinction, they are effectively pictures of maps, rather than functional maps. Within certain limits, it was clearly a satisfying approach. Granted, in some contexts, contemporary critics complained bitterly about inaccuracies in maps—as in the 1770s, where several observers lambasted the many departures from the geographical truth in a controversial map of Virginia.52 Those same critics, however, seem to have understood that complaining of "Ignorance and Mistakes" in a map on a clockface would have been beside the point for such maps hardly pretended to complete accuracy. Rather, as one contemporary observer put it, "I have often seen Maps hung up in Houses, not because they were reckoned useful, but ornamental."53 In a similar way, the syntactical logic of the map-like forms in many early republican clocks was largely

ornamental and abstract, rather than mimetic and denotative. Precisely rendered borders meant less than a general impression of a map and the possibility of geographical knowledge that it suggested—or, as Reynolds put it, a map's common idea and central form.

Definitions of Maps and Subjective Experience

But what, exactly, is the common idea or central form of a map? Again, the concept and essential properties of maps have been the subject of considerable scholarly analysis—but they were also closely considered in the 1700s, as English-language dictionaries proliferated. Underlying the definitions offered in those dictionaries is a classical or objectivist view of categories as composed of objects that share certain common properties.54 Admittedly, modern theorists have since pressured this view and developed a number of other categorical models: one might think, for instance, of Ludwig Wittgenstein's notion of family resemblances, or Lotfi Zadeh's concept of fuzzy sets.55 But eighteenth-century epistemologies still centered on what logicians often call standard, necessary, and sufficient conditions.⁵⁶ It is thus worth teasing these out, in the case of maps.

In a brief but rewarding essay, J.H. Andrews once gathered a number of early definitions of maps, noting that, as a body, they reflect evolving intellectual fashions.⁵⁷ For example, in the 1745 edition of *An universal etymological English dictionary*, Nathan Bailey defined a map as "a representation of the Earth, or some Part of it, on a plain *Superficies*."⁵⁸ It is a concise formulation—and,

in its twinned emphasis on the flatness and representational aspect of maps, typical of a larger strand of mid-century definitions.⁵⁹ In the late 1700s, however, an additional element also became common, as dictionaries began to refer to the use of longitude and latitude (or, relatedly, to the employment of projection or perspective). Samuel Johnson's celebrated dictionary, first published in 1755, offers the most salient example of such an approach. A map, to Johnson, is "a geographical picture on which lands and seas are delineated according to the latitude and longitude."60 His entry is also relevant in a second sense as well: that is, in its characterization of a map as a picture. As Martin Brückner has noted, it became common in the later 1700s to call maps pictures, the tendency further accompanied by a strengthening semantic association between maps and the visual arts. As a result, observes Brückner, "maps were associated less with tools of navigation and more with images emerging from the studios and shops of painters and printmakers."61 Increasingly, they were viewed as visual entertainment, even works of art—an attitude that is already implicit in Johnson's definition.62

So what, then, about accuracy? Were maps not also assumed to be *correct*? Certainly, a few period definitions emphasized accuracy. In one 1774 text, Thomas Harrington argued that a map is a "kind of pictures [sic] which should accurately represent all the different parts of our earth." An 1805 dictionary entry alluded to "the site and description of an estate according to exact admeasurement." However, as Harrington's use of the word "should" suggests, this was really

only an ideal—and a highly qualified one at that. In practice, it was widely understood that maps were often conceived hastily, executed by individuals without training in cartography, and subject to little by way of verification.65 Or, as the eighteenth-century hydrographer Jacques Nicolas Bellin once wrote, "Nothing is more commonplace or easier than making maps. Nothing is as difficult as making them fairly good."66 By good, Bellin presumably meant geodetically accurate, or founded on responsibly surveyed measurements. Still, the very idea of what made a map "good" could clearly vary. For, after all, those consumers who used maps as visual entertainment, or who prioritized their artistic and symbolic aspects, commonly displayed a bald disinterest in geographical accuracy.67 Ultimately, accuracy seems to have been, at best, a radial criterion of maps: neither necessary nor sufficient as a quality, it merely characterized some maps in certain contexts.68

Context mattered, then, in determining the function or success of a map; so, too, surely, did the particular viewer, at any given moment. Frustratingly, I know of no explicit recorded reaction to a map decorating a republican clock; perhaps future research will yield useful evidence. It nevertheless seems likely that both social training and individual predilections as well as experiences shaped reactions to such images. For example, as Eileen Reeves once noted, map-reading skills seem to have been conceived, at the time, as distinctly gendered: where rich pictorial detail was seen as appealing to female viewers, abstraction and interpretation "were distinctly masculine arts."69

Children, too, presumably saw such maps differently than learned adults; viewers with pronounced political leanings likely viewed them through a certain ideological lens; enslaved individuals must have responded in still other ways. And, interestingly, the inevitability of such localized responses was acknowledged in the broad acceptance of the subjectivity of aesthetic experience. As Tom Huhn has observed, the late eighteenth century attached increasing value to judgment and the imagination. Abstract images naturally supported the active exercise of both, implicitly granting individual viewers the chance to "take up representations and fashion their meaning."70

Here, perhaps, we can begin to assemble the various threads of our argument. As we have seen, late eighteenth-century images existed within an aesthetic context that was increasingly receptive to loosely rendered form and abstraction, in the name of communicating a concept and appealing to viewers. Squiggles could suggest text on a page; brushstrokes could evoke the folds in a garment. While the concept of a map varied, depending on context, period definitions usually held that maps were flat and employed a pictorial logic in representing part of the earth; accuracy was appreciated in certain contexts but hardly taken for granted. Viewed in this light, Ralph Earl's loose sketch of a map in his portrait of Ann Whiteside Earl is efficiently effective. It is clearly flat—the fact that it is partially rolled only reinforces our sense that it is printed on a piece of paper-and it employs a pictorial logic in its colored forms and lines, while the compass rose and dotted border

lines hint at latitude, longitude, and a systematic geodetic logic: exhaustive mimesis is not the goal here. Rather, Earl's painting economically suggests a map by emphasizing the very elements that comprised contemporary definitions of "mapness." Similarly, in a trade card issued around 1794 by the printer Angier March of Newburyport, Massachusetts, an unrolled form in the lower left is evidently a map: we can make out landmasses and a generic sea, while a series of radiating lines suggests a scheme of coordinates but little more.71 Having fulfilled the definition of a map, the image's work is done; no further detail is needed.

At times, artists strove for an even more reductive or suggestive approach, eschewing one or more of the accepted conventional features of a map. The maps in Jeffreys's trade card, for example, satisfy Bailey's definition ("a representation of the Earth, or some Part of it, on a plain Superficies"), but their extreme simplicity hardly meets Johnson's expectation that they delineate forms "according to the latitude and longitude." As a result, they become semantically unstable which may explain the emphatic labels (Maps) that fix the otherwise potentially ambiguous forms. A similar phenomenon is visible in a highly generic image of a map that appeared in an alphabetical primer published in Philadelphia in 1809.72 On a curled page, we see a cluster of quickly executed shapes suggesting bordering counties or townships, the whole of the group roughly outlined by a jagged line that could indicate a coastline. In the absence of any local identifiers, though, the referent is far from clear, and the lack of reference

to latitude, longitude, or true north leaves us further unmoored. What sort of object, exactly, is this? Our question is answered in the accompanying caption: A Map. A categorical assertion, the text supplements the image by assigning it to a general class of things. Yet in an important sense it is not a map—or not, at least, a usable one. It is an image, we might say, of the concept of mapness, designed to illustrate a word and an idea, rather than a specific thing. In this sense, it aligns with an entire body of early republican thought and imagery.

What Things Are and What they Stand For

Returning to the engraved hemispherical maps in the arched top of Eli Terry's clock, several features stand out. For one thing, the two forms clearly satisfy contemporary expectations—as articulated by leading lexicographers of the day-regarding maps: they are flat, they represent the earth, and they allude to longitudinal and latitudinal subdivisions. Moreover, they delineate, to use Johnson's wording, lands and seas. To be sure, the delineation is hardly exact or exhaustive, but that seems not to have mattered to contemporary observers, one of whom even remarked knowingly, as we have seen, on the distinction between useful and ornamental maps.

When we encounter images of maps, we may expect a commitment to topographical accuracy, due to our training and experience. Some late eighteenth-century individuals also certainly valued, in particular contexts, highly detailed and reliable geographical charts. However,

as mimesis gave way to a more conceptual and imaginative mode of thinking and representing, some were often equally at ease with what Reynolds termed the general effect and the common idea. This was true of timekeeping as well: even as increasingly ubiquitous timepieces played an active role in fostering a culture characterized by rigorous temporal discipline, rough estimates, and loose allusions to the time of day often sufficed. Consequently, the casually rendered maps visible in numerous period clocks ought not to be seen simply as the result of technical ineptitude, artistic indifference, or geographic ignorance. Rather, they are better understood, in late eighteenthcentury thought and imagery, as part of a much larger ongoing engagement with the principles of connotation and abstraction.73

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Endnotes

- 1. For a relevant use of the term chronopolitics, see Johannes Fabian, *Time and the Other: How Anthropology Makes Its Object* (Columbia University Press: New York, 1983), 143-44.
- 2. For a recent summary of these developments, see Clare Vincent and Jan Hendrik Leopold, *European Clocks and Watches in the Metropolitan Museum of Art* (New Haven: Yale University Press, 2015), 12.
- 3. Alexis McCrossen, Making Modern Times: A History of Clocks, Watches, and Other Timekeepers in American Life

- (Chicago: The University of Chicago Press, 2013), 33.
- 4. E.P. Thompson, "Time, Work-Discipline, and Industrial Capitalism," *Past & Present* 38 (Dec. 1967), 56-97.
- 5. For especially useful overviews of eighteenth-century tall-case clocks, see Herbert Cescinsky, The Old English Master Clockmakers and their Clocks, 1670-1820 (London: John Bale, 1938); Ernest Edwardes, The Grandfather Clock: An Historical and Descriptive Treatise on the English Long Case (Altrincham: J. Sherratt, 1974); and Donald L. Fennimore and Frank L. Hohmann III, Stretch: America's First Family of Clockmakers (Winterthur, 2013).
- 6. Edwin A. Battison and Patricia E. Kane, *The American Clock*, 1725-1865: *The Mabel Brady Garvan and Other Collections at Yale University* (Greenwich, CT: New York Graphic Society Limited, 1973), 54-57, and https://artgallery.yale.edu/collections/objects/40783 (accessed 27 July 2023).
- 7. Edward F. LaFond Jr. and J. Carter Harris, *Pennsylvania Shelf and Bracket Clocks*, 1750-1850 (Columbia, PA: National Association of Watch and Clock Collectors Inc., 2008), 3; David Jaffee, *A New Nation* of Goods: The Material Culture of Early America (University of Pennsylvania Press: Philadelphia, 2010), 68 and 148.
- 8. Battison and Kane, *The American Clock*, 1725-1865, 38, and https://artgallery.yale.edu/collections/objects/40300 (accessed 27 July 2023).
- 9. Battison and Kane, *The American Clock*, 1725-1865, 98-101, and https://artgallery. yale.edu/collections/objects/35178 (accessed 27 July 2023).
- 10. On the process by which transferprinted maps were made, see N.J.W. Thrower, ed., *The Compleat Plattmaker:* Essays on Chart, Map and Glob Making in England in the Seventeenth and Eighteenth Centuries (Berkeley: University of California Press, 1978), 113-15.
- 11. The identity of the engraver of Terry's clock is unknown. Clockmakers occasionally performed their own engraving, but more commonly relied upon professional engravers or colleagues; Terry's earliest clocks, for instance, featured dials engraved by Daniel Burnap, the clockmaker who trained him. Battison and Kane, *The American Clock*, 1725-1865, 38.
- 12. On the growing affordability, popularity, and ubiquity of maps in late

- eighteenth-century America, see Martin Brückner, The Geographic Revolution in Early America: Maps, Literacy, and National Identity (Chapel Hill: University of North Carolina Press, 2006), esp. 11, 57, and 159, and Martin Brückner, The Social Life of Maps in America, 1750-1860 (Chapel Hill: The University of North Carolina Press, 2017), esp. 137, 146, and 177. Importantly, there was also a sizable market for maps in England and France at the time. See for example Mary Sponberg Pedley, The Commerce of Cartography: Making and Marketing Maps in Eighteenthcentury France and England (Chicago: The University of Chicago Press, 2005), 6, and Jean-Paul Forster, Eighteenth-Century Geography and Representations of Space in English Fiction and Poetry (New York: Peter Lang, 2013), 17.
- 13. For a purely pragmatic explanation (which I will attempt to enrich below), see Brian Loomes, White Dial Clocks: The Complete Guide (London: David & Charles, 1981), 112: "they serve no purpose other than that of decoration. Presumably they arose from some dial-maker's idea of how to use up two almost circular spare shapes."
- 14. Judith Wechsler, "The Issue of Caricature," *Art Journal* 43, no. 4 (Winter 1983), 317-18: 317.
- 15. For an ambitious account of the disappearance of the term "imitation" in aesthetic theory and the shifting status of mimesis in the eighteenth century, see Tom Huhn, *Imitation and Society:* The Persistence of Mimesis in the aesthetics of Burke, Hogarth, and Kant (University Park: Pennsylvania State University Press, 2004).
- 16. Matthew Edney, Cartography: The Ideal and its History (Chicago: The University of Chicago Press, 2019), esp. 18. See too I. Vasiliev et al., "What is a Map?" The Cartographic Journal 27, no. 2 (December 1990), 119-23; Alan M. MacEachern, How Maps Work: Representation, Visualization, and Design (New York: The Guilford Press, 1995), 157-61; and the sustained and sophisticated debate about the nature of maps also that played out across a number of issues of Word & Image and Imago Mundi in the 1980s and 1990s.
- 17. For a classic analysis of mimetic theory in the eighteenth century, see Erich Auerbach, *Mimesis: The Representation of Reality in Western Literature*, trans. Willard R. Trask (Princeton: Princeton University Press, 1953).

- 18. Alexander Pope, *An Essay on Criticism* (London, 1711), 7.
- 19. See for example M.H. Abrams, *The Mirror and the Lamp: Romantic Theory and the Critical Tradition* (New York: Oxford University Press, 1953); John D. Boyd, S.J., *The Function of Mimesis and its Decline* (New York: Fordham University Press, 1980 reprint of 1968 edition); and Martin John Gammon, "Kant and the Decline of Classical Mimesis," PhD diss., (University of California, Berkeley, 1997).
- 20. Edmund Burke, *A Philosophical Enquiry* into the Origin of our Ideas of the Sublime and Beautiful, 4th ed. (London, 1764), 332; Henry Home, Lord Kames, *Elements of Criticism*, vol. 2 (Dublin, 1762), 3.
- 21. For Richardson's comments on the idea that art involved improvements to nature rather than mere imitation, see Ronald Paulson, *Hogarth: His Life, Art, and Times*, vol. 1 (New Haven: Yale University Press, 1971), 278.
- 22. The Life and Discourses of Sir Joshua Reynolds (Hudson, Ohio: Sawyer, Ingersoll and Company, 1853), 40.
- 23. René Wellek, *A History of Modern Criticism: 1750-1950*, vol. 1 (New Haven: Yale University Press, 1955), 18.
- 24. On Carracci's drawing, see Rudolf Wittkower, "Interpretation of Visual Symbols in the Arts," in *Studies in Communication* (London: Martin Secker & Warburg, 1955), 109-24: 112; E.H. Gombrich, *Art and Illusion: A Study in the Psychology of Pictorial Representation* (Princeton: Princeton University Press, 1972 revision of 1960 edition), 214-5; and Anne Summerscale, *Malvasia's Life of the Carracci: Commentary and Translation* (University Park: The Pennsylvania State University Press, 2000), 269.
- 25. For a reproduction of the print and transcription of the text, see https://christchurchartgallery.org.nz/collection/72-138/william-hogarth/the-bench-of-the-different-meanings-of-the-words-c (accessed 27 July 2023). For a discussion of the print and Hogarth's appended commentary, see Ernst Kris with E.H. Gombrich, "The Principles of Caricature," in Ernst Kris, *Psychoanalytic Explorations in Art* (New York: International Universities Press, 1962 reprint of 1952 original), 189-203: 192.
- 26. Paulson, *Hogarth: His Life, Art, and Times*, vol. 2: 183-84.

- 27. Irving Lavin, "High and Low Before their Time: Bernini and the Art of Social Satire," in Kirk Varnedoe and Adam Gopnik, eds., Modern Art and Popular Culture: Readings in High and Low (New York: Museum of Modern Art, 1990), 18-50: 25.
- 28. Ernst Gombrich, *Caricature* (London: Penguin, 1940), 18.
- 29. On the relationship between satire and caricature, see M. Dorothy George, *Hogarth to Cruikshank: Social Change in Graphic Satire* (New York: Walker and Company, 1967), 13.
- 30. My phrasing here is derived from Filippo Baldinucci's account of Annibale Carracci's defense of caricature. For discussions of the passage, see Gombrich, Caricature, 11, and Paulson, Hogarth: His Life, Art, and Times, vol. 1, 472-73. Also relevant is Kris, Psychoanalytic Explorations in Art, 174: "so runs the theory of the time, it comes nearer to truth than does reality."
- 31. On the growing esteem attached to sketches, see Kris, *Psychoanalytic Explorations in Art*, 199; on attitudes toward *prontezza*, see Diana Donald, *The Age of Caricature: Satirical Prints in the Reign of George III* (New Haven: Yale University Press, 1996), 14.
- 32. George, Hogarth to Cruikshank, 57.
- 33. The Life and Discourses of Sir Joshua Reynolds, 261-62. It is important to note that such a position had a lengthy prehistory. For instance, in An Essay on the Theory of Painting, first published in 1715, Jonathan Richardson defended the idea that roughness was entirely appropriate in large works that would be seen at a distance and contended that "There is often a spirit, and beauty in a quick, or perhaps an accidental management of the chalk, pen, pencil, or brush in a drawing, or painting, which it is impossible to preserve if it be more finished." See The Works of Jonathan Richardson (London, 1792), 70.
- 34. Alexander Cozens, A New Method of Assisting the Invention in Drawing Original Compositions of Landscapes (1785), in Jean-Claude Lebensztejn, L'art de la tache: Introduction à la Nouvelle méthode d'Alexander Cozens (Montélimar: Editions du Limon, 1990).
- 35. Lebensztejn, *L'art de la tache*, 474. For a discussion of the ideas of Reynolds and Cozens in relation to eighteenth-century epistemological models, see Charles A. Cramer, "Alexander Cozens's New

- Method: The Blot and General Nature," *The Art Bulletin* 79, no. 1 (March 1997), 112-29.
- 36. For a useful paraphrase of Berkeley's ideas on the matter, see Richard A. Watson, *Representational Ideas: From Plato to Patricia Churchland* (Boston: Kluwer Academic Publishers, 1995), 70-71: "Berkeley takes resemblance to be important in representation. He claims that it is not necessary in general, because anything can arbitrarily be the sign of anything else as long as someone makes the assignation."
- 37. The Literary Diary of Ezra Stiles, D.D, LL.D., vol. 1 (New York: Charles Scribner's Sons, 1901), 132. The general idea was not unique to Stiles. Horace Walpole once wrote, in relation to Hogarth's Marriage à la Mode, "The very furniture of his rooms describes the characters of the persons to whom they belong," and Elizabeth Mankin Kornhauser has pointed out that Jonathan Budington and Ralph Earl both regularly imbued their portraits "with personal details that provide an understanding of the social status and philosophical attitudes of his subjects." See The Monthly Review, or, Literary Journal 64 (1781), 187, and Kornhauser, et al., Ralph Earl: The Face of the Young Republic (New Haven: Yale University Press, 1991), 251.
- 38. Jules Prown, "Style in American Art: 1750-1800," in Charles F. Montgomery and Patricia E. Kane, *American Art 1750-1800: Towards Independence* (New York: Yale University Art Gallery, 1976), 32-39: 37.
- 39. For a thorough discussion of Holbein's likely sources, see Elly Dekker and Kristen Lippincott, "The Scientific Instruments in Holbein's Ambassadors: A Re-Examination," *Journal of the Warburg and Courtauld Institutes* 62 (1999), 93-125; on Vermeer's use of maps, see James A. Welu, "The Map in Vermeer's *Art of Painting*," *Imago Mundi* 30 (1978), 2 and 9-30, and Svetlana Alpers, *The Art of Describing: Dutch Art in the Seventeenth Century* (Chicago: University of Chicago Press, 1982)
- 40. Geoff Armitage, The World at Their Fingertips: Eighteenth-Century British Two-Sheet Double-Hemisphere World Maps (London: The British Library, 2012), 83.
- 41. On the well-established distribution networks that facilitated the export of London caricatures to America, see Donald, *The Age of Caricature*, 20.

- 42. See https://www.britishmuseum.org/collection/object/P_1868-0808-4476 (accessed 27 July 2023).
- 43. See https://www.loc.gov/ item/2004672608/ (accessed 27 July 2023).
- 44. For a discussion of the print in relation to its setting and to contemporary notions of nationhood, see Brückner, *The Social Life of Maps in America*, 146.
- 45. Jedediah Morse, *Geography Made Easy: being an Abridgement of the American Geography*, 3rd ed. (Boston: Samuel Hall, 1791), 14. The accompanying plate appears between pages 14 and 15.
- 46. Gombrich, Art and Illusion, 68 and 98.
- 47. On the sensitivity of Earl's portrayal, see Kornhauser, et al., *Ralph Earl*, 134.
- 48. John Rennie Short, Representing the Republic: Mapping the United States 1600-1900 (London: Reaktion, 2001), 115.
- 49. For a more general observation in the same direction, see Martin Brückner, "Lessons in Geography: Maps, Spellers, and Other Grammars of Nationalism in the Early Republic," *American Quarterly* 51, no. 2 (June 1999), 311-43: 312-13.
- 50. Nelson Goodman, *Languages of Art: An Approach to a Theory of Symbols*, 2nd ed. (Indianapolis: Hackett Publishing Company, 1976), 25.
- 51. Battison and Kane, *The American Clock*, 1725-1865, 54-57, and https://artgallery.yale.edu/collections/objects/40783 (accessed 27 July 2023).
- 52. Brückner, in *The Social Life of Maps in America*, 163-654, offers a summary of the dispute, which played out in the pages of the *Virginia Gazette* and involved alleged inaccuracies and absent documentation of the propertied classes in John Henry's 1770 *A New and Accurate Map of Virginia*. As one critic wrote, "good Taste, which directed you to a better Disposition of Gentlemans Seats, and to assign more beautiful Dimensions and Courses to the Rivers, than those which Nature had allotted them."
- 53. Brückner, *The Social Life of Maps in America*, 165.
- 54. George Lakoff, Women, Fire, and Dangerous Things: What Categories Reveal about the Mind (Chicago: The University of Chicago Press, 1987), esp. xi and 5.
- 55. For a helpful overview of these models and an influential case for the concept

- of what he called radial categories, see Lakoff, *Women, Fire, and Dangerous Things*, 5, 12-13, and 91-154; for an analysis of what this has meant for modern cartography, see MacEachern, *How Maps Work*, 151-52.
- 56. Relevant here is Christian Jacob, *The Sovereign Map: Theoretical Approaches in Cartography throughout History*, ed. Edward H. Dahl and trans. Tom Conley (Chicago: The University of Chicago Press, 2006), 15, as he offers a brief discussion of what he calls "minimal but sufficient features" of cartographical drawings. On a still more general level, E.H. Gombrich briefly discusses what he calls minimum stereotypes in *Art and Illusion*; see 144.
- 57. J.H. Andrews, "What Was a Map? The Lexicographers Reply," *Cartographica* 33, no. 4 (Winter, 1996), 1-11.
- 58. Nathan Bailey, *An universal etymological English Dictionary* (London, 1745), n.p.
- 59. Andrews, "What Was a Map?," 2.
- 60. Samuel Johnson, A dictionary of the English language (London, 1755), n.p. The importance of Johnson's contribution is briefly discussed in Andrews, "What Was a Map?," 4. Variants of Johnson's definition continued to circulate well into the 1800s. See for example Frederick Barlow, The complete English dictionary or, general repository of the English language... (London, 1772) and James Knowles, A pronouncing and explanatory dictionary of the English language... (London, 1835).
- 61. Brückner, *The Social Life of Maps in America*, 120. For a related claim, see Martin S. Brückner, "The Ambulatory

- Map: Commodity, Mobility, and Visualcy in Eighteenth-Century Colonial America," *Winterthur Portfolio* 45, no. 2/3 (Summer/Autumn 2011), 141-60: 151.
- 62. Brückner, The Social Life of Maps in America, 39.
- 63. Thomas Harrington, A new introduction to the knowledge and use of maps, 3rd ed., 1774 (London, 1774), 1. Cited in J.H. Andrews, "Definitions of the word 'map,' 1649-1996," at https://web.archive.org/web/20090326024555/http://www.usm.maine.edu/~maps/essays/andrews.htm (accessed 27 July 2023).
- 64. William Perry, *The synonymous*, etymological and pronouncing English dictionary (London, 1805). Cited in J.H. Andrews, "Definitions of the word 'map,' 1649-1996."
- 65. Thus Roger Chartier, *The Author's Hand and the Printer's Mind: Transformations of the Written Word*, trans. Lydia G. Cochrane (Malden, MA: Polity, 2014), 20: "Mapping was a craft mostly left to engravers, who were as likely to feel as much concern for the aesthetic qualities of the picture as for its accuracy."
- 66. Quoted in Pedley, *The Commerce of Cartography*, 19.
- 67. See Brückner, The Social Life of Maps in America, 165, and Pedley, The Commerce of Cartography, 189, for the germane observation that the eighteenth-century consumer "could be adamantly undiscerning about maps."
- 68. Useful here is Armitage, *The World* at *Their Fingertips*, 11 on what he calls a

- "triumph of appearance over substance" in eighteenth-century British two-sheet double-hemisphere maps. More generally still, Barbara Belyea has pointed out that the very notion of error, in relation to cartography, is culturally specific—for, as she puts it, "The map's connection with landforms out there is arbitrary, tenuous, and culturally imposed." See "Inland Journeys, Native Maps," in G. Malcolm Lewis, ed., Cartographic Encounters: Perspectives on Native American Mapmaking and Map Use (The University of Chicago Press: Chicago, 1998), 135-55: 142.
- 69. Eileen Reeves, "Reading Maps," Word & Image 9, no. 1 (Jan.-Mar. 1993), 51-65: 55.
- 70. Tom Huhn, email to the author, May 4, 2023. For a full version of his argument, see Huhn, *Imitation and Society*.
- 71. March's trade card is reproduced and briefly discussed, in different terms, in Brückner, *The Social Life of Maps in America*, 154-55.
- 72. The Mother's Gift, or, Remarks on a set of cuts for children (Philadelphia: Johnson & Warner, 1809), plate III; the image is reproduced and briefly discussed, in relation to period pedagogical practices, in Brückner, The Geographic Revolution in Early America, 112.
- 73. Relevant here is Alan MacEachern's characterization of the difference between the denotative and connotative meanings of map signs as "that between knowing what things are (explicitly) versus what they stand for (implicitly)." See *How Maps Work*, 331.