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Iconography

Jean-Marc Besse et Nicolas Verdier

The theory of iconography in cartography

While eighteenth century maps continued to include many decorative elements, reflections about the images on the maps are practically non-existent in works related to mapmaking of the period. Neither Nicolas Sanson's *l'Introduction à la géographie*, published by Guillaume Sanson (1681, various editions until 1743), nor *The construction of Maps and Globes* by Bradock Mead (1717), nor *L'usage de la sphère, du globe et des Cartes pour la Géographie* by Pierre Viollier, published in Geneva in 1704, alluded to the existence of an image, an ornament, or even an illustration on the maps. As for manuscript plans, neither Buchotte (*Règles du lavis*, Paris, 1722), nor Louis-Nicolas de Lespinasse (*Traité du lavis des plans appliqué principalement aux reconnaissances militaires*, Paris, 1801) asked the question. The discussions on it are based on reflections from the seventeenth century.

In his great treatise on *La science de la géographie* of 1650, the Jesuit mathematician Jean François, who may have been Descartes's professor at the Collège de La Flèche, actually tackled the subject of the production of maps and globes at length: "In other words, images, which speak to the senses, should allow those who want to know geography to picture the surface of the earth and the various divisions it entails." Among his many practical suggestions and theoretical guidelines, Jean François alluded to the role of iconography in cartography:

« [...] some additions can be used extensively in the blank spaces to serve as decorations for globes and maps, and as instructions for viewers; such as the following things: :1. The horizon with the winds painted as mouths exhaling, and with the name of each wind written inside each puff. 2. The Zodiac with the signs depicted as drawings. 3. The Climates in their appropriate meridians. 4. The calms of a peaceful sea, and marine tempests, wherever they are common. 5. Different fish that exist in the various seas. 6. Different animals, fruits, flowers and other properties of the lands. Various costumes of natives, etc. 7. The rhumbs and marine compasses in some places : because even though each place marked has its own, as well as its own horizon; it suffices to provide them only for some specific points. 8. The regular winds (permanent, annual, and bi-annual, etc.) 9. The currents and other movements of the sea. 10. Magnetic declinations in different areas of the sea and the land. 11. Anomalies

in nature, accidents and mankind's noteworthy acts (sic), and God's miracles, which have occurred in various places. And if these decorations overwhelm the map and cause confusion, then the locations can be numbered and explanations about what each place contains may be added in a separate area." (J. François, *La science de la géographie*, 1650, pp. 359-360).

The role of decoration

As we have seen, Jean François considered iconography, in its greatest extension, as an "accessory" and an "ornament" of cartography. In his *Méthode abrégée et facile pour apprendre la géographie*, Nicolas de Fer distinguished, in his case, "lines," "dashes," and "points," which were found on the geographic representation on the one hand, and on the other "characters," "numbers," and "figures," which allowed for the identification of cartographic places, and for which de Fer [?] also gave the codes of reading. The distinction was traditional, derived from a Ptolemaic vocabulary that separated the representation of the *position* of places and that of the *nature* of places. But we see that iconography was not part of the domain mentioned by Nicolas de Fer. It brought a dimension or additional distinction, which was ornamentation in cartography.

The ornament on the map (or the globe) was that which was *in* the cartography was *added* to the cartography. This was an addition, "which serves to accompany the primary subject" (*Encyclopédie...*, art. « Ornement » vol 11, p. 657). In the cartouche, along the edges, or even floating in the form of little illustrations in the map's empty areas, iconography welcomed and expressed, as we have seen, a whole series of extensive, cognitive and ideological dimensions that cartography, *in the strictest sense of the word*, meaning the geometric drawing of positions and geographic forms, on the one hand, and semiotics (which comes from the legend) on the other, did not support.

The Practice of Ornamentation

A map produced by Nicolas de Fer complies, even at a distance, with the methodological instructions of François. What really immediately strikes the viewer's eye is the excess of iconography that spreads out across the continents and seeps into the blank areas of the oceans. As with his other maps, de Fer arranged small illustrations and iconographic scenes to form a kind of frame around the map itself, placing here around 80 illustrations at the bottom, the top, and on either side of the image, providing the viewer with a panoply of geographic information. (FIG 1)

(Nicolas de Fer *Carte de la Mer du Sud et des costes d'Amerque [sic] et d'Asie, situées sur cette mer ; Carte de la Mer du Nord et des costes d'Amerique, d'Europe et d'Afrique, situées sur cette mer / par N. de Fer, géographe de sa Majesté catolique [sic] »)*

A close inspection of these scenes reveals:

- Ships and routes of expeditionary voyages dated on the map.
- Portraits of navigators and well-known discoverers affiliated with various nations.
- “Work” scenes: the fishing and processing of cod; hunting scenes; mining activities (gold mines, and precious metal transport); ways of cultivating and transforming plants (grating manioc, sugar cane processing; production of cassava).
- Landscape views: Cape of Good Hope; Niagara Falls.
- City plans: Mexico, La Concepcion, Vera-Cruz.
- Picturesque scenes: a hookah smoker; beavers collecting wood (a well-known scene later reproduced by Herman Moll).
- Many marine and land animals and birds: penguins, manatees, crocodiles, eagles, tortoises, muskrats, armadillos, etc.
- Exotic plants: potatoes, bananas, cocoa, red currants, annatto, spiny palms, manioc, watermelons, cassavas...
- Ethnographic scenes, primarily relating to Canada and Mexico: religious customs, sacrifices, funeral ceremonies, rites of war and peace.
- Portraits of indigenous peoples: “Peruvian natives,” “Porters of Mexico,” “Mexicans” (Aztecs).
- Historical events related to discoveries and conquests: the arrival of Hernan Cortès at Vera Cruz in 1519.

However, no monsters are found here, as they no longer seem to have a place on maps. The review of the *Traité sur les Acéphales or des hommes sans tête* linked this usage to the past « “one still sees [such] figures today represented on old geographical maps”]. (*Nouveau Mercure Galant*, septembre 1714, pp. 105-106)

Numerous historical and descriptive texts were added to these images as they spread out over the surface of the map; the texts comment on the represented scenes or even add historical explanations to designate places known or unknown and the maps cities or identify specific sites placed on the maps (e.g., the Great Wall of China).

While in 1750 Jean-Baptiste Bourguignon d'Anville attested to the importance of white space on the map as a signifier of the absence of data, his view did not mean the end of cartographic iconography. In fact, one notes that one of the landmarks of the new cartography had not completely lost older decorative traditions. Indeed, while Cassini's maps were successful overall in demonstrating a new "scientific" cartography devoid of iconography, one in which only the description of the line points and surface areas had meaning, the map of the Ile de Ré, plate n°133 (1772) of the *Carte de France*, nevertheless contained an image of a small cutter sailboat, typical of the region, and typical of earlier cartographic design, in which ships play an important role. (Unger, 2010)

Locations of ornaments

In the extensive collections of eighteenth century maps in which the stature of iconography had seemingly been diminished in favor of the blank white space and even of new data, at least two types of maps stand out as continuing an iconographic tradition:

The first group comprises planispheres, which remained, over the course of the century, a place of encyclopedic synthesis, either organized around cosmographic knowledge, or aimed to include, through allegorical representations or other figurations, the whole of a written language of the earth in a grammar often likened to that of a cartouche. Fig. 2

'Cassini de Thury, *Carte de France*, plate n°133 (1772), the map relative to the l'Ile de Ré, showing a little *cotre*, a boat typical of the region.)

The second group, more mundane, were the marine charts which provided a horizontal orthogonal plan along with perspective views of landscapes. For marine charting, coastal maps particularly combined the geometric shape and positioning of landscape forms, as well as the image of the land seen from the ship. This reproduced a particular change of scale as well as point of view for marine uses, moving from far away to close up, from the geometric to the visual.

The function of ornament: to instruct, order, and inform.

This brief inventory of examples of iconography in cartography at the beginning of the eighteenth century offers the following tentative conclusions and directions for further research.

The primary function of iconography was educational. It should have been thought of as part of a learning and memorization model of the geography and history that linked place and image. Lenglet du Fresnoy, whose works were published frequently in and many languages (in German 1718 and 1752, in Italian 1726 and in English 1728 and 1730), wrote: “ The principal order that must be followed requires a little reading; but with some attention placed on the geographical maps and on the recall of the places included in the introduction being used. Thus the eyes react much more than the mind; yet, in order to focus the imagination, each place that is noted in the book and on the map should be characterized either by some point of Natural History, or of Ecclesiastical or Civil History, or by some type of commerce and by the nature of the soil or the customs of the inhabitants, or by a siege, a battle or the background of some important family.” (Lenglet du Fresnoy, 1716, t. 1, pp. xvij-xviii).

Iconography was about *showing* the geographical, ethnographical and natural realities, which were found in the places represented through the map’s drawing and toponymy. Using the mathematician’s (*géomètre*) vocabulary of the period (Clairaut), it involved *enlightening* the spectator, meaning allowing him to read that which was in front of his eyes, as it happened on the map, and by allowing him to imagine the places drawn on the map. Similar thoughts were expressed by Lenglet du Fresnoy: the geography that used the map was “more of a science of the eyes than of the mind” (Lenglet du Fresnoy Nicolas, 1713, t. I, p. 9), a comment introducing the idea of the map’s readability.

Iconography also had a cognitive function. According to Joan Blaeu, the purpose of iconography was to represent “the graces of each region, the fruits which it bears, the metals it produces, the animals it begets or nourishes... [and]... the arms or insignia, with the names, whether of dukes or counts or barons or other notable men » (cited by Andrews, p. 442). Thus the illustrated scenes were not randomly selected but chosen in relation to an intellectual program, emanating from the descriptive geography of the sixteenth century (both at the cosmographic small scale as well as the chorographic large scale). One of geography’s objectives was specifically to provide information on the natural qualities of soils, peoples’ customs, forms of governments, animals, plants, significant historical events, and other “wonders.” Emanuel Bowen’s map of Italy in 1747 contained these elements, playing on the fascination of volcanoes as well as natural wonders. (Fig. 4)

(Emmanuel Bowen, *A new and accurate map of Italy drawn from the latest and best authrotieis and regulated by the most approved astron. Observations.*

Emmanuel Bowen, 1774)

The issue of the third dimension, tant pour le temps que pour l'espace, could even touch determined time, as in Buache's map from 1752, which included a cross-section of the sea floor of la Manche. (Fig. 5)

(Philippe Buache, *Cartes et Coupe du Canal de la Manche....* Paris, 1752)

The historically descriptive inventory was an indefinite principle because it responded to the abundant earthly reality that Europeans discovered, but was not without order. In other words, through the iconographic illustrations, the viewer discovered on his own time the cognitive rubric of the map, which could also be followed in a book or through a travel log.

Decoration was clearly a means of preserving narrative and descriptive dimensions within the geometry specific to cartographic representation. How function of "informing" involved transforming the map into *discourse*, and, specifically into the different worlds which were drawn on the map. The discourse of de Fer's *Carte de la Mer du Sud...* was relatively explicit: the exploitation of natural resources (the mines), the political and morale (religious) conquest, and the description of American territories (among others) that this map established. The viewpoint was European, and the spectator was invited to observe from a center, from Europe, looking toward the rest of the world, where he or she was invited to discover places of immense natural riches and opulence, illustrated by iconographic scenes, places the spectator was also invited to dominate. While the discourse of Nicolas de Fer's map is one of power, that of Bowen's map of Italy is curiosity.

The iconographic richness in Nicolas de Fer's *Carte des mers du Sud* allows one to apply to cartography that which Daniel Arasse applies to the details in painting: he tends to spread out and break apart the whole of the representation. (*Le Détail*, 2009) In other words, the iconographic saturation of Nicolas de Fer's map produces a fragmentation and dispersion of the meanings on paper: the image that is before us would be called a synthetic view, but it is more of a juxtaposition of "details" that calls for a moving glance and a look that wanders over the paper and gradually discovers the wealth of information. The iconography clutters the view and strips the map of its unity as a whole, its basis of internal connection. Nicolas de

Fer's map eludes the instructions of Roger de Piles as to the unity of the composition and the fixity of the eye: his *Cours de peinture par principes* (1708) specifically emphasized the necessity of the "all together" and renounced the idea that parts of the image be dealt with independently. In this sense, the iconographic ornament could be considered a risk for cartography, the risk of getting lost in the details, and certainly, the risk of pleasing the eyes. Criticism of the ornament that was found, on the one hand, with cartographers, and on the other hand, with certain art theorists of the same period, really shows that the issue of this matter did not involve a separation between art and science, but rather involved art as well as science concerning the place that should be granted to the pleasures of the image and of the integrity attributed to these pleasures.

Iconography's place and function in European cartography of the seventeenth and eighteenth centuries requires a broader thinking on the role of cartography itself within the educated and artistic (scholarly) cultures where it was developed. Furthermore, it involves an examination on the training and development of a "geographical culture" in the European general public at that time, and on the procedures and directions taken by that culture. That, which was called "cartography," anachronistic even for that time, actually designated a system of complex images, which lay side by side, overlapped or interacted graphically; in addition, they were politically and intellectually diversified, and at times actually contradictory to one another. Iconography fulfills that part of program of geography, which geometric drawing and semiotics alone can not answer. It may be summarized as follows:: to see the terrestrial and maritime world and all it contains, meaning (in Jean François' vocabulary) to be able to imagine it, and while looking at a map or a globe, to grasp the worlds inside it which are represented there. This view assumes that the purpose of the map is not only to represent the terrestrial world and the territories it includes, but also to depict ideas about this world and its territories, as well as the intentions or interests that one anticipates developing there. By accepting that the map conveys a complex visual discourse, one understands the essential and significant place in the elaboration of this discourse held by iconography.

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