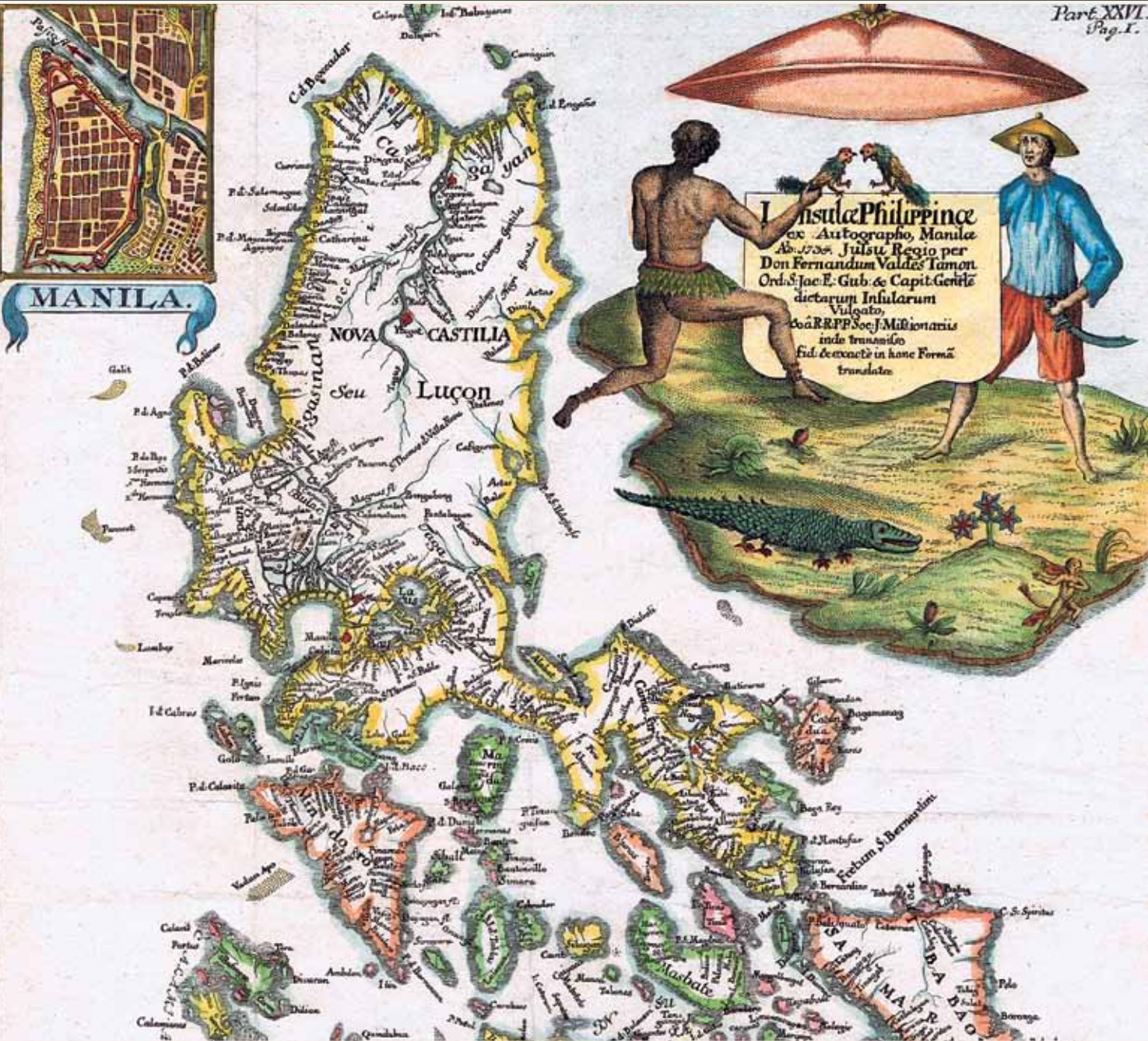


# IMCS JOURNAL

MARCH 2018 No.152



FOR PEOPLE WHO LOVE EARLY MAPS

# JOURNAL OF THE INTERNATIONAL MAP COLLECTORS' SOCIETY

MARCH 2018 No.152 ISSN 0956-5728

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*Front cover* Detail from 'Insulae Philippinae', 1748 by Leopold Johann Kaliwoda and Fernando Valdes Tamon after Murillo de Velarde, 1744, (2nd edition). Courtesy Rudolf J. H. Lietz collection, Gallery of Prints, Manila.



# GEOGRAPHIA

## *Representations of mapmaking in the early modern period*

Michael Bischoff

The development of a particular geographical iconography in the early modern period is the subject of this essay. The breathtaking progress in the sciences and the new knowledge gained about man and the natural world generated a demand for new artistic forms which were able to visualise these successes. Geographical discoveries, too, were celebrated in painting, sculpture and works of applied and graphic arts. Rodney Shirley, the foremost connoisseur of cartographic title pages, has already pointed out the contemporary influence of the discoveries made in science and exploration and their side-by-side existence with classical allusions.<sup>1</sup> He states the connection between iconography and the developing skills of surveying, astronomy, navigation, map and chartmaking. Frontispieces and title pages of atlases, as well as the decorated margins of maps, offer space for an astonishing variety of representations of geography and mapmaking. Alongside the adaptation of suitable models available to sixteenth-century artists new iconographic inventions proliferated.

During the Renaissance there were very few abstract ideas, philosophical concepts, manifestations of nature, social life or human behaviour which had not been depicted. Allegories, personifications and symbols formed a language, which the learned contemporary viewer was able to decipher. Artists could rely on a long iconographic tradition, which had taken shape in ancient and medieval times. Representations of the sciences were linked with the educational canon of the seven liberal arts: grammar, rhetoric and logic, arithmetic, geometry, music and astronomy.<sup>2</sup> The term originates from classical antiquity and describes the knowledge considered essential for a free person to take an active part in civic life. Their representation in the form of female personifications, equipped with attributes, derives from the fifth-century Roman author Martianus Capella. They are frequently found in manuscripts and cathedral decoration dating back to the twelfth century.

The female figures of Astronomy and Geometry were predestined for adaptation since they embody two important aspects of early modern science: cosmography and land surveying. The traditional

attribute of Astronomy is an astrolabe and a ring of stars around her head. Geometry is equipped with a compass or a measuring rod.<sup>3</sup> 'Geometria' means measuring the earth, or geodetic survey. In the illuminated twelfth-century manuscript *Hortus deliciarum* by Herrad of Landsberg (c.1180) Geometry explains her role: 'I measure the earth with great care'.<sup>4</sup> Although the prefix *geo-* means earth, in the curriculum of medieval universities it referred to the teaching of Euclidean geometry, corresponding to the geometry lessons at today's school, where the children are taught the clear concept of two- or three-dimensional space.

It might have been for this reason that it was not until the sixteenth century that the personification of geometry not only appears with a compass or a measuring rod, but also with an earth globe. Geometry from the seven liberal arts series of engravings by Cornelis Cort after Frans Floris (Fig. 1) is the pictorial translation of the linguistic term. The female personification of geometry wears a mural crown with city walls and towers, the iconographic attribute of Cybele. Her act of measuring an earth globe represents her function of surveying the earth's surface.

In ancient Greece Cybele assimilated aspects of the earth goddess Gaia and the harvest goddess Demeter. In Roman times she was known as Magna Mater (Great Mother). In Renaissance iconography she represents the earth. The globe in Cort's engraving not only refers to earth measuring in general but, by turning the New World towards the spectator, emphasises the most important geographical discovery of the early modern period.

The title page of Gerhard Mercator's 1595 *Atlas* shows a bearded muscular giant measuring a globe with a compass.<sup>5</sup> The title seems to refer to the titan Atlas. In Greek mythology Atlas was condemned to carry the vault of heaven on his shoulders. The name of the bearer of the universe would seem an appropriate title for a book containing maps which describe the surface of the earth. However, in the preface, Mercator makes clear that he is referring to a mythological Mauritanian king of the same name. This king was an expert in astronomy and he is credited to have been the first to interpret the heaven as a sphere. A second globe,



Fig. 1 *Geometry*, engraving, Cornelis Cort after Frans Floris, Antwerp: Hieronymus Cock, 1565. Courtesy Amsterdam, Rijksprentenkabinet, inv. RP-P-BI-6392.



Fig. 2 *Geography guides Gerard Mercator's hand*, engraving (detail), Joannes de Visscher after Zacharias Webbers, in *Atlas Contractus*, Amsterdam: Johannes Janssonius Heirs, 1666. Private collection.

clearly recognisable as an earth globe, suggests that Atlas is not only interested in astronomy, but also in geography. It is unclear whether the globe in Atlas' hands is a celestial globe. One could interpret it as a second earth globe which Atlas is copying with his compass after the model on the ground by his legs. The making of a globe would be the perfect allusion to the cartographic products which Mercator's book contains.

Frans Hogenberg in his engraved portrait of Mercator (1574) demonstrates that the image of the measuring Atlas is applicable to the mapmaker. The great cartographer is depicted presenting the result of his work, a globe showing the north pole region consisting of four islands, according to his 1569 world map 'Nova et Aucta Orbis Terrae Descriptio ad Usus Navigantium emendatè accomodata'. With a compass, Mercator points to one of his most important findings: Earth's magnetic pole.

The splendid title page of the *Atlas Contractus* (Amsterdam, 1666), published by the heirs of Johannes Janssonius, is inspired by Hogenberg's engraving (Fig. 2).<sup>6</sup> But there is a significant difference: the mapmaker does not work independently. A woman guides a compass in his hand. She is the personification of geography. In the seventeenth and eighteenth centuries she belonged to the standard stable of images used for geographical allegories and which can be seen on many atlas title pages and frontispieces.

Sometimes Geography, as well, acts with an assistant. On the title page of a later edition of Philipp Cluver's *Introductionis in universam geographiam [...] libri VI* (Amsterdam, 1697) the Mauritanian king Atlas is explaining a celestial globe to Geography (Fig. 3). On the title page, designed and engraved by Gerard de Lairese for Nicolaes Visscher's *Atlas Minor* (Amsterdam, c.1683), Geography is documenting the geographical data given to her by Neptune and Cybele.<sup>7</sup> In Cort's engraving (Fig. 1) the mural crown of Cybele, an attribute of Geometry, emphasises the land surveying aspect of this science. The presence of a lion confirms that the personification is meant to be the earth goddess, since it is a typical attribute of Cybele. Cybele and the sea god Neptune represent land and sea. The sum of them constitutes the surface of the earth.

This duality is important. The idea of using Cybele and Neptune to depict the object of cartography occurs for the first time on the title page of the second edition of Abraham Ortelius' *Thesaurus Geographicus* (Antwerp, 1596).<sup>8</sup> The two gods act as a visual formula for the short summary given on the title page. Ortelius writes, that his reference book deals with *Omnium totius terrae*



Fig. 3 Mauritanian king Atlas and Geography, coloured engraving, in Philipp Cluver *Introductio in universam geographiam*, Amsterdam: Joannes Pauli, 1729 (1697). Private collection.

*regionum* (all regions of the world). But Cybele and Neptune also appear in non-geographical contexts.

Peter Paul Rubens, for instance, adapted the divine couple as the iconography for the city of Antwerp in his painting *The Union of Earth and Water* (c.1618).<sup>9</sup> Commonly Cybele and Neptune embody these two elements. But Rubens added a contemporary meaning. He linked it with a question of great importance to his hometown. The prosperous union of earth and water stands for the union of Antwerp and the River Scheldt. The estuary had been blocked off by the Dutch in 1585, when the Spaniards conquered the city, depriving Flanders of an access to the sea and endangering the prosperity of the town.<sup>10</sup> The engraving *Neptune and Cybele* by Pieter de Jode II, after Rubens,<sup>11</sup> inspired designers of atlas title pages, among them not only Gerard de Lairese as mentioned above, but also his pupil Zacharias Webbers (Fig. 4).<sup>12</sup> Again the two gods are providing Geography with information about the world. The frontispiece of the *Atlas Contractus* (Amsterdam, c.1700), designed by De Lairese and published by Pieter Schenck, is another example of this iconography.<sup>13</sup> The Gerard Valk title page (Fig. 5) varies the motif: Geography is working with a globe.<sup>14</sup>





Fig. 4 Geography, Cybele, Neptune & Atlas, engraving (detail), Johannes Willemsz. van Munnikhuyse after Zacharias Webbers, in *English Atlas*, London: Moses Pitt, 1680. Private collection.

The globe demonstrates, as usual, that she is describing the world as a whole. But in this picture Geography is not only listening to Neptune and Cybele, but to another woman, who is presenting a regional map. Probably she is a personification of local geodetic surveying. She appears as a visualisation of the idea that the general view of the world depends on the sum of many smaller cartographic units.

An alternative way of representing geography and mapmaking is to replace the object of these sciences with their driving forces. For instance, on the title page of Pieter Mortier's *Atlas Minor* or *Atlas François* (Amsterdam, 1695) there is a female with a map and compass, representing geography or cartography.<sup>15</sup> She is being instructed by Mars, the god of war, and Mercury, the god of commerce, travel and communication. This iconography traces the progress of geography back to military and trade. On the title page of the first volume of Henri Abraham Chatelain's *Atlas Historique* (vol. 1, Amsterdam, 1705) one can observe a detail that confirms that travel and trade contributed to geographical knowledge.<sup>16</sup> Replacing

Mercury is a woman who wears a crown in the shape of the bows of a boat. She is lifting a model ship personifying shipping and navigation. This iconography perfectly fits with where this atlas was published: the seaport of Amsterdam. On the title page of the *Atlas du Voyage de La Pérouse* (Paris, 1797)<sup>17</sup> the personification of navigation is presenting a large world map. Her attribute is a ship's rudder. Two females are recording her geographical discoveries.

On the title page of the second volume of George Louis Le Rouge's *Atlas portatif* (Paris, 1759) are the personifications of geography on the right and astronomy on the left.<sup>18</sup> They are accompanied by Chronos, who represents time. He is a winged old man with a scythe who is unveiling Astronomy. This illustrates the idea that time brings new astronomical and geographical knowledge to light. It is a direct adaptation of the classical motif from Renaissance iconography of time unveiling truth.<sup>19</sup> A variation occurs on the frontispiece of Johann Hübner's *Reales Staats-, Zeitungs-Lexicon* (Leipzig, 1704). Here Time is instructing Geography who is recording the information.