

DIPLOMARBEIT

**Artistic Decorations in Early Modern Cartography:
A Study Case of Maps of the Dutch Golden Age**

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MASTER THESIS

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Institute of Geoinformation and Cartography

Vienna University of Technology

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DECLARATION

This thesis is a presentation of my original research work and I certify that wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature.

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ABSTRACT

Cartographic decorations of all kinds have been an integral part of maps since the beginning of early modern cartography. However, cartographic decorations reached their peak in cartographic publishing during the Dutch Golden Age because of the sociopolitical, cultural, artistic, scientific and technological context of the Low Countries in that time. In this study, this particular context is brought forward in order to explain the evolution of the cartographic decorations throughout the Dutch Golden Age span. Afterwards, decoration genres are studied separately. Decorations structured in cartouches and marginalia and decorations spread all over the sea surface are analysed through a visual description and an iconographic and historical analysis. Cartouches and marginalia illustrations in two-hemisphere maps were mostly decorative but rectangle marginalia imagery was informative. Decorations spread all over the sea surface were abundant in the beginning of the Dutch Golden Age but became more and more rare towards its end. The evolution of artistic decorations in cartography of the Dutch Golden Age took place in accordance with the evolution of its society.

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1. Introduction

1.1 Motivation

Studies upon cartographic decorations have been noteworthy but not great in number. Although artistic decorations have been an integral part of the content of maps for many centuries during the early modern history, it was only after the prolific historian of cartography J.B Harley (1932-1991) shed light on their importance as historical witnesses, in the context of his research upon historical maps on the whole, that the glance at them became a closer look.

Throughout the centuries, these decorations may very often be merely random and are just iconography bearing an ornamental function, of course. In many occasions, however, a deeper look on them can lead to an insight about the historical context of the era in which they were made and about the culture of the creators and users of the maps. Regarding the map itself, Harley states that 'every map is linked to the social order of a particular period and place'¹. Regarding its iconography Harley accepts Panofsky's² definition of iconography which articulates it as 'that branch of the history of art which concerns itself with the subject matter or meaning of works of art'. In this context, the aim of this research is to find out why decorations looked

¹ J.B. Harley in *The new nature of maps: Essays in the history of cartography*. p.44, 2001.

² E. Panofsky in *Meaning in the Visual Arts* (New York: Doubleday, 1955).

the way they did and in case there is a substantial reason behind this question, then how the image connects to the time and the people who made it, is asked.

The Dutch Golden Age is regarded by the Dutch themselves as the seventeenth century, albeit extending for some decades before and after its span³. That is mostly because of the cultural achievements of the period. Those cultural achievements were made possible due to the economic domination, great power status and colonial expansion that happened before the golden era, which in combination with the fact that the Dutch society was built on more free and fair foundations than other contemporary societies, made it the ideal place for 'a revolutionary society'⁴ to be created. This particular time and place throughout the whole span of the history of early modern cartography is ideal for its cartographic iconography to be studied because the maps that belong there are 'distinguished [...] by their richness of ornamentation, a combination of science and art that has rarely been surpassed in the history of mapmaking'⁵.

³ The Dutch Golden Age and the Golden Age of Dutch Cartography must not be confused. The former spans from around 1570 to several decades after the end of the 17th century while the latter spans from circa 1570 to circa 1670.

⁴ *'In the 17th century, the citizens of the new Dutch Republic pursued a course of vigorous planetary exploration. Holland was then a revolutionary society. It had just declared its independence from the powerful but stagnant Spanish empire, and with a new-found self-confidence Holland embraced, more fully than any other nation of its time, the spirit of the European Enlightenment'*. C. Sagan in *C. Sagan's Cosmos: Dutch Golden Age*, 1980.

⁵ J.A.Welu in *The Sources and Development of Cartographic Ornamentation in the Netherlands*, p. 147, from D. Woodward's *Art and Cartography-SIX HISTORICAL ESSAYS*. 1987.

1.2 Hypothesis and Methodology

By studying maps produced in the Low Countries before, during and after the Dutch Golden Age, this research is an attempt to see why artistic decorations were used, why they looked the way they looked and where they were placed and why. Another goal is to trace down the sources of the iconography in the decorations and how it has developed through the years. Can a look upon the historical, social, cultural context of the society that made those maps, be the means of interpreting the decorations? If by taking into account how these decorations changed throughout the years one can conclude about whether their evolution went hand in hand with the evolution of the society that produced them, then this research will have accomplished its goal.

1.3 Structure

This thesis is a historical analysis consisting of literature review along with interpretations and it is separated in two sections: the first section is about the context in which the maps were created and the second is about the decorations found on the maps. Below follows a description of the parts that consist the thesis, of the style that was chosen for its layout and of the sources of the pictures it includes.

The first chapter of the first section is a history of the socio-political background along with the cultural background of the Low Countries during the Dutch Golden Age. The context of society and all it brings along with it such as politics and culture is particularly important because as Harley suggests 'if the map maker is the individual agent, then society is the broader structure'⁶. And this broader structure will provide for us the framework constructed of particular circumstances within which the map, and the decorations in particular, are inextricably interconnected.

The second chapter of the first section is a description of the artistic context and the religious background of the time and place in our study case. A history of the artistic movements that both preceded and were contemporary with the Dutch Golden Age is indispensable. Harley poses the question 'what did the map mean to the society that first made and used it?'⁷ In order to understand what the Dutch society of the 17th century saw in a map, meaning also what the artistic content of the map mean for these people, apart from its geographic content, we need to get familiar with what art stood for and looked like during the Renaissance and the Enlightenment in the Low Countries. The religious background is put on board along with the artistic one because of the very radical changes Protestantism brought with it, which affected artistic expression and by all means it subsequently affected cartographic publication as back in those days 'a Renaissance map was both a work of art and a scientific product. As late as the seventeenth century Dutch Republic, a distinction

⁶ J.B. Harley, *The New Nature of Maps*, p.44. 2001.

⁷ J.B. Harley, *The New Nature of Maps*, p.46. 2001.

between art and science made little if any sense to map makers. In the Renaissance, maps were a form of decorative art.¹⁸

The third chapter of the first section is a familiarization with the exact state of the science and technology of cartography at that time in order to provide a better insight into the artistic choices of the cartographers and how they were interrelated with the (limited) scientific and technological means they had at their disposal.

The second section consists of a literature review along with explanations about all kinds of artistic decorations encountered in maps of the Dutch Golden Age. The decorations are classified regarding which place they occupied on the map and each classification type consists a separate chapter. Before the first chapter, a short history of artistic decorations is provided. It concerns artistic decorations before the time and beyond the place of our study case, in order to see what decorations looked like when Dutch cartographers took up where others (Italians as we will see later) left off.

The first chapter of the second section is about decorations scattered all around the map surface. Those decorations are among the shorelines, the conventional cartographic signs and the place names. The most important types of decorations among these are sea monsters and ships and they consist a separate part of the chapter each. The other types were way past their prime when the Dutch became the leaders of European cartographic publishing and, although there were exceptions,

⁸ R.W. Unger in *Ships on maps: pictures of power in Renaissance Europe*, p. 2, 2010.

they are not very relevant to Dutch map adorning mentality, thus there will be a short mention to them.

The second chapter of the second section describes the evolution of the Dutch cartouche over time and a mention to its sources of inspiration follows. The description in this chapter is elaborate because it was during the Dutch Golden Age with all the influence the Baroque extravagance would bring, that the cartographic cartouche took off to reach its peak.

The third chapter of the second section expands on the cases where the artistic decorations are placed in the margins of the maps including both cases where vignettes are placed in a rectangle around the map frame and where images are drawn in the blank area around the two hemispheres of early modern world maps. This description is elaborate as well as that for the cartouches and an attempt is made to explain the iconography of the marginalia decorations and to find the meaning behind it.

In order for the narration to be more thoroughly understood, the text is accompanied by pictures of paintings, engravings, maps and details of maps which include decorations. The pictures are given a short description and in some occasions an explanation that connects them to the text. Thorough citation of sources and licenses of pictures can be found at the end of the thesis in a separate section. A selection of maps as examples of the thesis arguments is in the Appendix.

This thesis is an attempt to provide an explanation partially through historical analysis, thus an extended literature review is provided. When the text is directly taken from the source and not paraphrased it is displayed within single quotation marks. Due to the fact that it would be immensely annoying for the reader to stumble on references within the text every now and then, footnotes are provided: a) when further explanations are needed and their presence within the text would spoil the flow of the narration, b) to guide the reader through the bibliographical references for the unabridged text that is found in the text and c) when secondary sources are mentioned (then the source is not mentioned in the final Bibliography section, since it has not been used directly. In that case it is included in the footnote only).

1.4 Map Sources

Pictures of paintings and engravings come from Wikimedia Commons. Maps come from the Osher Map Library, from Wikimedia Commons, from the Washington Library Digital Collections, from the Woldan Collection of the Austrian Academy of Sciences , from the David Rumsey Map Collection, from the Perry Castaneda Maps Collection of The University of Texas at Austin and from the Telegraph Media Group.

Note: Translations from French to English were made by myself. The original text can be found in the footnotes.

2. A history of the Dutch Golden Age in the Low Countries.

In order to understand why Dutch maps and their decorations looked the way they looked in the Golden Age, we must know the socio-political and cultural context in which they were created. Furthermore, we will take a look on the artistic movements that dominated back then and the religious background of the Dutch society to see how they had influenced the Dutch society. Finally, we will describe the science and technology available to the Dutch cartographers of the time. Below follows a short narrative of the facts that created the very particular circumstances in which Dutch cartography flourished in the 17th century.

The Dutch Golden Age was a period in Dutch history where the trade, the science and the art were among the most acclaimed in the world. There is no particular interest in quoting the different date spans one can find in various sources. When Dutch Golden Age is mentioned in this research it refers to the 17th century mainly, but also a few decades before and after its span. The term *Low Countries* instead of the most common *Netherlands*, on the other hand, is used to define the territory of Dutch dominion simply because the latter term was not used until 1815 since 'The toponymic explanation of the term "the Netherlands" refers to the word *neder*, which is ancient for *neer*, meaning low (cf. German, *nieder*). But to translate the term "Low Countries" as "the Netherlands" is not correct.[...]"Low Countries" is used rather than "the Netherlands" because the latter term was not used until 1815'⁹. It

⁹C. Koeman and M. Van Egmond in *Surveying and Official Mapping in the Low Countries, 1500- ca. 1670*, p.1246 from D. Woodward, *The History of Cartography Volume Three*, 2007.

should be clarified, however, that during the time of our research the Dutch dominion included roughly the Netherlands, Belgium, Luxemburg and small territories of northeastern France. In the map in Picture 1 , which comes from a 1923 historical atlas, we see which territory the Low Countries occupied at some point during the Dutch Golden Age. As explained in the legend the pink line illustrates the boundary between the United Netherlands and the Spanish Netherlands.



Picture 1: Map of the Netherlands (i.e. the Low Countries) during the Dutch Golden Age

2.1 Socio-political and cultural context.

By late 16th century, Antwerp was the largest Dutch city, and also the North European cradle of economy, finance, and as a consequence a cradle of culture. 'Foreign merchants were at the roots of Antwerp's spectacular rise. Many came to live within its precincts. By 1560, there were some 550 to 600 foreign merchants that had settled in the town[...]'¹⁰. At the same time Antwerp was 'one of the most prominent and original art centres of the sixteenth century, involving a number of practitioners and artisans only matched by some Italian cities'¹¹. In addition to that, it was the leading centre of printing and graphic art. Professional printers and engravers of Antwerp were the masters of their art and they were very well-known all over Europe. Their reputation was spread partly because of their connections with the Frankfurt publishing markets¹². Especially regarding cartography graphic techniques, which were already developed from the second half of the fifteenth century, were the subject of improvement by the keen engraving craftsmen of Antwerp in those days.

¹⁰M. van Den Broecke et al. in *Abraham Ortelius and the First Atlas-Essays Commemorating the Quadricentennial of his Death 1598-1998*, p.12. 1998.

¹¹ M. van Den Broecke et al. in *Abraham Ortelius and the First Atlas-Essays Commemorating the Quadricentennial of his Death 1598-1998*, p.13. 1998.

¹² M. van Den Broecke et al. in *Abraham Ortelius and the First Atlas-Essays Commemorating the Quadricentennial of his Death 1598-1998*, p.14. 1998.

After the Fall of Antwerp during the Eighty Years War, the Protestant population were given a deadline to leave the city. Protestants were especially well-represented among the skilled craftsmen and rich merchants of the port cities of Bruges Ghent and Antwerp. Among them were also the skillful engravers and cartographers. Many of them settled in Amsterdam which was a small port by then. When Amsterdam became by mid 17th century one of the most important ports and commercial centres in the world, cartographic publishing was also influenced by this fact: '[...]the greatest stimulus for Dutch [...]cartography was formed by the exodus of Protestants from the Southern Netherlands as a consequence of the Spanish takeover of economic centres there. Many highly educated engravers, publishers and printers now choose Amsterdam over other locations for the continuation of their businesses. This was the impetus for a fantastic period of florescence of mostly commercial cartography in the Northern Netherlands. Amsterdam played a leading role in that area throughout the entire 17th century'¹³.

In the beginning of the 17th century the Dutch East India Company (VOC)¹⁴ was founded (1602). The Dutch East India Company was a combined governmental and commercial enterprise which sent shipping to the far corners of the world to acquire rare commodities and resell them at a profit in Europe. It was the first ever multinational corporation and it received a Dutch monopoly on Asian trade. It became the world's largest commercial enterprise of the 17th century. A couple of

¹³ M. Van Egmond, in *Covens & Mortier-A Map Publishing House in Amsterdam 1685-1866*, 2009.

¹⁴ In Dutch Verenigde Oostindische Compagnie, thus the acronym VOC.

decades after VOC was founded, in 1621, the Dutch West India Company (WIC)¹⁵ was already in the works. What made relatively easy at that time and in that particular place the breakthrough both of the VOC and the WIC was the fact that they were able to recruit the right people. They were backed up by a well-organised education system because as early as in 1600, 'there were [already] as many oceanic navigators as were needed in the Netherlands'¹⁶ (i.e. the Low Countries) and this led to younger people urging to get cartographic training so that they can turn into maps their fabulous travel accounts and notes. Indeed, some decades later 'maps and views of overseas territories were drawn so that the directors of the VOC and WIC and the princes of Orange could keep track of the expansion of the Republic. Maps and topographic paintings of the conquered territories were hung in their meeting rooms and reception halls to impress visiting dignitaries'¹⁷. We can assume that the Dutch travelled only because it was profitable, however, 'these expeditions were not only commercial exploitations, although there was certainly plenty of that. Beside the usual appeals of ambition, greed, national pride and the thirst for adventure, the Dutch were also motivated by a powerful scientific curiosity and a fascination with all things new. New lands, new peoples, new plants and animals'¹⁸. In offices of the VOC and WIC companies there were numerous wall maps and topographic paintings,

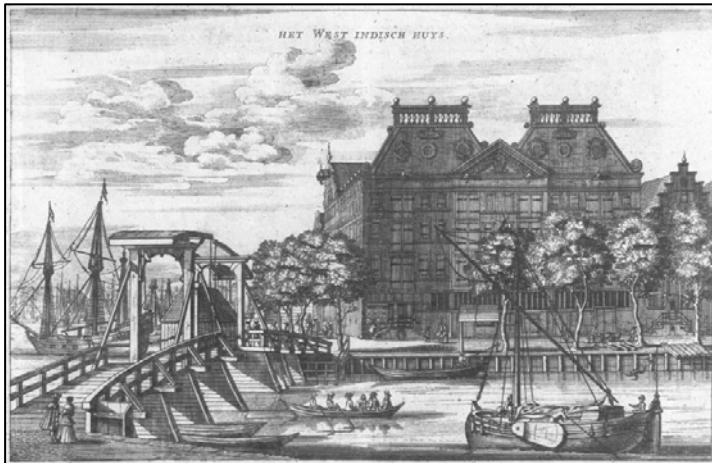
¹⁵ In Dutch West Indische Compagnie, thus the acronym WIC.

¹⁶ K. Zandvliet in *Mapping the Dutch World Overseas in the Seventeenth Century*, p. 1436, from D. Woodward, *The History of Cartography Volume Three*, 2007.

¹⁷ K. Zandvliet, in *Mapping for money*, p.211, 1998.

¹⁸ C. Sagan, in *Carl Sagan's Cosmos: Dutch Golden Age*, 1980.

more precisely, '[...]one can estimate that during the 1660s each office was decorated with 10 to 60 paintings and wall maps'¹⁹. In any case, the VOC and WIC achievements must have made proud also many of the citizens of the Low Countries of that time, and this is why 'maps played an important role in various aspects of



Picture 2: The West Indian Warehouse at Rapenburg (Amsterdam) , constructed in 1642.

social life in 17th-century Dutch Republic. Members of the prosperous middle class purchased atlases and wall maps as educational aids to geography and history for themselves and their children. Maps also helped people to understand reports of current political affairs'²⁰. We can see how associated was geography and cartography with the lives of the people in the Low countries by taking a look on the art of prominent painters of that time. Pieter de Hooch (1629-1684), Jan Vermeer (1632-1675), Jacob Ochtervelt (1634-1682) and Jan Van der Heyden (1637-1712) were among the most famous Dutch painters of the Golden Age. They were all

¹⁹ K. Zandvliet, in *Mapping for money*, p.262, 1998.

²⁰ K. Zandvliet, in *Mapping for money*, p.210, 1998.

depicting domestic scenes of the house of the middle class, and sometimes as a main theme, or on the background, they drew maps or globes.



Picture 3: *La Buveuse (Woman Drinking with Soldiers)* by Pieter de Hooch.1658.



Picture 4: *Woman reading a letter* by Jan Vermeer . circa 1662-1663.



Picture 5: *The Die Musikstunde* by Jacob Ochtervelt. circa 1667.



Picture 6: *De Soldaat en het Lachende Meisje (Officer and Laughing Girl)* by Jan Vermeer. circa 1657.



Picture 7: *The Art of Painting* by Jan Vermeer. 1666-1668.



Picture 8: *Room Corner with Curiosities* by Jan Van der Heyden. 1712.

Another important factor of the Dutch society regarding its condition in the 17th century is that one's social status was largely determined by income. This is not to say that there was no nobility and that they did not have their share in the social status, it is simply that merchant class was much more respectable. They became respectable since they were able to penetrate the aristocracy by spending a lot of money to obtain land, a coat of arms and a seal. Below the aristocracy there was middle class consisting of all sorts of educated people, small merchants and Protestant ministers. Below them were farmers, shopkeepers, maids or servants and at the bottom of the social hierarchy were impoverished peasants and day labourers. The paintings below give us an idea of the social structure in those days.



Picture 9: *The celebration of the peace of Münster, 18 June 1648, in the headquarters of the crossbowmen's civic guard (St George guard), Amsterdam* by Bartholomeus van der Helst. 1648.



Picture 10: *Gentlemen Smoking and Playing Backgammon in an Interior* by Dirk Hals. Date Unknown.



Picture 11: *The Tailor's Workshop* by Quirijn Gerritsz Brekelenkam. 1661.

'Amsterdam in the 1630s was a town of growing prestige and commercial affluence with, like its Italian counterpart Venice, a population of some 140,000. Vastly different though their temperaments, traditions and morals were, both cities shared a high degree of civic and republican pride, were built on the water over which their

exotic riches came, and attached great value to theatrical entertainments of a high standard. Their self-esteem as well as their appreciation of a good aesthetic investment were reflected too in the innumerable paintings and portraits commissioned by their wealthier citizens²¹.

Various everyday activities which took place in the Dutch Golden Age society, from bargaining eastern spices, to buying wall decorations, were depended on maps. And it was the aforementioned prevailing intellectual, social, financial and political climate the main factor which was obviously influencing dramatically this connection of everyday life to cartography.



Picture 12: *Kaart van Amsterdam* (*Map of Amsterdam*) by Joan Blaeu. 1649.

²¹ P.N. Skrine in *The Baroque: Literature and culture in seventeenth-century Europe*, p.10. 1978.

Summarising the above, the Dutch Golden Age happened due to the fact that Antwerp was the North European centre of economy, culture and particularly concerning cartography was the fact that it became also the leading centre of graphic arts because of the keen engraving craftsmen that lived there. After the Protestant populations were forced to leave Antwerp, they migrated to Amsterdam thus it was there where the most important port was in the mid-16th century. Furthermore, the foundation of the Dutch East India Company (VOC) and the West India Company (WIC) later, whose travels all over the world brought riches to the Dutch and satisfied their scientific curiosities became the means for the Dutch society members to become citizens of the world. Additionally, and because of the above, the cartographic education flourished in 17th century Low Countries. All the above made the map an integral artifact of everyday life in the Dutch Golden Age.

2.2 Artistic context and religious background

Late Renaissance and Baroque was the artistic style that dominated in the 17th century in most of Europe and the Low Countries were no exception to that. The Renaissance started as a cultural movement from Italy and 'it was the first great disruption of the medieval world; the second was the Protestant Reformation of the sixteenth century'²². The basic ideas that formed what we today call Baroque were formed in Italy around 1600²³. What is also worth to consider in junctaposition to the above is the following comment from the prolific map historian Edward Lynam. He argued that: 'It was the Italians who invented the 'cartouche' or panel bearing the



Picture 13: Page 1 (Title page / Frontispiece) from *Theatrum artis scribendi**, 1594 edition by Jodocus Hondius.

**Theatrum artis scribendi* was a book about calligraphy whose author was the Dutch engraver and cartographer Jodocus Hondius (1563-1612).

²² J.Hirst in *The shortest history of Europe*, p.29. 2012.

²³ 'C'est l' Italie qui a créé le système de valeurs formelles propres à cet art nouveau que plus tard on appellera le baroque [...] autour des années 1600[...]'. G. Bazin in *Classique, Baroque et Rococo*, p.11. 1965.

title and other facts about the map, surrounded by an ornamental frame [...] The Flemings and Dutch, when after 1570, they displaced the Italians as the chief publishers of maps in Europe, were full of enthusiasm for Renaissance art and architecture but understood very little about them.¹²⁴

When Flemish art in the Low Countries of the 17th century is discussed what comes first on board is painting. This is because it became affected from the Italian Baroque earlier than sculpture or architecture²⁵.

Dutch Golden Age art generally followed many of the tendencies that dominated Baroque art in most of Europe. Thus, exaggeration of ornamentation, and realistic depiction were some of the its trends. Landscape, still life and genre painting were most popular and then came portraiture and history painting. One subject that was characteristic was portraits of large groups especially of civic and militia guilds (See Picture 9).

Particularly related to cartography was the (mentioned in the previous chapter) trend to illustrate maps in paintings. 'The best known example of maps depicted in paintings is found in Vermeer, whose paintings contain several maps'²⁶ (see pictures

²⁴ In *The Mapmaker's Art-Essays on the History of Maps*, 1953.

²⁵ '*L' étude de l'art flamand au XVII^e siècle doit être abordée par la peinture et non par l'architecture; en effet, celle-ci a près d'un demisiècle de retard dans l'évolution sur ce qui se fait à Rome, centre de genèse, tandis que la peinture est en avance*'. G. Bazin in *Classique, Baroque et Rococo*, p.63. 1965.

²⁶ K. Zandvliet in *Mapping for Money*, p.213. 1998.

6,7). Of course Vermeer was not the only painter whose work includes maps and this does not mean only that they might all have shared a particular interest in cartography or that inevitably they would include everyday artifacts in their realistic and detailed baroque depiction of everyday life. Most important is that this simultaneous presence of maps in the works of many painters shows 'the mathematical training painters received in order to apply the rules of perspective in their painting-training that was given by surveyors and cartographers'²⁷. Finally, The Counter-Reformation had influenced certain painters in the Low Countries such as the Flemish Peter Paul Rubens (1577-1640) who received artistic education during a nine-year-long stay in Italy²⁸.

It is very important to emphasise that a description of the Northern and Southern Low Countries art needs to be done separately because already from 1609 they were separated politically²⁹. Architecture and sculpture in the Southern Low Countries beared a combination of mixed styles and was not so much original. The main reason was because this area was occupied by Spain, Catholicism was powerful and the architecture had to obey religious rules. Regarding the Northern Low Countries, having gained their national autonomy and having formed the United Provinces, they embraced Calvinism. And this obviously affected the arts. Church art was almost

²⁷ Ibid.

²⁸ 'Rubens [...] s'est formé par un séjour de plusieurs années en Italie (1600-1609)[...]' G. Bazin in *Classique, Baroque et Rococo*, p.64. 1965.

²⁹ G. Bazin in *Classique, Baroque et Rococo*, p.63. 1965.

nonexistent, sculpture does not find the ground to develop but painting is preferred by the Dutch bourgeoisie³⁰.

What interests us in particular is the argument of Bazin that the conditions in which the painters of the Northern Low Countries work were different than those in the rest of Europe, where artists were much more depended on demand. The Dutch painters, however, had to please the client who belonged most of the time to the Dutch bourgeoisie [in order to put food on their table] whereas in the rest of the Europe the artists where mostly social workers in an environment of princes and clergies who where enormously consuming images³¹. Regarding cartography, 'publishers [...] had little interest in using their maps as ideological instruments and therefore manipulating the image of maps[...]They did not worry all that much about exercising actual ideological influence on the contents of the maps they made. The point was, above all, to realize the greatest possible profit at the lowest possible cost'³². Like the painting, the map, and consequently its cartographic ornamentation, should be seen

³⁰ G. Bazin in *Classique, Baroque et Rococo*, p.83. 1965.

³¹ *'Les conditions dans lesquelles travaillent le peintres des Pays-Bas sont assez différentes de celles des autres pays de l'Europe où les artistes sont beaucoup plus tributaire de la commande[...]Les conditions de la création artistique moderne se sont donc formées en Hollande, où l'artiste se trouve seul en face d'une société bourgeoise, tandis que dans les autres pays d'Europe il exerce une véritable fonction sociale, dans un milieu princier et ecclésiastique qui fait une énorme consommation d'images.'* G. Bazin in *Classique, Baroque et Rococo*, p.86. 1965.

³² M. van Egmond in *Covens & Mortier-A Map Publishing House in Amsterdam 1685-1866*, p.28. 2009.

as a consumer oriented product in the 17th century Low Countries because it was produced and sold as a consumer good in large quantities. And this can help us later understand why cartographic decorations were very important for Dutch maps back then.

To sum it up, in the general context of Late Renaissance and Baroque artistic styles being imported to the Dutch from the Italians, the cartographic cartouche with all its extravagance was also imported from the same source. Other links of cartography and the arts can be found as well to the fact that maps were often illustrated in paintings because painters were given mathematical training by surveyors and cartographers. Furthermore, the Dutch artists were pioneers in the way they performed their art because they did not paint in demand of Princes and Courtiers like in Italy or France, but they painted in order to attract buyers and gain the highest possible profit. In a similar vein, and since cartographers were artists, the map became a consumer-oriented product for the first time during the Dutch Golden Age.

2.3 Science and technology of cartography

As mentioned previously, Renaissance and Baroque was imported from Italy to the rest of Europe and to the Low Countries. Next to that, we have mentioned that the cartographic cartouche was first used by Italian cartographers and then the Flemish copied that to their maps, and that painters were tutored by cartographers. The above are only few of many facts which prove the close affinities that artistic and

cultural movements had with cartography in the pre Enlightenment times in Europe. Furthermore, 'during the sixteenth century, many painters could turn their hands to mapmaking, and many cartographers were also painters. [However], some links between the two activities may still be found in the seventeenth century, but as time went by they became fewer'³³. Indeed, after the days of Vermeer and his peers, painters do not display in their work his own familiarity with mapmaking. In fact, it was time not only for maps to be thrown away from paintings and the other way round, but 'in the second half of the seventeenth century the Parisian map sellers migrated from the Quartier Saint-Jacques³⁴, where for many years they had shared stalls with merchants of paintings, and took up new quarters in the area frequented by the salesmen of scientific instruments'³⁵. Therefore the estrangement of cartography and art can be placed at that moment in history where interest about everything which could be measured, explained and proved scientifically, became more vivid. Obviously this particular moment defined the further development of mapmaking.

To get to the point where cartography started becoming scientific however, it had to get through certain stages. Since we are particularly interested in the Low Countries,

³³ D. Buisseret in *The painterly origins of some European mapping, 1420-1650*, p.46 from *The mapmaker's quest*, 2003.

³⁴ From the 16th to the 18th centuries, Quartier Saint-Jacques is the selling spot for the first printers in France.

³⁵ D. Buisseret in *The painterly origins of some European mapping, 1420-1650*, p.46 from *The mapmaker's quest*, 2003.

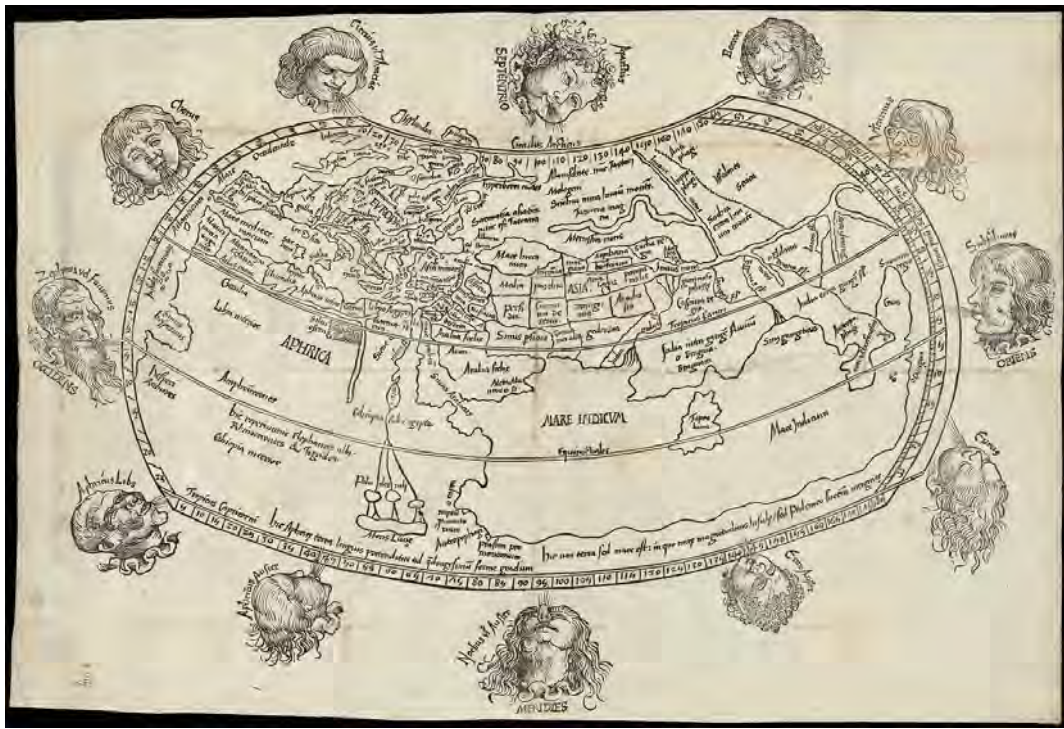
our narrative will be concerning only them. The first landmark in the narrative of the Dutch contribution to cartography is undoubtedly Gemma Frisius (1508-1555). He did not break the tradition of Renaissance men being polymaths, thus possessing a scientific mind with manifold possibilities. He was a mathematician, a philosopher and a cartographer. He was the first to apply mathematics to cartographic methods. Gerardus Mercator (1512-1594) superseded him in perfecting the mathematics/cartography marriage with his famous projection and with the invention of the atlas. 'Mercator himself is preeminent as a cartographer in whom geographical scholarship was allied to technical ability as a map-draughtsman and engraver³⁶. Abraham Ortelius (1527-1598) was a 'scrupulous scholar'³⁷ and among his many achievements was that he was the one who 'introduced [another] [a] novelty which was to inspire subsequent generations of atlas-publishers: he included comments on each map, with geographical and historical explanations[...]'³⁸. By the time the 16th century had ended a (Dutch) map looked already in many ways like a map in the way we use the term today. It had a projection, gridlines, and text (See picture 14 opposed to pictures 15-20). Chubby baby faces illustrating the winds (Picture 14) were replaced by windroses (picture 17), and a scale (Pictures 18, 19), though most of the time garnished with all sorts of decoration, was there to indicate the analogy between the real world and the one the cartographer had created.

³⁶ R.A. Skelton in *Decorative Printed maps of the 15th to 185h centuries*, p.45. 1952.

³⁷ M. van Den Broecke et al., *Abraham Ortelius and the First Atlas-Essays Commemorating the Quadricentennial of his Death 1598-1998*, p.16. 1998.

³⁸ M. van Den Broecke et al., *Abraham Ortelius and the First Atlas-Essays Commemorating the Quadricentennial of his Death 1598-1998*, p.17. 1998.

Thanks to VOC and WIC, navigators were bringing back plenty and more exact coordinates. Maps were gradually discarding decorations to give way to geographic content. Illustrations of horrific monsters that looked as if they came out of the Bible were turned into real-life illustrations of cetaceans because of the detailed narrations sailors would bring back from their travels. Maps were becoming richer in text with more precise information about what is where. Savages (Pictures 14, 15) were gone but sea monsters and ships were still relevant and almost omnipresent (Pictures 17-19). Below follow maps and details of them that illustrate the transition of the map from a mere sketch to a scientific document. The maps illustrated in Pictures 14 and 15 are non-Dutch, but those in Pictures 17 and 18 are. Almost fifty years had to pass from the Ptolemaic map of Picture 14 to the map of Picture 17 for this transition to happen.



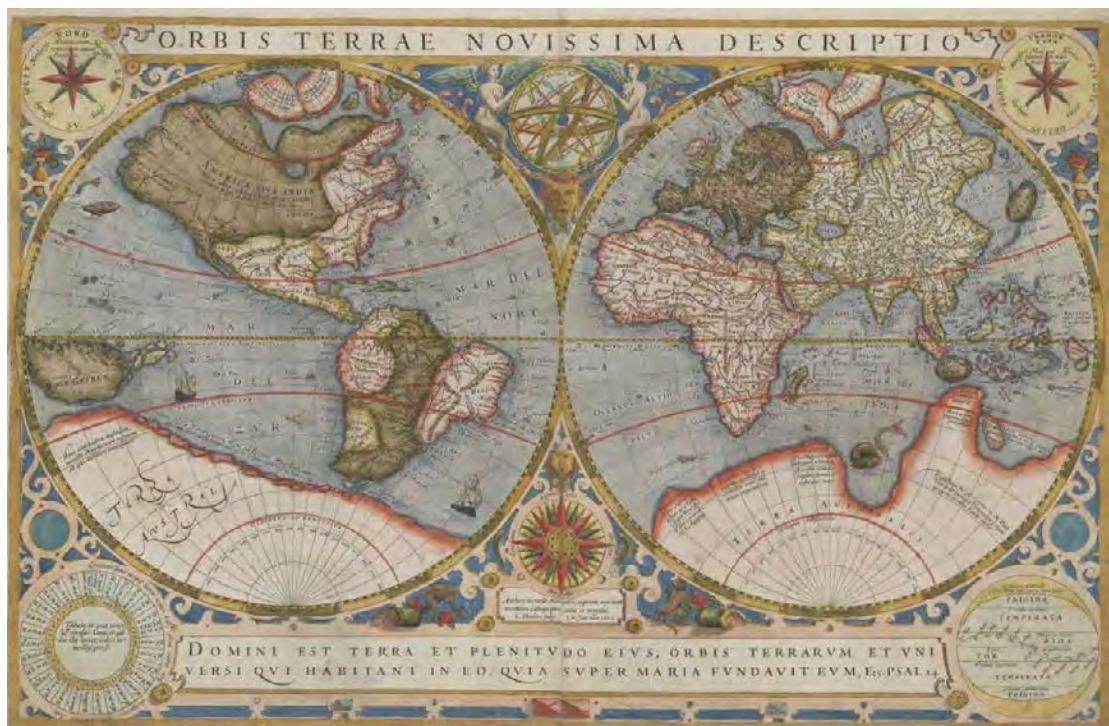
Picture 14: Untitled Ptolemaic map of the world, 1504.



Picture 15: Typus Cosmographicus Universalis, 1555.



Picture 16: Typus Cosmographicus Universalis, 1555. Detail of savages and cannibals shown chopping human limbs with a fire is burning next to them.



Picture 17: Orbis Terrae Novissima Descriptio, 1602. Detail.



Picture 18: Angliae et Hiberniae Accurata Descriptio [...], 1609.



Picture 19: Angliae et Hiberniae Accurata Descriptio [...], 1609. Detail with a meticulously designed ship and a scale garnished with a Renaissance figure.

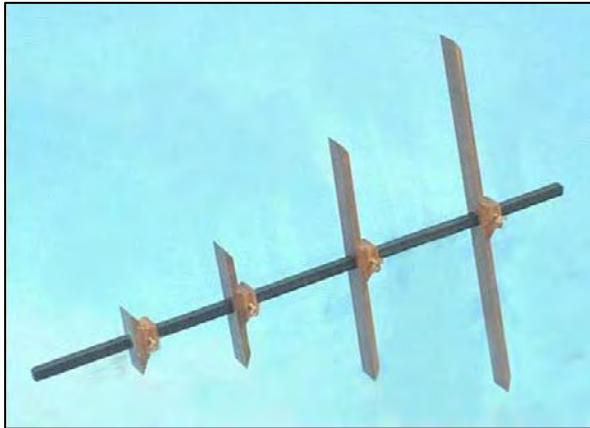


Picture 20: Angliae et Hiberniae Accurata Descriptio [...], 1609. Detail showing a ship and three other very popular sea decorations of the era: a whale, a mermaid holding a mirror and a neptune riding an ichthyocentaur which was a mythological creature whose upper body was that of a horse and the lower that of a fish.

The beginning of a flow of knowledge of navigational methods and techniques, and of scientific cartographic methods to North European countries is placed chronologically around the middle of the 16th century. This is much earlier than the beginning of the travels of VOC and WIC around the world³⁹. Italian navigators wrote navigational manuals a long time before VOC and WIC. Those manuals were translated afterwards and became available in North European countries. And obviously, 'one of the organisations which benefited from the spread of navigational knowledge was the Dutch East India Company (VOC)[...] In 1654, the VOC instructed the examiner and

³⁹ M. Bruyns and W.F. Jacob in *The cross-staff*, p.15. 1994.

the cartographer [Cornelis Jansz. Lastman⁴⁰] to compile a list of navigational equipment to be supplied to each ship sailing to Asia. Besides charts, instruments and sea-atlases, the list, which was first printed in 1655, [this list]also contained the titles of navigational manuals and declination tables[...]'⁴¹. This list shows that back then ships did not sail away without cross staffs, mariner's astrolabes, back staffs and a nautical almanac for the declination.



Picture 21: Cross-staff with four transoms. This instrument became a constant decorative element in Dutch cartography. It was usually held by Renaissance figures or simply lying next to the rest of the cartouche ornamentation.

The cross staff was an instrument for angle measurement whose basic elements were a four sided staff and one or more vanes. Its pole was graduated for length and order to 'shoot', the eye-end of the staff was placed near the observer's eye and the other end was directed at a point in the sky approximately half way between the horizon and the celestial body⁴².

⁴⁰ He was a private teacher in the art of navigation in Amsterdam.

⁴¹ M. Bruyns and W.F. Jacob in *The cross-staff*, p.15. 1994.

⁴² M. Bruyns and W.F. Jacob in *The cross-staff*, p.25. 1994.



Picture 22: Mariner's Astrolabe. This instrument also became a decorative element around the cartouche area.

Although the cross-staff predominated over the contemporary instruments for the measurement of altitude among the explorers and navigators of the Low Countries until the mid 17th century, mariner's astrolabes were also popular at that time. However, 'by 1670, their provision was terminated as they were expensive, not practical in use, and their graduation was often inaccurate'⁴³.

Before the Low Countries become the European centre of map publishing in Europe, it was the Italians who were considered to be the masters of the craft of cartography. It is 'the Italian maps of the 15th and early 16th centuries [which have] a particular significance in filling the gaps and providing a continuous cartographic record [and it is in Italy where] professional cartographers emerge, engaged in the copying, decorating and-ultimately-compilation of maps'⁴⁴. But most important is the fact that

⁴³ M. Bruyns and W.F. Jacob in *The cross-staff*, p.33. 1994.

⁴⁴ R.A. Skelton in *Looking at an early map*, p.20. 1965.

'the artists who took up this work were not originally, or by vocation geographers; like some of the early printers, they had practiced as painters, miniaturists or illuminators'⁴⁵.

The scientific geographers of the Low Countries might have been eager to copy the cartouches from the Italian maps but, regarding their geographic content, Italian maps did not satisfy them. 'The rule of truth is especially bad in Italian maps' wrote Mercator to Ortelius⁴⁶. Obviously, the plenty scientific constraints the Italian mapmakers must have had made their maps seem empty, and additionally the wood-engraving the Italian mapmakers were using did not satisfy the meticulous master of cartography for whom his student and then peer Ortelius said that 'to his knowledge of geography and chronology added a quality exceedingly rare among scholars: a skill in drawing, engraving⁴⁷, and elegant illuminating'⁴⁸.

Furthermore, Mercator had gained a lot of experience in metal-working from when he was manufacturing globes with his tutor Gemma Frisius, thus he knew how much

⁴⁵ R.A. Skelton in *Looking at an early map*, p.20. 1965.

⁴⁶ R.A. Skelton in *Decorative Printed maps of the 15th to 185h centuries*, p.45. 1952.

⁴⁷ When engraving techniques are mentioned, we mean relief process for wood (used more previously than the Dutch Golden Age and mainly in Italy and Intaglio in metal plates. Besides '[...]until the seventeenth century etchings [meaning here in metal] of any importance are only occasionally performances, and even in these the specific quality of the etched line is scarcely ever realised', A.M. Hind in *A history of engraving & etching*, p.105. 1963.

⁴⁸ R.A. Skelton in *Decorative Printed maps of the 15th to 185h centuries*, p.45. 1952.

greater precision metal compared to wood would allow to line drawing (of course, in Mercator's years there was actually a lot more information to add on the map than in the years of Italian cartography). Because 'with little or no loss of style, the lightly incised line reproduced the outlines traced by the cartographer as the coarse line of the woodcut could not. A woodcut surface has only two tones, black or white; but the dots or flicks of the engraver's tool could produce the delicate effects of shading or stipple required for relief or water features'⁴⁹. The tool for the copperplate scratching would do such a fine and delicate work especially in the ornamental part of the map that sometimes adding colour to it would ruin its gorgeous details despite the fact that colouring did make a striking visual image (see Pictures 23-29 to compare decoration pre and post colouring).

We should keep in mind that the 'paintre de cartes in' French, 'const-en kaertafzetter' in Dutch 'map painter' in English was the humblest among all tasks involved in mapmaking. 'They virtually never signed their work and they usually remained anonymous'.⁵⁰ Sometimes the colouring and illuminating were even assigned to poor women and children who did them at home. One can distinguish those maps rather easily from the other because the colour was often laid on rather densely, quite 'unprofessionally'. Especially in the case of the Dutch map trade, where

⁴⁹ R.A. Skelton in *Decorative Printed maps of the 15th to 185h centuries*, from the Introduction (III.THE MAP TRADE) . 1952.

⁵⁰ M. van Egmond in *Covens & Mortier-A Map Publishing House in Amsterdam 1685-1866*, Chapter 6.3. Colouting and further 'beautification'. 2009.

everything ought to be value for money, maps drawn from women and children must have been cheaper than those from professional colourists.

To conclude, highlighting the map by adding colour and illumination to it did make the map more impressive and more profitable since the more impressive the map the more the purchaser would be willing to pay. If we look at both coloured and uncoloured versions of the map *Hispaniae et Portugalliae regna per Nicolaum Visscher cum privilegio ordinum Hollandiae et Westfrisae* (See pictures 25, 26), we see colouring having brought out the detail of the plant better than in the uncoloured map, Regarding the cloth of the female winged child, the colouring has completely destroyed the beauty of the detailed engraving clearly shown in the uncoloured one.



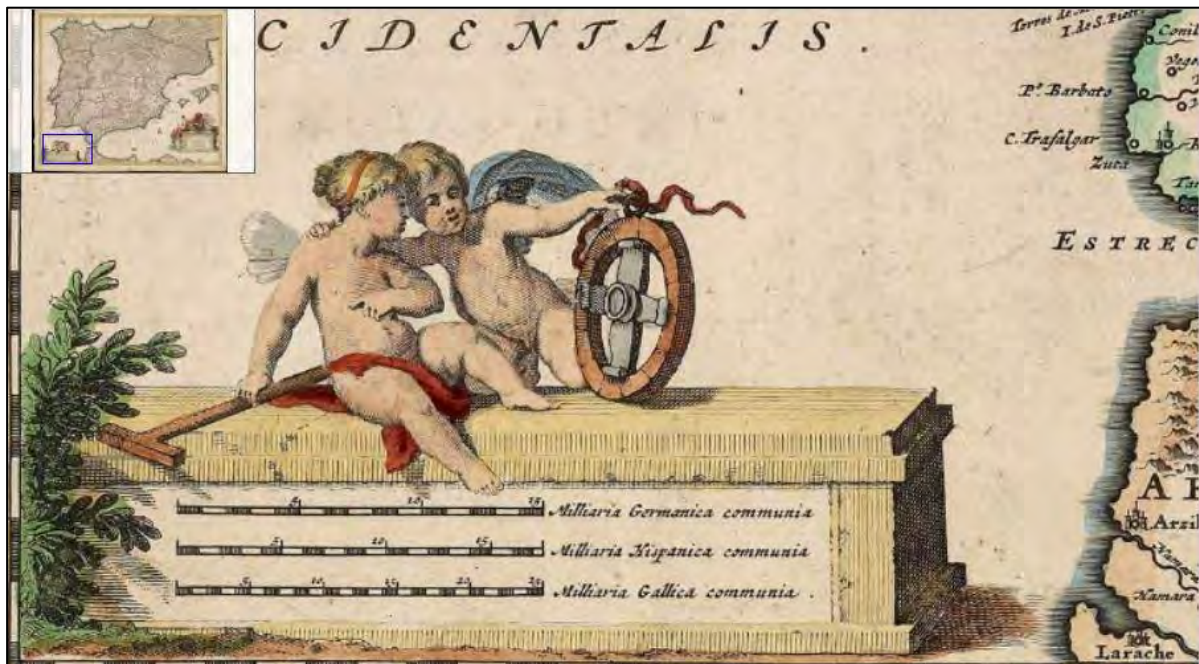
Picture 23: *Hispaniae et Portugalliae regna per Nicolaum Visscher cum privilegio ordinum Hollandiae et Westfrisae* (no colour). 1685.



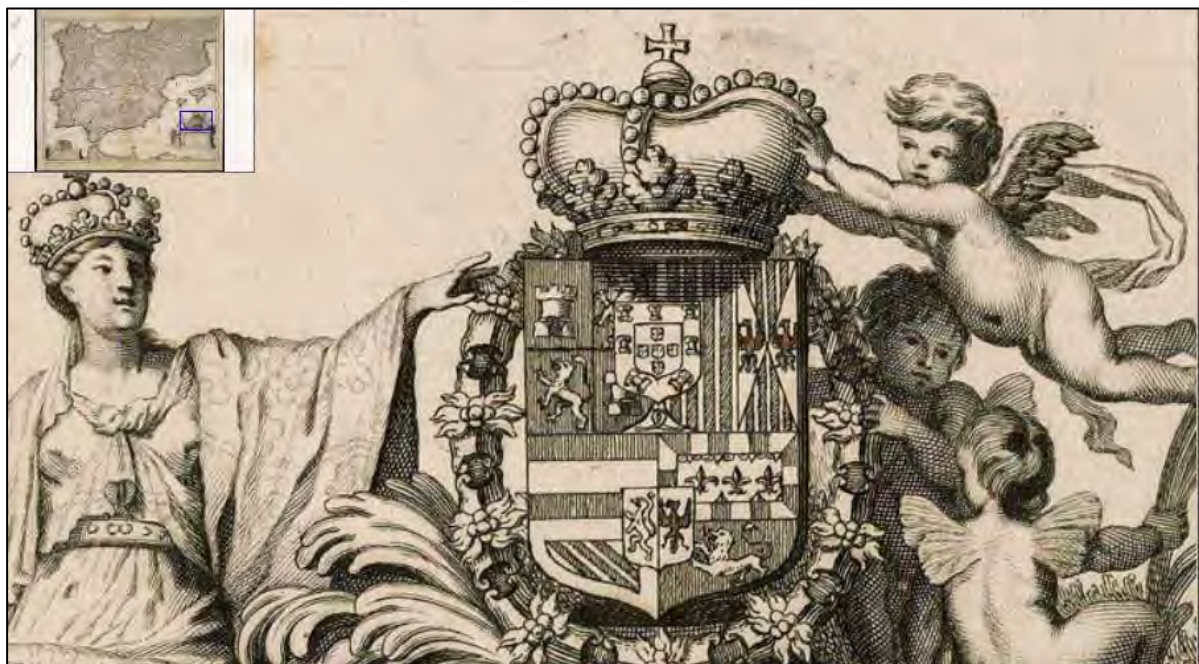
Picture 24: Hispaniae et Portugalliae regna per Nicolaum Visscher cum privilegio ordinum Hollandiae et Westfrisae (with hand-applied colour). 1685.



Picture 25: Hispaniae et Portugalliae regna per Nicolaum Visscher cum privilegio ordinum Hollandiae et Westfrisae (with no color). Detail showing fine engraving of shadows and light on children's figures, the square, cloth and astrolabe.



Picture 26: Hispaniae et Portugalliae regna per Nicolaum Visscher cum privilegio ordinum Hollandiae et Westfrisiae (with hand-applied colour). Detail showing that the plant has been improved by the colouring.



Picture 27: Hispaniae et Portugalliae regna per Nicolaum Visscher cum privilegio ordinum Hollandiae et Westfrisiae (with no colour). Detail.



Picture 28: Hispaniae et Portugalliae regna per Nicolaum Visscher cum privilegio ordinum Hollandiae et Westfrisae (with hand-applied colour). Detail.

Regarding the decoration in pictures 27 and 28, the flowers in the uncoloured coat of arms seem far more impressive than the coloured ones. Their details are more clear and their outline is not smudged like in the coloured coat of arms and so are the details inside the escutcheon (shield). Furthermore, the crown both on the female figure's head and at the top of the heraldic design seems to be losing its roundness, meaning its 3-dimensional character when coloured. Finally the cape of the female figurine lost the little flowery details in its coloured version and the putto⁵¹ supporting the shield is not shown as shadowed as it was initially engraved to be.

⁵¹ A *putto* is a winged chubby usually naked baby boy in the Renaissance iconography.

It must have been simply a matter of taste, whether customers of cartographers chose to have their maps coloured or not. In the former case, however, the cartographer would put more food on the table, for sure. 'From the 16th to the 18th centuries maps were advertised for sale 'coloured or plain', and copies with contemporary colouring still command the higher prices'⁵².

The following part comes from the monumental work of the map historian Raleigh Ashlin Skelton (1906-1970) and it is provided here complete and unabridged because it encapsulates perfectly our previously mentioned points.

'As the decoration of Flemish and Dutch maps grew more profuse and fanciful, the colourist's opportunity became greater and his conventions more diverse. His brush was no longer restricted to the face of the map[...]his work became more refined in the 17th century; outline supplanted solid colours, lighter washes were used, relief features were more subtly shaded. But from the 'complements and compartments' of the Dutch maps colours blazed in brilliant variety. The fretwork tracery or strap work of the formal cartouches of the 16th century was usually done in magenta or brown, picked out with gold, blue and many other colours. The more naturalistic ornament introduced in the 17th century-trophies, cornucopias, cherubs, groups of figures, ribbons, fruit and flowers- was 'coloured according to the nature of it', as John Smith

⁵² R.A. Skelton in *Decorative Printed maps of the 15th to 185h centuries*, from the Introduction (V.LETTERING, DECORATION, AND COLOUR) . 1952.

(The Art of Painting in Oyl-1701, p.106) tells us, instancing 'Crowns, or anything representing Gold with Yellow...the Hair of Men or Women with Tincture of Myrrh...the Flesh of Women or Boys , with a very little of the Tincture of Cochinele, in a large Quantity of Water, and Garments either with thin Green shadowed with thicker...or with Vermillion shaded with Carnine'. Coats of arms were brightly blazoned and gilded, compass-roses and scales painted in gay variety. Vignettes and the little pictures of people and animals, instruments and tools, ships and sea-monsters all had characteristic colouring[...]

The illumination of Dutch maps was universally admired; the only way to colour Maps well, says John Smith, "is by a pattern of done by some Workman, of which the Dutch are esteemed the best[...]"⁵³

In a nutshell, in the Dutch Golden Age it was common for a cartographer to be also a painter and for a painter to become a cartographer, however, after the second half of the 17th century, in European markets, maps stopped being sold next to paintings and they moved to the scientific curiosities' and instruments' markets. In the Low Countries, in particular, it was a handful of pioneers such as Frisius, Mercator and Ortelius who turned cartography towards a more scientific direction. Because they introduced the copperplate instead of the woodcut plate, they were able to add

⁵³ R.A. Skelton in *Decorative Printed maps of the 15th to 185h centuries*, from the Introduction (V.LETTERING, DECORATION, AND COLOUR) . 1952.

more geographic content on the map. This abundant geographic content they had available came from the many explorations of the Dutch sailing companies. Additionally, with these new engraving techniques, they were able to add more fine artistic decorations to their maps, however, the more the geographic content became abundant, the more the decorations became structured in cartouches and margins and eventually completely shunned. Generally, the Dutch were considered the masters of cartographic artistic engraving and colouring on maps all over Europe during the Golden 17th century of the Low Countries.

3. Artistic decorations

The insertion of pictures and decorative design upon maps began in the 12th century⁵⁴, actually, but in a complete different form because a medieval map looked much more different to what we would call a map today. They displayed a completely different shape of the world with a T and O structure, and they did not contain geographical information of a certain time. Next to a medieval place, there could be the name or the illustration of the same place as it was hundreds of years ago. If we can resemble the early modern and contemporary map to a picture of the world at a certain time navigating the viewers and informing them about it at this particular time, then medieval maps were like movies because they attributed a lot of places in time to a certain space in order to provide a spiritual journey to the viewer into all things considered in those days sacred that were connected to a particular space⁵⁵. Nevertheless, we count the beginning of early modern cartography by the time when a map resembles a map by today's standards, and that is, according to many history of cartography scholars, around the beginning of the 16th century, and from that point, in history of cartography terms, we talk about the *early modern cartography*. Animals, monsters, winged children, heraldic symbols, and many other kinds of decorations were abundant since the early modern cartography emerged. At that time 'maps could be as much about the world's differing peoples, flora, fauna,

⁵⁴ E. Lynam in *The Mapmaker's Art - Essays on the History of Maps*, p.48, 1953.

⁵⁵ Studies of the so-called *mappae mundi* of medieval cartography and their decoration belongs to a completely different academic branch than that of the history of scientific cartography.



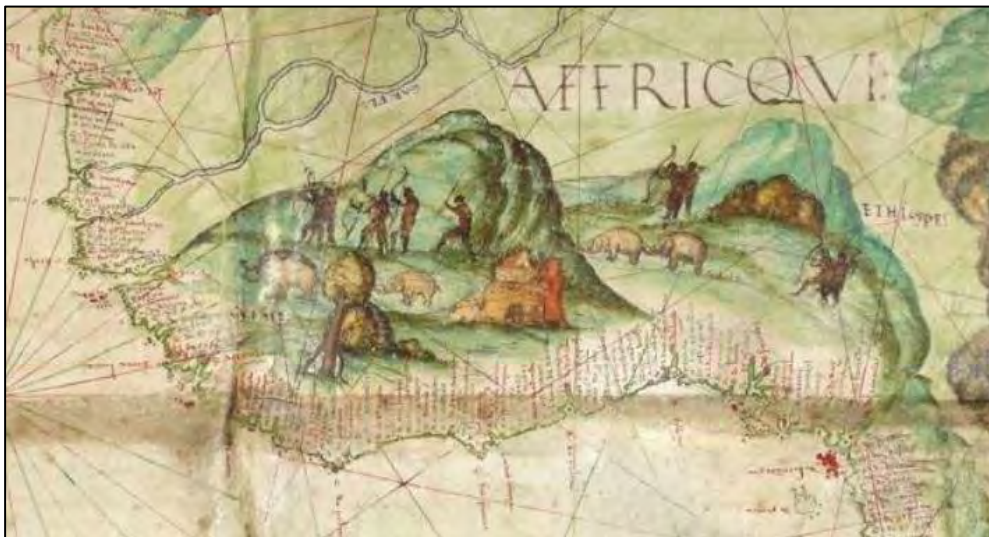
Picture 29: *Ebstorfer World Map*, T-O-Design, was attributed to Gervase of Tilbury at around 1234 for some time, newer comparisons do date the original image into the year 1300 and no longer to that person.



Picture 30: *Ebstorfer World Map*, Detail showing cannibals in a separate vignette.



Picture 31: *The Harleian Mappemonde*, 1550.



Picture 32: *The Harleian Mappemonde*, 1550. Detail of the part of the eastern part of Africa showing place names around the shores and illustrations of natives in the inland.

religions, legends and history as about the accurate depiction of coastlines, rivers and towns⁵⁶.

⁵⁶ Barber and C. Board in *Tales from the Map Room*, p. 20 (TRIVIA OR THE ESSENCE?). 1993.



Picture 33: *The Harleian Mappemonde*, 1550. Detail showing trees with an anthropomorphic piece of the moon and the inscription 'LES ARBRES DE LA LUNE' (in English 'THE TREES OF THE MOON')

In the beginning of the 16th century, those cartographic decorations were spread all over the map surface. Animals, monsters or savages, for example were spread all over the newly discovered continental areas and the cetaceans, sea-monsters or ships on the unknown and attractively dangerous sea areas. By the mid-16th century continental areas were cleared of drawings and place names got their place. Although from that time sea areas were still decorated with monsters and ships, we can say as a rule of thumb that all sorts of decorations started to appear neatly placed on the cartouche or the margins areas.

3.1 Decorations within the geographic contents of maps

The unprecedented outburst of science and exploration in 16th century Europe led to a vast knowledge accumulation. This deeper knowledge of the physical world allowed the cartographers to fill the previously blank spaces on the maps with images of everything that they had recently discovered was sharing the Earth with them. Therefore, imaginary or real sea and continental monsters, ships, savages, native inhabitants wearing their traditional clothes, flora and fauna flourished in maps spread among the conventional signs which described the newly discovered world. There are many ways to describe or classify the numerous decorations that were neither surrounding the hemispheres as marginalia, nor as vignettes all over the border of the map frame, nor placed next to cartouches. These decorations were spread all over the map surface instead, and they could be aquatic or continental, artifacts or human, related to flora or fauna. Below follows a description of the origins and evolution of the most common among them: sea monsters and ships.

Sea monsters

Sea monsters were considered to be all creatures depicted on the surface of the sea of early modern maps. They can be cetaceans that really existed and still do, such as whales, biblical or mythological creatures who allegedly lived in the sea, such as mermaids (See Example Maps in Appendix: Plates 2,3) and finally, completely imaginary aquatic creatures that could have been the outcome of the narratives of

seafarers or their origins are lost in time, such as the sea-goat or the sea-hen⁵⁷. Their presence on maps begins in the late fifteenth century.

Actually, it was 'the change in production technology from manuscript to printed maps, which began in the late fifteenth century which influenced cartographers' motives for including sea monsters on maps'⁵⁸. 'The majority of medieval maps do not have sea monsters'⁵⁹. As they were manuscript, it could mean that the terms of the commission did not include them or simply that the cartographer did not choose to have them⁶⁰. While there was no apparent reason to include sea monsters on manuscript maps, there was at least one very good reason to have them on printed maps. Either sea monsters were simply imaginary, or truly existent, their presence on the map would help its publisher sell more copies of it. Commercial cartography was flourishing in the Low Countries during the Dutch Golden Age, cartographic publishing houses were plenty and there must have been severe competition among them. Therefore, if cartographers wanted to secure commissions or increase sales in order to put food on their table, they had to find ways to beautify their products.

⁵⁷ According to van Duzer, during the medieval times people believed that every animal on the continents of the Earth had its equivalent in the Ocean, but with a fish tail. The medieval iconography adopted this attitude as well and in many occasions one can see horses, snakes, goats, hens and all sorts of earthly creatures, depicted with a fish tail and their upper body as it is on medieval illustrations. C. van Duzer in *Sea Monsters on Medieval and Renaissance Maps*. 2013.

⁵⁸ C. van Duzer in *Sea Monsters on Medieval and Renaissance Maps*. p.11. 2013.

⁵⁹ C. van Duzer in *Sea Monsters on Medieval and Renaissance Maps*. p.10. 2013.

⁶⁰ C. van Duzer mentions that Fra Mauro, the 15th-century Benedictine monk who created the famous map under the same name, 'emphasises his skepticism about marvels'. Ibid.

Thus, it is the financial rewards that they brought with them that made sea monsters popular among Dutch cartographers.

Apart from reasoning the presence of sea monsters with the decent concern of cartographers for money-making, we have to consider also which function this presence had, meaning which the role of this particular type of decoration on maps was and which effects it had on Dutch society and on European societies wherever these maps were sold.

First, they were placed in particular places on the vastness of sea waters where there was danger encountered in previous travels, but only serving as means to draw attention to the vitality of the sea in order to push sailors to explore it more. '[...] They may serve as graphic records of literature about sea-monsters, indications of possible dangers to sailors and data points in the geography of the marvelous'⁶¹.

Second, they could have been put in certain maps in order to discourage fishermen of other countries to fish in their waters. As van Duzer suggests that 'the numerous monsters in the Norwegian sea on Olaus Magnus's 1539 map of Scandinavia were intended to scare away the fishermen of other nations, leaving the abundant catch to Scandinavian fishermen'⁶².

⁶¹ C. van Duzer in *Sea Monsters on Medieval and Renaissance Maps*. p.11. 2013.

⁶² C. van Duzer in *Sea Monsters on Medieval and Renaissance Maps*. p.11. 2013.



Picture 34: The Carta Marina of 1539 by Olaus Magnus. As beautiful as it may look to us today, it must have made the thought of sailing there scary for the 16th century fishermen.

According to van Duzer this particular map illustrated above, the Olaus Magnus 1539 Carta Marina, contains the most important and influential sea monsters among all Renaissance maps. Another milestone among maps including sea monsters is that which depicts Iceland and was made by Abraham Ortelius in 1590. He has used Olaus Magnus' s Carta Marina as an iconographical source for his own sea monsters but 'several of his descriptions come from an unexpected source[...] known as the *Speculum regale* or King's Mirror, a mid-thirteenth-century Old Norse book [which] has a detailed and interesting chapter on "The Marvels of the Icelandic Seas" that describes several sea monsters'⁶³. A mere look on this map can make us imagine the

⁶³ C. van Duzer in *Sea Monsters on Medieval and Renaissance Maps*. p.110. 2013.

fear it must have caused to the viewers, and how the meticulous illustrations of all sorts of sea monsters must have made Iceland appear as 'a wild and inapproachable place at the very edge of the known world'⁶⁴.

Another interesting example of sea monsters is the 1592 map of what is now Canada and the North Atlantic entitled *Nova Francia, alio nomine dicta Terranova* in English it would be *New France, otherwise called Newfoundland*. It is a very finely engraved map designed by Petrus Plancius (1522-1622) and from the point of view of sea monsters, the map reveals a fascinating detail: 'In the Atlantic it has three sea monsters that are clearly part of the long tradition of whale-like monsters that derive from Olaus Magnus; while near the lower edge of the map there is an inset that shows naked and half-naked men, possible Basque to judge from their helmets and boats, throwing spears into one whale, while others flense a whale further up the beach'⁶⁵. This detail is fascinating because it is one of the first examples proving the tendency towards the end of the sixteenth century to illustrate the control of men over the creatures in the ocean. Sea monsters were no longer monsters. They were creatures that men could hunt and exploit for their own sake. As nautical technology improved and scientific knowledge on nature and its creatures became larger, sea monsters, either as a danger or later as a commodity that existed in nature ready to be caught and exploited, began to disappear from maps and they gave their place to ships.

⁶⁴ C. van Duzer in *Sea Monsters on Medieval and Renaissance Maps*. p.111. 2013.

⁶⁵ C. van Duzer in *Sea Monsters on Medieval and Renaissance Maps*. p.112. 2013.



Picture 35: *Islandia* in Latin, *Iceland* in English was created in 1590 by the Dutch cartographer Abraham Ortelius. Sea monsters are still relevant 50 years after Magnus's monsters.

'The two motifs are to a certain extent antithetical: while sea monsters on maps discourage human sea travel by indicating its grave dangers and uncertainties, most images of ships on maps boldly affirm the ability of human to traverse the watery element, encouraging new voyages and even affirming political control over seas'⁶⁶, especially when those ships were shown carrying flags of certain countries'⁶⁷.

⁶⁶ C. van Duzer in *Sea Monsters on Medieval and Renaissance Maps*. p.118. 2013.

⁶⁷ Political control could be shown also before ships by showing kings riding sea monsters. Unfortunately we are not authorised to include a picture with a detail of Chatelain's *Atlas Historique* showing Manuel of Portugal ("Emanuelis Regis Portugalliae" as is written on the map) surfing on a sea frog off the coast of Madagascar. (This information was retrieved from B. Breen's blog *Res Obscura*). R.W. Unger suggests that the 'Portuguese monarch on the open sea may have served a purpose similar to that of putting a ship there' (in *Ships on maps: pictures of power in Renaissance Europe*, p.136. 2010).



Picture 36: Nova Francia alio nomine dicta Terra Nova, between 1592 and 1594.



Picture 37: Detail of the vignette of the previous map illustrating for the first time human having tamed the wild sea by exploiting its monsters.

Ships

The other type of sporadically placed artistic decorations on early modern maps is ships. Ships have never appeared on maps before 1375. As previously mentioned, the evolution of graphic depiction on maps is partially explained by the need of the cartographer to include more and more of information on the map. Shorelines, mountains and rivers with place names were not enough anymore. 'The fuller and more frequent representation of many features of the world were all a part of the development of map making [and] ships were among those features.'⁶⁸ Thus, 'by 1550 ships filled oceans, seas, estuaries, rivers, and lakes on all kinds of maps from the most extensive to the most particular. The explanation for the dramatic transformation is to be found in the general changes in map making, in the explosion of geographical knowledge and in the thinking of Europeans about themselves and their place in the world as it evolved during the Renaissance'⁶⁹.

More precisely, most of the ships we see in Dutch maps are drawn with very high precision (See Example Maps in Appendix: Plates 1-5). This fact proves that there was a lot of progress in the art of engraving as we previously mentioned but also proves that these ships must have 'represented a major technological breakthrough of the period'⁷⁰. Therefore, the mapmakers, or the people who ordered the maps to them, must have been very proud of the Dutch (mostly) fleet of ships and this is the

⁶⁸ R.W. Unger in *Ships on maps: pictures of power in Renaissance Europe*, p.7. 2010

⁶⁹ R.W. Unger in *Ships on maps: pictures of power in Renaissance Europe*, p.1. 2010

⁷⁰ R.W. Unger in *Ships on maps: pictures of power in Renaissance Europe*, p.12. 2010

reason why there was a tendency to 'put on maps, where possible, a variety of ships and ships with designs which had only relatively recently emerged'. It is remarkable that the cartographers did not want just to fill in a blank area, or just boast about the Dutch navy, they wanted to be accurate and precise, even when it came to ship pictures. 'By the end of the sixteenth century on Dutch charts vessels were everywhere on the seas, in the harbours and even in the cartouches'⁷¹. Ships on maps have served as a graphic proof of human conquering the seas and more particularly a graphic proof of the new authority of the Europeans on the oceans since their emergence in the mid-16th century. They appeared more scarcely during the sixteenth century and virtually disappeared from maps in the eighteenth century, 'though some still appeared but rarely[...] [because at that point in history already] on maps the seas of the world became more crowded with islands and coastlines of continents discovered and charted by Europeans.'⁷².



Picture 38: Insulae Moluccae, a 1592 by Petrus Plancius.

⁷¹ R.W. Unger in *Ships on maps: pictures of power in Renaissance Europe*, p.149. 2010

⁷² R.W. Unger in *Ships on maps: pictures of power in Renaissance Europe*, from the Epilogue. 2010



Picture 39: Detail of previous map illustrating an elaborately designed wind rose and next to it rare examples in cartography of plants, fruits and seeds.

As for the rest of the decorative artifacts regarding flora, fauna, savages and native inhabitants, they were not so abundant in Dutch cartography in the Golden Age. Regarding the early 16th century 'plants occurred freely on maps[...][but] in contrast the localization of animals was noticeable to the early explorers'⁷³. By the time the Dutch started leading the cartographic publishing in Europe, by mid-16th century, it appears that exotic flora either did not look so strange to Dutch people anymore or it did not fascinate the Dutch cartographers so much because they did not seem very occupied with it. And by that time, the cartographic trends had already exiled the continental figures of savages, animals and native inhabitants on the cartouches and marginalia, thus, we will display only some rare examples in a Dutch map of 1630 in which they are in them (See map in Appendix: Plate 13).

⁷³ B.W. George in *Animals and Maps*, p.24-25. 1969.



Picture 40: Tartaria , circa 1630 . Detail illustrating native inhabitants of Armenia. See the complete map and credit line in Appendix: Plate 13.



Picture 41: Another detail of the same map as for Picture 40, here illustrating a rustic scenery.

3.2 Cartouches

'Between 1500 and about 1800, decorative panels or cartouches, far from being mere space fillers, were essential parts of the maps that they adorned'⁷⁴. The Italian mapmakers of the 16th century were the first to add a cartouche to maps but it was the Dutch who made it really take off. In the vast majority of occasions, a map bore a single cartouche surrounding the title⁷⁵. Before the Italians invent it, 'the title appeared, very briefly expressed, in the upper margin, and later, during the early part of the 16th century, French and German cartographers inscribed it upon a flying scroll'⁷⁶ such as the French map (published in Lyon in 1535) in Picture 42. But it was the Italians who, actually, invented the "cartouche" or panel bearing the title and other facts about the map, surrounded by an ornamental frame. The first form of the frame was a "strap work" design, imitating the ends of interwoven lengths of soft leather with edges curling forward all round the inscription'⁷⁷ such as the 'strap work' in the following example⁷⁸.

⁷⁴ P. Barber and C. Board in *Tales from the Map Room*, p. 76 (TRIVIA OR THE ESSENCE?). 1993.

⁷⁵ When there was more than one cartouches, the largest cartouche bore the title, and smaller ones, which were usually placed on sea areas had text or the scale inscribed on them.

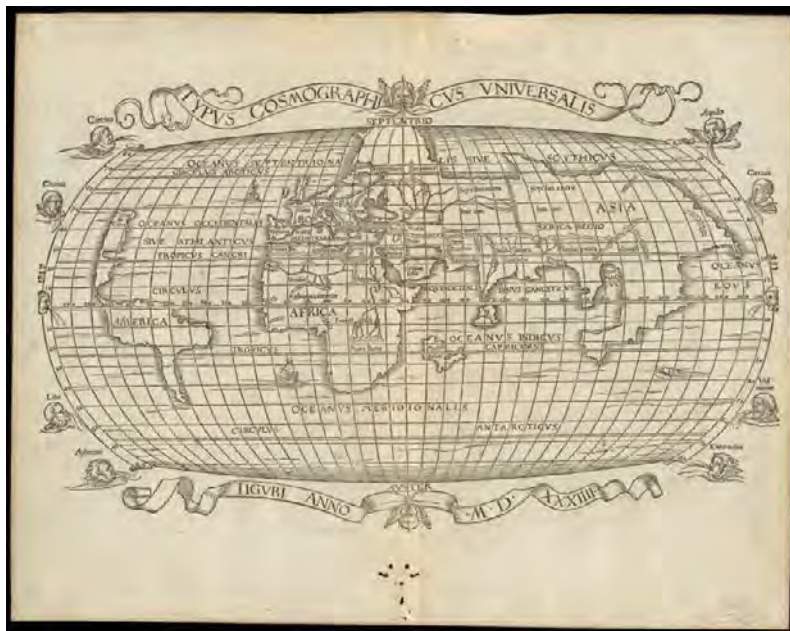
⁷⁶ E. Lynam in *The Mapmaker's Art - Essays on the History of Maps*, p.48, 1953.

⁷⁷ Ibid.

⁷⁸ This map (Picture 43) was published in Zürich in 1534 and it is attributed to the Swiss printer Christoph Froschauer and to the Swiss humanist Joachim von Watte. The latter, however, changed his name later to its latin version Vadianus as was the trend among many intellectuals in those days to 'latinise' their names in order to pay tribute to the Roman Antiquity. Though the map belongs to the Swiss cultural heritage, its text is in Latin and it was published in a time where the Italian were the masters of cartography. We use it here to present an example that matches Lynam's description.



Picture 42: : Map of 1535 with a flying scrol bearing the title *Tabu Totius Orbis*.



Picture 43: : Typus Cosmographicus Universalis. 1534.

'By 1550 [the cartouche] was a large rectangle, engraved to look like carved wood with curled pieces which projected to hold the panel and supporting wings, posts and crockets and the ends. With Roman capitals and 'Italian' script in the titles, these cartouches had a great and simple dignity'⁷⁹.



Picture 44: Hispalensis conventus sive Andaluzie pars. 1579.

⁷⁹ E. Lynam in *The Mapmaker's Art - Essays on the History of Maps*, p.50, 1953.



Picture 45: Detail of the cartouche of the previous map illustrating the cartouche engraved as a wooden-like panel with carved winged posts and crockets.

As previously mentioned the Dutch were very enthusiastic about Renaissance art and architecture. When they became the leaders in cartographic publishing they started copying the decoration of the maps of their Italian predecessors. The patterns for their cartouches they found them 'in the pattern-books of Italian Renaissance sculptors, wood-carvers, stone-masons and plaster-workers[...] Around a stately frame imitating fretted and mortised wood-work, deriving from the hammer-beam roofing, corbels and paneling of late Gothic halls and churches, they hung a multitude of pseudo-classical figures, fauns, masks, nymphs and Neptunes, together with an amazing variety of naturalistic engravings of storks, fish, butterflies, lobsters and monkeys.'⁸⁰ Indeed, the Dutch cartouches were full of illustrated figures that

⁸⁰ E. Lynam in *The Mapmaker's Art - Essays on the History of Maps*, p.50, 1953.

are undoubtedly wonderful to look at but do not seem to have any apparent relation to the title of inscribed in them, thus no relation to map they garnish, either. Although at first Dutch cartographers did copy their ornaments and 'in borrowing from ornament prints, [they] did not hesitate to adapt them to their own particular needs'⁸¹, some decades later, 'many cartographers had designs made especially for their maps'⁸². Below follow examples of cartouches from 17th century Dutch cartographers.



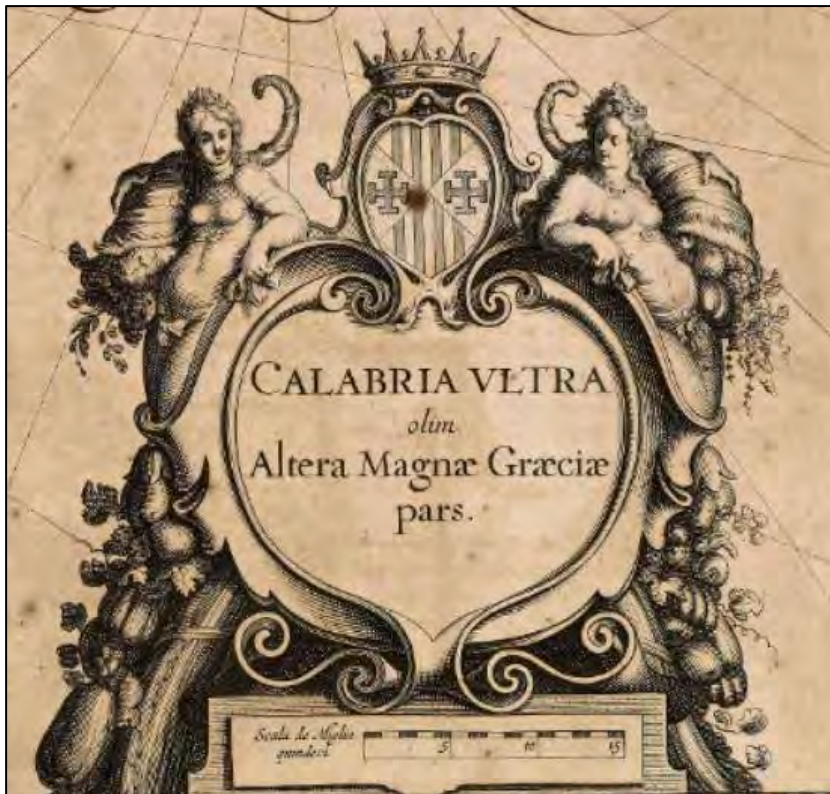
Picture 46 : Detail of *Africa Ex magna orbis terre descriptione*, map of 1633. Detail illustrating two fauns surrounding the wooden-like ornaments of the cartouche.

⁸¹ J.A. Welu in *The Sources and Development in Cartographic Ornamentation in the Netherlands*, p.151, from D. Woodward's *Art and Cartography-SIX HISTORICAL ESSAYS*, 1987.

⁸² J.A. Welu in *The Sources and Development in Cartographic Ornamentation in the Netherlands*, p.157, from D. Woodward's *Art and Cartography-SIX HISTORICAL ESSAYS*, 1987.



Picture 47 : Detail of a map entitled *Maris Pacifici* , published in 1602. The map is uncoloured and the details of the fine engraving of the cartouche are visible.



Picture 48 : Detail from a map of 1640 entitled *Calabria Ultra olim Altera Magnae Graeciae pars*. By mid-17th century Renaissance figures garnished the cartouches and these particular are holding cornucopias. Cornucopias or horns of plenty were very common in Dutch cartographic and non-cartographic decoration and they represented the riches of the Dutch Golden Age.

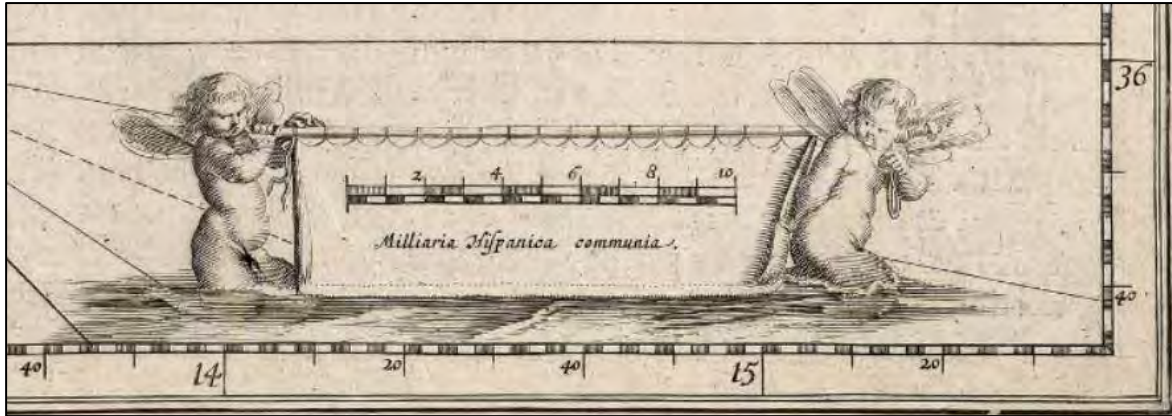


Picture 49 : Detail from a map of 1635 entitled *Mappa Aestivarum Insularum alias Bermudas dictarum, ad Ostia Mexicani aestuarij jacentium in latitudine gradum 32 minutorum 25...* By this time (mid 17th century) the imagination of the Dutch engravers has taken off: A green haired Neptune holding his trident with one hand and a ship with the other, is riding an escutcheon and two green-haired mermaids are looking to him among hanging fish a seashell and a lion's head. Particular historical and cartobibliographical research is needed in order to find out how this cartouche came to look this way, whether someone ordered it to look like this, and where it alludes to.(For and equally impressive cartouche see Appendix: Plate 6).

After roughly the end of the 16th century, the trend to engrave a cartouche resembling a wooden frame was gradually fading away with exceptions, however (see Pictures 46, 47). The wooden cartouche was replaced by the strap-work cartouche which re-emerged not in its old form, but resembling more to a plaster-working artifact. Sometimes it was meticulously decorated with ionic columns with architectural ornaments such as volutes and triglyphs. Soon, Renaissance figures emerged. One type of those figures was putti (often winged and sometimes carrying navigational instruments) holding cloths and bearing either the title or the scale. 'The first begetter of those unwanted infants has never been discovered, but they infested



Picture 50: Detail of a 1640 map entitled *Andaluzia continens Sevillam et Cordubam*. Ionic order forms this cartouche along with the lion skin.



Picture 51: Another detail of the map described in Picture 50, this time of the scale. Robust putti are carrying a curtain pole. The scale is drawn on the curtain.



Picture 52 : Another 1640 cartouche example from a map entitled *Antiquorum Hispaniae Episcopatumum Geographica Descriptio*. This type of cartouche is rather unusual among Dutch cartography cartouches.

Dutch[...]maps from about 1640[...]About the same time, a geographical decorative theme was introduced. Groups of rustics, fishermen, milkmaids, bearded Muskovites and ebony Africans, in fact the idealised inhabitants of the country depicted, were grouped, with their appropriate implements and domestic animals, around the cartouche and title, as if about to be photographed'⁸³ (See also Appendix: Plates 7, 9, 12). Indeed, our experience with inspecting cartouches from numerous maps from online collections of that place and era also attests the previous statement, that these figures were connected geographically to the illustrated place. However, under no circumstances should we assume that that was the norm in the thousands of maps produced during that period: the art historian James Welu cites many examples of seventeenth-century Dutch maps whose ornamental embellishments were just randomly copied from other completely irrelevant geographically maps. According to him '[Dutch]cartographers had extremely eclectic taste, often disregarding the geographical appropriateness of the designs they selected. Thus a cartouche with nude figures drawn for a map of South America might be pirated by another cartographer for a map of the Arctic'⁸⁴.

Probably, from the moment where those *eclectic tastes* started affecting the decoration of the cartouches, somehow the way the Dutch wished to illustrate the world through the discipline of geography had changed. There was a 'very specific

⁸³ E. Lynam in *The Mapmaker's Art - Essays on the History of Maps*, p.50, 1953.

⁸⁴ In *Art and Cartography - SIX HISTORICAL ESSAYS*, Edited by David Woodward, from the Introduction, p.3. 1987.

Dutch strategy of representing the world at this time, a broadly appealing mode of mimetic engagement that may be termed[...] *exoticism*, the Dutch adopted a distinct



Picture 53 : Cartouche of map entitled *Graecia* of 1640. Figures are linked geographically to the map content as we can assume from their clothes.



Picture 54 : Detail from the cartouche of a 1640 map of Virginia and Florida entitled *Virginiae Partis Australis, et Floridae Partis Orientalis, Interjacentiumq; Regionum Nova Descriptio*. Figures seem to be geographically connected to the native Americans that have lived there.



Picture 55 : Cartouche of a 1645 map entitled *Bercheria Vernacule Barkshire*. There is no striking difference between what the title alludes to and the figures in this example, either.

strategy of exoticism in order to market a version of the world that,[...] was rendered attractive to the whole of Europe. ¹⁸⁵

⁸⁵ B. Schmidt in *Mapping an Exotic World: The Global Project of Dutch Geography, circa 1700* from *The Global 18th Century*, ed. F. Nussbaum. p.23-26. 2003.

Besides, 'the major atlases of Blaeu, Janssonius and de Wit appeared [...] in most major languages'⁸⁶. The globalisation of their own view of the world was now what the Dutch had had in mind. The narrative about the innovations of the Dutch cartouche ends around the end of the 17th century when it the was the turn of the French to lead the field of cartographic publishing. But before this chapter closes, we will make a description of the (mostly) female figures that flourished upon Dutch maps. Sometimes they illustrated Europe, Asia, Africa and America. Other times they stood for the Four Seasons and other times they represented Water, Air and Fire, the Four Elements which was a theme⁸⁷ that had pervaded also the Baroque art of painting or architecture coming straight from the Renaissance⁸⁷

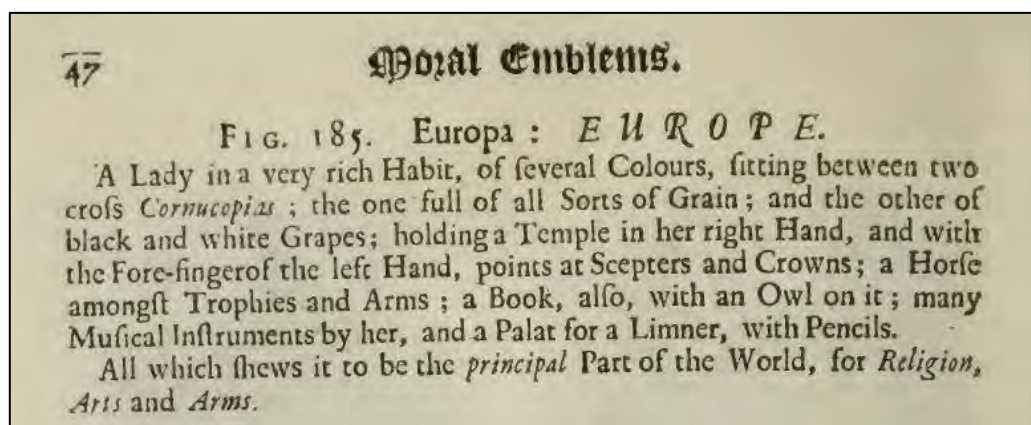
Regarding the 'Four Continents [they] decorated maps occasionally from 1580 into the 19th century[...]Europe was richly dressed, bore a sceptre, crown or globe, or all three, and had a horse or a bull beside her, while Asia wore a turban and flowering robes, carried an incense burner and was attended by a very nice camel'⁸⁸. Europe's figure was always shown being more intellectual and more powerful than the others, Asia was always shown exotic, America most of the times was holding a small child (which alluded to its *newborn* discovery) and Africa was shown bearing interesting artifacts, such as pieces of ivory that made reference to riches. 'From the Renaissance

⁸⁶ B. Schmidt in *Mapping an Exotic World: The Global Project of Dutch Geography, circa 1700* from *The Global 18th Century*, ed. F. Nussbaum. p.26. 2003.

⁸⁷ The Four Elements and the Four Seasons were depicted mostly in marginalia, as we will see later.

⁸⁸ E. Lynam in *The Mapmaker's Art - Essays on the History of Maps*, p.52, 1953.

on, [...] a civilizational 'pecking order' of the continents became established, with Europe at the top. Various books of iconography began to circulate among artists and decorators, to help them with the details when they wanted to adorn their work with the muses, the elements, the seasons or the continents. The most famous was Cesare Ripa's widely used *Iconologia*, first published in 1593, and in an illustrated edition in 1603. The plates of the four continents from the 1644 Dutch edition [...] formed the basis of the imagery and the iconography in the portrayal of the continents, in many cases until well into the twentieth century'.⁸⁹ Ripa shows Europe as a crowned and seated continent, queen and chief of the world, adorned with a horn of plenty, a tempieto 'symbolizing the true church'⁹⁰, [...] crowns to show the power of her princes



Picture 56 : *Iconologia, or, Moral Emblems* by C.Ripa. 1600. Detail describing Europe.

⁸⁹ M. J. Wintle in *The image of Europe*, p.53. 1953.

⁹⁰ *Ibid.*



Picture 57 : Iconologia, or, Moral Emblems by C.Ripa. 1600. Detail illustrating Europe.



Picture 58 : Iconologia, or, Moral Emblems by C.Ripa. 1600. Detail of Africa's depiction



Picture 59 : Iconologia, or, Moral Emblems by C.Ripa. 1600. Detail of Asia's depiction



Picture 60 : Iconologia, or, Moral Emblems by C.Ripa. 1600. Detail of America's depiction

and popes, weapons and chargers for her military prowess, a palette and musical instruments to symbolize the arts[...] Africa is half-naked and is accompanied by a lion and a scorpion, and wears an elephant-scalp headdress, 'which had been used to signify Africa since ancient times'⁹¹. Asia sits by a camel holding a censer, 'her most characteristic accoutrement'⁹² and of course, America is shown the most primitive of all with the severed head with an arrow through its forehead lying on the ground near her feet emphasizing it as 'the symbol of cannibalism, the ultimate feature of barbarism, savagery and primitiveness'⁹³. It is astonishing to observe how devotional the engravers and the cartographers of Dutch map publishing were to Ripa's guideline regarding the illustration of the continents on the cartouches⁹⁴. It also intriguing to observe how stereotypes were enhanced and disseminated through cartography. On the whole, the same rules were applied and the same personifications of the continents, with few and minor alterations, were used by cartography craftsmen throughout the many decades of abundant cartographic publishing during the Dutch Golden Age.

⁹¹ M. J. Wintle in *The image of Europe*, p.54. 1953.

⁹² M. J. Wintle in *The image of Europe*, p.53. 1953.

⁹³ M. J. Wintle in *The image of Europe*, p.55. 1953.

⁹⁴ Ripa's guidelines along with other engravings were more meticulously followed on the marginalia, as we will see later.



Picture 63 : America's illustration according to Ripa's standards sitting on an armadillo in a map of 1666 by Frederick de Wit entitled *Nova Totius Americæ Descriptio. Auct. F. de Wit.*



Picture 64 : Detail of upper part of a 1742 *Mappemonde*.

This cartouche comes from a map created by the French cartographer Guillaume de L'Isle. It was published by the Dutch publishers under the name of Covens et Mortier and because of this fact it is displayed here as an artifact of Dutch cartographic heritage belonging to the Low Countries' culture.

3.3 Marginalia

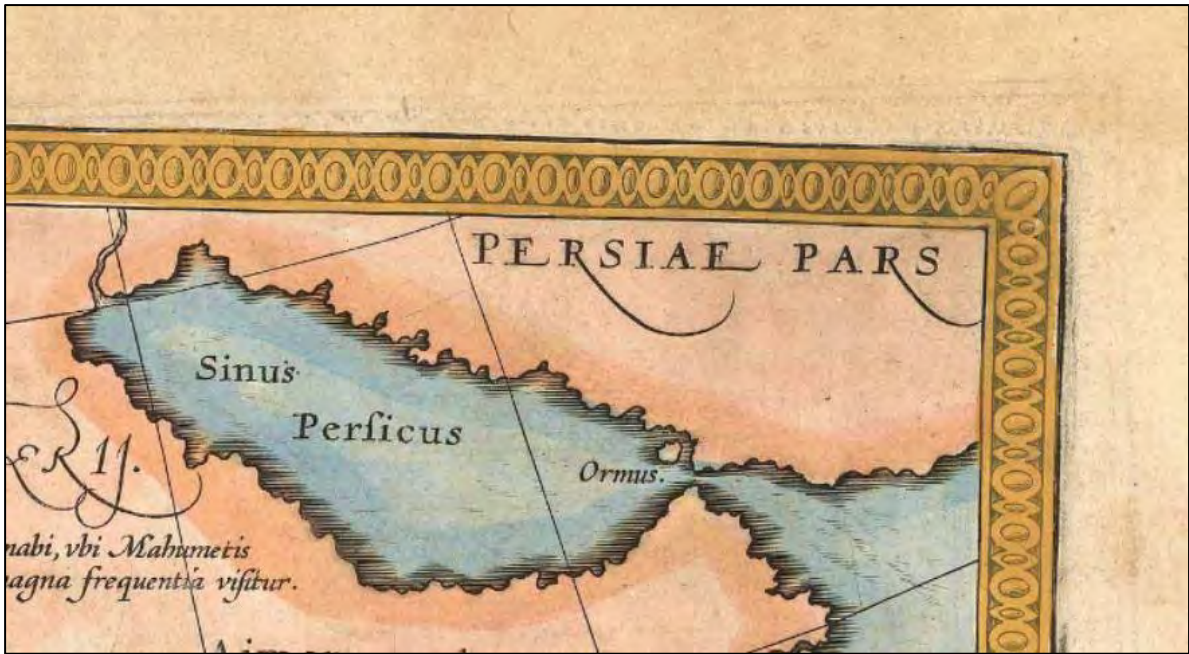
Marginalia in cartography are the illustrations placed at the borders around maps. Actually, 'the term *marginalia*[...] was coined in the early nineteenth century to refer to scribbles and comments written in the margins of books and manuscripts'⁹⁵. Nevertheless, their presence in early modern history maps was not as consistent as that of cartouches but whenever they were present they dominated over the layout of the map because of their attractive content.

Very early on in the 16th century they were in the form of completely plain rectangle frame-lines.



Picture 65: *Presbiteri Iohannis sive, Abissinorum Imperii Descriptio*. 1579.

⁹⁵ S.S. Lopez-Perez in *Marginalia in Cartography*, p.5. 2014.



Picture 66 : *Presbiteri Johannis sive, Abbyssinorum Imperii Descriptio*. 1579. Detail the framing.



Picture 67 : *Nova Totius Terrarum Orbis Geographica Ac Hydrographica Tabula* a Pet. Kaerio.1631. Detail of the lower left part of the marginalia.



Picture 68 : *Nova Totius Terrarum Orbis Geographica Ac Hydrographica Tabula* a Pet. Kaerio. 1631.

Later those rectangle frames became more elaborate and they illustrated pictures of mythology or allegory, pictures of cities and towns or pictures of different types of native inhabitants or of beautiful and interesting sites of a certain place shown on the map. The latter category of marginalia has survived through the centuries and is still present in our days in the form of tourist maps. R. Lister, (in *How to identify old maps and globes: with a list of cartographers, engravers, publishers and printers concerned with printed maps and globes c. 1500 to c. 1850*, p.66. 1965) identifies differently those decorative embellishments as *vignettes* in a different section than marginalia,

which he calls *borders*. We believe that the classification of all cartographic decoration can be 'fuzzy' thus we sort Lister's *vignettes* along with our marginalia.

In Picture 68, a world map of 1631 is illustrated. On the upper (horizontal) stripe of the marginalia are depicted the Gods and Goddesses of the Sun, the Moon and of five other planets, on the lower (horizontal) stripe are the Seven Wonders of the World. On the vertical stripes on the left there are the Allegories for the Four Elements and on the right those for the Four Seasons of the Year. When looking at this map, one assumes either that despite all the new discoveries, it was too early for the humanity to leave behind Paganism and all the mythology and the iconographic symbolism that came with it, or that the cartographer simply needed to beautify his map in order to sell it (or maybe both).



Picture 69 : *Insula Sive Regnum Siciliae urbibus Praecipuis exornatum et Novissime editum*. 1675.

In Picture 69 a map of 1675 illustrates the island of Sicily and in the horizontal stripe at its bottom there are four major cities of it, Milazzo, Palermo, Catania and Trapano.



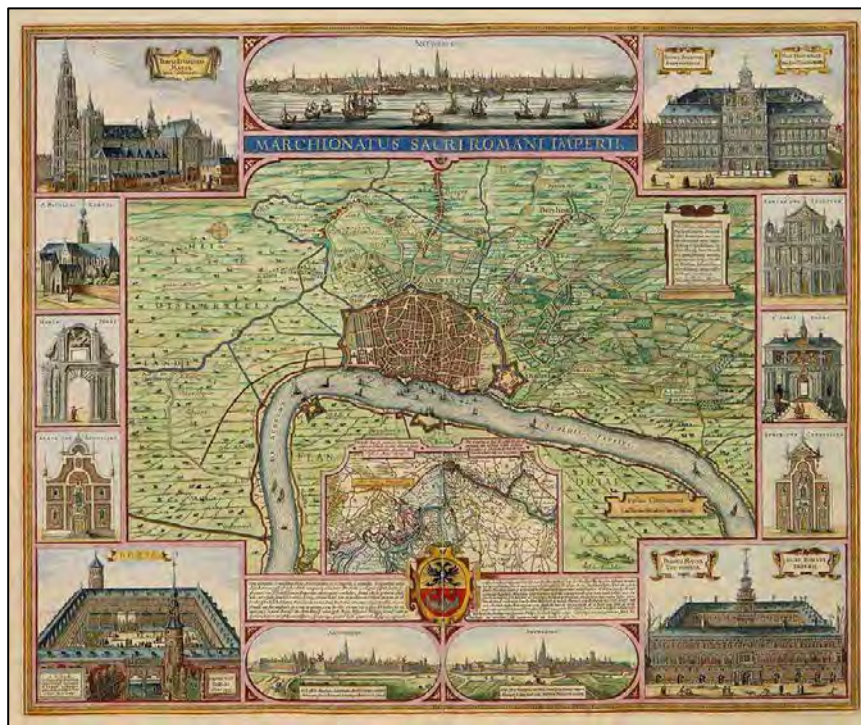
Picture 70 : *Insula Sive Regnum Siciliae urbibus Praecipuis exornatum et Novissime editum*. 1675. Detail of the two middle vignettes of the margin at the bottom of the map.



Picture 71 : *Nova et accurata Tabula Hispaniae Praecipuis Urbibus, Vestitu Insignibus, et Antiquitatibus exornata* per N. Johannis Visscher. 1652.



In Picture 71 Spain is illustrated among pictures of its *idealised inhabitants* and various landscapes around its territory. In Picture 72 (left), which is a detail of the right vertical stripe of the marginalia we see illustrations of Spanish people and of people from Biscay. In Picture 73 (below) which is a part of the lower horizontal stripe of the marginalia, the city of Toledo is depicted.



Picture 74: *Antwerpen, het markgraafschap en de belangrijkste gebouwen* (Antwerp, the march and the most important buildings). 1624. Atlas Van der Hagen.



Picture 75: *Antwerpen, het markgraafschap en de belangrijkste gebouwen* (Antwerp, the march and the most important buildings) . 1624. Atlas Van der Hagen. Detail.

Picture 75 shows a view of the city of Antwerp from its port and it is a vignette from the upper horizontal marginalia of the Antwerp map of picture 74. All the above are examples of the most common types of maps with rectangle marginalia published during the Dutch Golden Age.

Marginalia however was decorating also world maps illustrating the world in two hemispheres. In that case the Renaissance art forms were much more evident and the allusions to the Renaissance Symbology, to the Bible and to Mythology were more impressing because they dominated the map surface and they perhaps attracted the eyes of the viewer more than the map content. In that type of maps somehow because the artistic addition and its either christianic, paganistic or mythological content is surrounding and 'suffocating' the geographic content of the map itself, this mere fact shows the mentality of the creator towards the relation of religion and science. Nevertheless, marginalia in maps in general 'contributed to spread the knowledge of advances in astronomy and also in the understanding of natural phenomena'⁹⁶ (See also maps in Appendix: Plates 8, 10, 11).

⁹⁶ S.S. Lopez-Perez in *Marginalia in Cartography*, p.26. 2014.



Picture 77 : Europe



Picture 78 : Asia



Picture 76 : *Orbis Terrarum Tabula Recens Emendata et in Lucem Edita per N. Visscher.*
1663



Picture 79 : Africa



Picture 80 : America

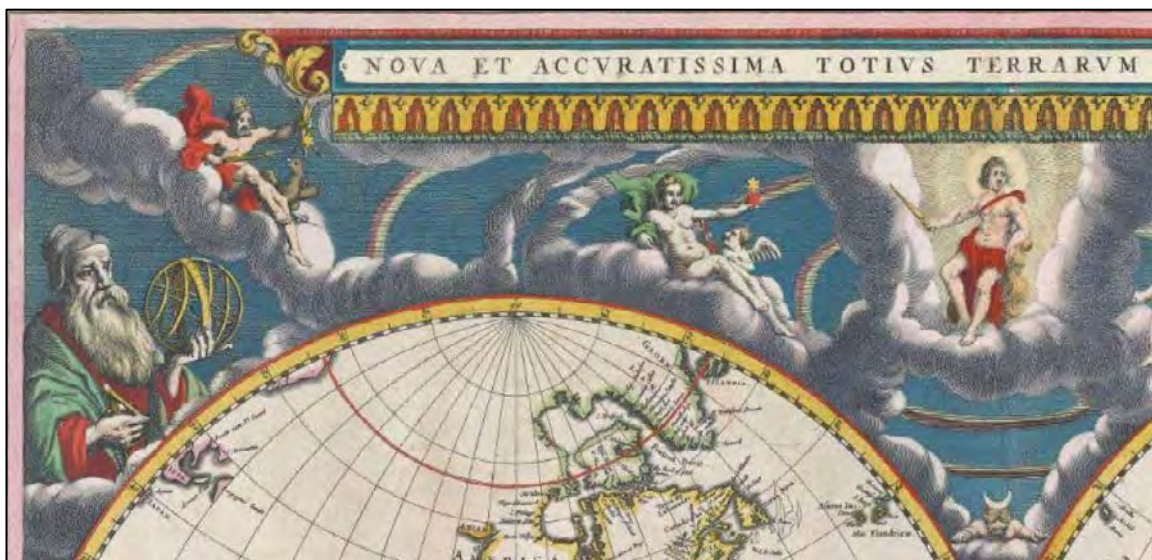
In Picture 76 a world map with two hemispheres and marginalia with allegorical illustrations at the four corners is shown. The all too familiar Renaissance illustrations of the Four Continents are shown in Pictures 77-80⁹⁷ which are details from the map's four corners.



Picture 81 : *Nova et Accuratissima Totius Terrarum Orbis Tabula. Auctore Joanne Blaeu. 1662*

⁹⁷ This particular map in Picture 76 is an example of colouring that might have happened from amateurs (i.e. women and children). As seen clearly in the details in Pictures 77-80, the paint layer is very thickly applied (see section Science and Technology of Cartography).

The map displayed in Picture 81 is 'a celebration of the Copernican universe'⁹⁸ At the upper margin from left to right (see Picture 82) we see the mythological depictions of planets seated upon the clouds. Jupiter is holding his thunder and Venus is touched by Cupid and she is holding a heart. Then follows 'the classical allegory of the sun'⁹⁹ and the Moon between the two hemispheres. Then follows (see Picture 83) Mercury with his characteristic winged petasos and caduceus, then Mars dressed ready for War and then Saturn holding a scythe which 'alludes to the passing of time'¹⁰⁰. The figures of men holding both a compass and a tellurium the one on the left and a globe the one on the right of the margin could be either Claudius Ptolemy, , or



Pictures 82 (above) and 83 (next) : *Nova et Accuratissima Totius Terrarum Orbis Tabula*. Auctore Joanne Blaeu. 1662. Details of upper left and upper right margins respectively.

⁹⁸ S.S. Lopez-Perez in *Marginalia in Cartography*, p.25. 2014.

⁹⁹ Ibid. The naked chested man with the red cloth seems, however, to have also a Christian iconographic touch.

¹⁰⁰ S.S. Lopez-Perez in *Marginalia in Cartography*, p.25. 2014.



Gerardus Mercator on the left and Joan Blaeu himself on the right (he is the man whose name is inscribed next to the map title). It was quite common for cartographers at that time to have faces of famous people who have contributed to cartography engraved on their maps (See also Appendix: Plate 14). The presence of the cartographers' illustrations proves that they must have been famous and recognizable around the Low Countries or even all around Europe. Apart from that, it gives us an idea of the cartographers saw themselves, in relation to their place in a position of power in the world. The cartographer measures and depicts the world that God created . Next to 'God-Architect of the World' who created the world and offered it to humanity (Picture 84) there is 'Man-Cartographer' who offers to humanity a picture of the world as accurate as possible.



Picture 84: *God as Architect/ Builder/ Geometer/ Craftsman* from the Frontispiece of *Bible moralisé*. Mid-13th Century. The globe in medieval and Renaissance iconography was a symbol of power for the person who held it. In many portraits of kings and queens, they are shown holding it.



Pictures 85-86 : *Geography*,
Illustration and description from
Iconologia, or, Moral Emblems by
C.Ripa. 1600.

FIG 138. Geographia: *G E O G R A P H Y*
 An old Dame, in an Earth-colour'd Garment; a terrestrial Globe at her Foot; the Compasses in her right Hand, wherewith she measures the said Globe, and a geometrical Square in her left.
 Old, denotes the *Antiquity* of this Art; the Compasses, the *measuring* and *describing* of the Earth, which is truly Geography. The Square, the *taking* the severall Proportions, Length, Breadth, &c.



Pictures 89-90 : Astronomy, Illustration and description from Iconologia, or, Moral Emblems by C.Ripa. 1600.

FIG 29. Astronomia: *A S T R O N O M Y*
 A Lady in a starry Habit, her Eyes looking up to Heaven; in her right Hand holding an Astrolabe, and in her left a Table of Astronomical Figures.
 Her Garment denotes the Night *most* proper to see the Stars; her Eyes, and Thoughts always elevated, and intent, upon *celestial* Bodies. The Astrolabe measures the Distance of them; the Table shews its Difference from *Astrology*.

The bearded man on the left has been identified¹⁰¹ to illustrate Astronomy and the one on the right, Geography. We have presented also our own interpretation simply because of the mere fact that during the Renaissance, Astronomy was

¹⁰¹ According to S.S. Lopez-Perez in *Marginalia in Cartography*, p.26. 2014. Although there is no reason to doubt her we also add our own opinion with our arguments.

represented in all arts by Urania, one of the 9 muses of Greek mythology. Urania was the muse of Astronomy and grand-daughter of Uranos (Sky in Greek). Furthermore, during Renaissance there was a tendency to illustrate Sciences and Arts as women both in Arts and Cartography. There are numerous examples Atlas' frontispieces with ladies as Astronomy or Geography and men as cartographers (See Picture 93). There are also examples of maps bearing illustrations of cartographers and other scientists (See Appendix: Map 18). Finally in (Ripa's guideline, mentioned in previous sections as well) Iconologia, or, Moral Emblems, Astronomy and Geography are depicted as women (See Pictures 85-90).



Picture 91: Representation of Ptolemy by Unknown Author.1854.



Picture 92: Der Kartograf und Globenhersteller Gerhard Mercator im Alter von 62 Jahren.



Picture 93: Gerard Mercator and Jodocus Hondius, in the frontispiece of Mercator's posthumous Atlas (1613)

To conclude with the Blaeu map marginalia in the lower margin, appear the four seasons : Spring and Summer are nude and holding flowers and wheat respectfully (See Picture 94). Autumn is a Dionysus-like figure holding grapes and Winter is a shivering old man trying to get some warmth by a fire. (See Picture 95).

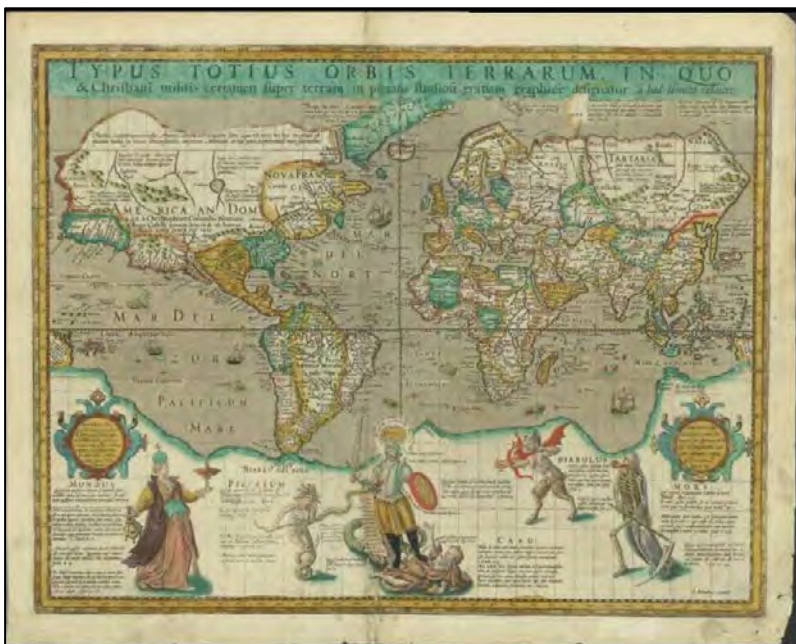


Picture 94 : Nova et Accuratissima Totius Terrarum Orbis Tabula. Auctore Joanne Blaeu. 1662. Detail of lower left margin.



Picture 95 : Nova et Accuratissima Totius Terrarum Orbis Tabula. Auctore Joanne Blaeu. 1662. Detail of lower right margin.

Finally, two very rare types of maps where text and illustration, as they appear in marginalia are not structured in any of the ways we previously described. Our first example map is 'Typus Totius Orbis Terrarum in quo et Christiani militis certamen super terram (in pietatis studiosi gratiam) graphice designatur' by Jodocus Hondius and it was created in 1596-7.



Picture 96: "Typus totius Orbis Terrarum, in quo & Christiani militis certamen super terram (in pietatis studiosi gratiam) graphice designatur. à lud. Hondio caelatore", 1597.

Peter Barber wonderfully explains the artistic figures at the bottom of this map¹⁰²: 'The scene at the foot of the map, showing the Christian Knight struggling against (reading from the left) Worldly Vanity, Sin, Carnal Weakness, the Devil and Death, , might be dismissed today as mere conventional morality. Yet Hondius' s contemporaries, who were as familiar with visual allegories and the Bible as we are with crossword puzzles and television programmes, would have known differently. They would have noticed the face of the knight bore more than a passing resemblance to Henri IV of France (an ally of Elizabeth of England), who was then going through a critical phase in his war against Catholic Spain. The chalice borne by the figure of the World ('Mundus') is identified as having once been owned by the Whore of Babylon-a familiar Protestant term of abuse for the Papacy. The biblical texts further emphasize the fight between (Protestant) good and (Catholic) evil.



Picture 97: "Typus totius Orbis Terrarum, in quo & Christiani militis certamen super terram (in pietatis studiosi gratiam) graphicè designatur. à lud. Hondio caelatore", 1597. Detail of the left part of the margin at the bottom of the map.

¹⁰² P.Barber and C.Board in *Tales from the map room: Fact and fiction about maps and their makers.* p.24-25. 1993.



Picture 98: "Typus totius Orbis Terrarum, in quo & Christiani militis certamen super terram (in pietatis studiosi gratiam) graphicè designatur. à lud. Hondio caelatore", 1597. Detail of the right part of the margin at the bottom of the map.

The second example is a very famous map that has somehow remained a mystery regarding the identity of its author. It is called *The Fool's Cap Map of the World* and its date of publishing is estimated between 1580 and 1590.



Picture 99: "Fool's Cap Map of the World", between circa 1580 and circa 1590.

The map shows the bell-tipped cap of a jester whose face is replaced by the world. In the Shakespearean stage the Fool was a character who was allowed to mock everyone else when at the same time he was speaking truth. Because the theater imitated the real world we can assume that when people of the 16th century viewed this map they were totally aware of the allusion the jester's head made. There are several quotes in Latin spread all over the surface of the map: 'the donkey's ears refer to the supposed stupidity of the [...]donkey. Inscribed on them is the quote *Auriculas asini quis non habet*, meaning "Who doesn't have donkey's ears?"[...] and across the cap's brow, the inscription says *O caput elleboro dignum* and translates as "O head, worthy of a dose of hellebore" with *hellebore* being a family of mostly poisonous plants [which are] reputed to induce madness. [...] and over the cap is [an inscription that says NOSCE TE IPSUM which is] the Latin version of the Greek dictum "Know thyself" ¹⁰³ (See Picture 100).

'During the fifteenth and sixteenth centuries this erring, irresponsible, extra-social, comical creature [the fool] [...]became a temporary symbol of man's weakness and strength, and "folly" served for a time as an explicit term for the characterization of human nature. Popular proverbs and maxims furnished a precedent for calling all erring human beings fools and for condemning them as such. But fools in another sense were the daily or seasonal companions of most fifteenth century citizens. The mentally defective were not then isolated in institutions but supported as harmless

¹⁰³ F. Jacobs in *480-The Fool's Cap Map of the World* from blog *Strange Maps*.2010.

dependents in villages, courts and country houses[...] [and] the unconscious wisdom occasionally brought forth by the unreasonable mind of the "innocent" and the belief in his association with the powers of nature added a portion of respect to the patronizing amusement with which the fool was regarded .' ¹⁰⁴ Thus, the fool's illustration must have created a certain amount of familiarity to the viewers of the map who lived towards the end of the 16th century. But as the world moved on from the post medieval years towards the Enlightenment and through the Scientific Revolution folly and its relation to humankind was shunned and 'the fool was the shame of 'nature', the exception to the rule'¹⁰⁵. 'Sixteenth century emphasizes on man's strength, either through himself [i.e. through Science] or through God's grace'¹⁰⁶ [i.e. with the help of religion] but not on his weaknesses which are projected and represented on the Fool. The unknown author of this interesting map created it exactly at the threshold of humanity's transition from ignorance to knowledge and perhaps we could see it as a resentful goodbye to man-Fool and a reserved hello to man-Conqueror¹⁰⁷.

¹⁰⁴ B.Swain fromt the Introduction in *Fools and Folly during the Middle Ages and Renaissance*. 1992.

¹⁰⁵ Ibid.

¹⁰⁶ Ibid.

¹⁰⁷ The terms man-Fool and man-Conqueror are assumed from the previously mentioned text of B.Swain.



Picture 100: Detail of the *Fool's Cap Map of the World*.

Overall, this thesis is an attempt to interpret the evolution of cartographic decorations along with the context within which it happened. It is an extended literature review along with subjective interpretations in selective cases. Cartographic decorations are classified regarding both their place on the map (cartouches, marginalia, all over the map) and thematically (in the case of decorations all over the map monsters and ships). This provides the context to prove that their place was changing according to the progress of the science of cartography. The short history at the beginning along with the artistic decorations section explains the question of why artistic decorations in cartography peaked there and then i.e. why in the Low Countries and why in the Dutch Golden Age 17th century :

a) Because it was there that the liberal society, along with the riches and the sailing companies that the map became an everyday artifact, thus it had to attract the buyers, thus it had to be pretty.

b) Highly-skilled engravers who lived first in Antwerp and then in Amsterdam made the Low Countries a place where cartographic publishing could flourish.

b) Because for the first time artists/cartographers had to be businessmen too, thus they had to attract the buyers, thus they had to make the maps pretty.

c) A handful of pioneers with Mercator making a start on improving cartographic engraving techniques made it easier for cartographers to draw detailed decorations on maps.

d) Those decorations were gradually shunned because as geographic information from the explorations became more abundant, simply there was no room on the map for them anymore.

e) The visual appearance of the decorations was largely influenced from the Late Renaissance and Baroque artistic styles that dominated Europe in that time.

4. Conclusion

4.1 Summary of findings

All the scientific and exploration outburst in the 16th century Europe led to a great knowledge accumulation. This deeper knowledge of the physical world allowed the cartographers to fill the previously blank spaces on the maps with images of everything that the new discoveries revealed the world contained. Therefore imaginary and real sea and continental monsters, ships, savages, native inhabitants wearing their traditional clothes, flora and fauna flourished in maps. At first they were spread all over the map surface, but then, as the information coming from navigation journals was becoming greater and precise and the cartographers were able to have more accurate shorelines and to assign more place names and more conventional geographic signs to a certain map area, these embellishments were shunned. It was there, roughly at the middle of the 17th century that the Dutch took up the leading place in European cartographic publishing after the Italians left off and this is why that kind of decorations is not present in the Dutch Golden Age Cartography.

By that time, the Italians had already created the cartouche and had decorated it with Renaissance art. Sea monsters' careers on maps were heading towards their end thus, it was the cartouche and marginalia that the enamoured with Renaissance Dutch cartographers could celebrate. And they did: All the aquatic and continental

figures previously shunned from the face of the map found refuge near the Dutch cartouche and mythological and moral narratives were placed in marginalia.

However, rectangle marginalia was not so much of decoration. It played more of an informative role as its vignettes, full of figures of native inhabitants and of views of the depicted country or city, were always relevant with the geographic content of the map. It was the cartouche that was the main decorative element of the map with its sometimes extravagant design and irrelevant figures that distracted the viewer's eyes from the map content. Nevertheless, marginalia on world maps with two hemispheres was a feast for the Renaissance eye which was trained to see through the symbolism of the art. There paraded from robust putti standing for winds to ladies for continents, seasons and sciences, and from men representing cartographers to many gods and goddesses of mythology.

The presence of structured cartographic ornamentation was abundant in cartography throughout the whole Dutch Golden Age and the marvelous maps produced within its span remind us vividly still in our days the link between cartography and the graphic arts.

4.2 Arising questions

This research was performed in the context of an extended literature review along with the articulation of certain subjective interpretations and conclusions. In order to have a whole opinion about whether cartographic decorations were not random and

to form and opinion about why they looked the way they looked in the Dutch Golden age, one needs to make research through large number of maps. Furthermore, an extensive research to other disciplines such as that of engraving is indispensable because it would allow further analysis of the sources of the decorations and how they were developing over time. It is interesting to see further when and if cartographers stopped following the decorative patterns of engravers and started creating their own. In what ways engravings were different and in what ways similar and why cartographers had to take initiative is a question whose answer could be very fruitful for other scientific fields such as history.

What would be more interesting beyond this research is a comparison of maps with the same geographical content but with a different decorative content. In many occasions plagiarism happened among cartographers but they were always trying to add a new decorative element to the map they had copied¹⁰⁸. In Picture 64 a cartouche with the Four Continents is shown. It belongs to a map from the French cartographer Guillaume Delisle and was published in 1742 by the Dutch Covens et Mortier. A map with an identical geographic content from the same cartographer but published in Paris in 1720 bears a similar cartouche but with some striking differences in details. Due to copyright reasons the 1720 map cannot be inserted in this thesis but here follows a description: The figure of Africa in the French map holds a fern whereas the same figure in the Dutch map holds ivory. The figure of Europe in the 1720 map is sitting in a more passive way whereas in the 1742 map it is stressing its

¹⁰⁸ J.A. Welu in *The Sources and Development of Cartographic Ornamentation in the Netherlands*, from ART AND CARTOGRAPHY-SIX HISTORICAL ESSAYS. 1987.

left hand open. Unless the French had changed the copper plate before Covens and Mortier copied it, because obviously 'the two maps are not printed from the same copperplate'¹⁰⁹, then it would be very interesting to see under what circumstances and why the Dutch made such a change. It could be random of course but it could be substantial as well due to the fact that ivory alludes to riches (after all it was all about money at that time in the Low Countries) and that in artistic iconography (with a lot of examples in Byzantine iconography mostly) an open palm has a whole different meaning than any other gesture. But for this to be safely concluded 'cartobibliographical research is needed'¹¹⁰ and conclusions should not be frivolous. Regarding the iconography of the cartouches and the presence of putti and of female figures around them, there have been arguments that their number must have had a special meaning because it was most of the time 3¹¹¹ or a multiple of the number 3¹¹². During the study of this thesis the number of maps examined were not more than some hundreds. The number of figures in the cartouches was counted in the cartouches in a random selection and indeed a tendency of their number to be a multiple of 3 was observed, however not on a large number of cartouches. Generally the number of figures was observed to be random.

¹⁰⁹ Dr Marco Van Egmond , in personal communication.

¹¹⁰ Ibid.

¹¹¹ The number 3 and its significance for Freemasonry, which counted many of its members among prominent scientists (probably there were many cartographers among them) in the Renaissance and the Enlightenment is well-known and way beyond the aim of this research to be furtherly analysed.

¹¹² Professor Philippe de Maeyer, in personal communication.

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Picture 11: *The Tailor's Workshop* by Quirijn Gerritsz Brekelenkam. 1661. Oil on canvas. Amsterdam, Rijksmuseum. Source: Wikimedia Commons, Public Domain.

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Picture 14: Untitled Ptolemaic map of the world, 1504. Source: Osher Map Library.

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Picture 17: Orbis Terrae Novissima Descriptio, 1602. Detail.Source: Osher Map Library. Creative Commons,licensed under Non commercial-ShareAlike 3.0 Unported Licence .

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<<http://www.oshermaps.org/search/zoom.php?no=355.0001#img0>>

Pictures 18-20: Angliae et Hiberniae Accurata Descriptio [...], 1609.Source: Osher Map Library. Creative Commons,licensed under Non commercial-ShareAlike 3.0 Unported Licence .

Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=361.0001#img0>>

Picture 21: Cross-staff with four transoms.

Source: Wikimedia Commons," Jacobstaff, crosstaff, ballestilla, ballestilha (navigational instrument - s.XII to s.XVI)" by [Mcapdevila](#) is licensed under CC Attribution-Share Alike 3.0 Unported Licence.

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<<http://commons.wikimedia.org/wiki/File:Ballestilla.jpg>>

Picture 22: Mariner's Astrolabe.

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Accessible at:

<http://commons.wikimedia.org/wiki/File:Silver-plated_Mariner%27s_Astrolabe.jpg>

Picture 23: Hispaniae et Portugalliae regna per Nicolaum Visscher cum privilegio ordinum Hollandiae et Westfrisae (no colour), Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence.

Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=63.0001#img0>>

Pictures 24-28: Hispaniae et Portugalliae regna per Nicolaum Visscher cum privilegio ordinum Hollandiae et Westfrisae (with hand-applied colour). Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence.

Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=64.0001#img0>>

Pictures 29-30: Ebstorfer World Map, T-O-Design, was attributed to Gervase of Tilbury at around 1234 for some time, newer comparisons do date the original image into the year 1300 and no longer to that person. Source: Wikimedia Commons, Public Domain.

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<http://commons.wikimedia.org/wiki/File:Ebstorfer-stich2.jpg>

Pictures 31-33: The Harleian Mappemonde, 1550. British Library, Add. MS 5413

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Accessible at:

<http://commons.wikimedia.org/wiki/File:Harleian.jpg>

Picture 34: Carta marina et Descriptio septemtrionalium terrarum ac mirabilium rerum in eis contentarum, diligentissime elaborata Anno Domini 1539 Veneciis liberalitate Reverendissimi Domini Ieronimi Quirini, 1539. Source: Wikimedia Commons, Public Domain.

Accessible at:

http://commons.wikimedia.org/wiki/File:Carta_Marina.jpeg

Picture 35: Islandia, 1590. Source: <http://galleribygdovalle.no/norsk/> in Wikimedia Commons, Public Domain.

Accessible at:

<http://commons.wikimedia.org/wiki/File:Abraham_Ortelius-Islandia-ca_1590.jpg>

Pictures 36,37: Nova Francia alio nomine dicta Terra Nova, between 1592 and 1594. Source: [Bibliothèque et Archives nationales du Québec](#) in Wikimedia Commons, Public Domain.

Accessible at:

<http://commons.wikimedia.org/wiki/File:1592_4_Nova_Doetecum_mr.jpg>

Pictures 38,39: Insulae Moluccae, 1592. Source: Verloren Geschiedenis, Bell, Packard in Wikimedia Commons, Public Domain.

Accessible at:

<http://commons.wikimedia.org/wiki/File:1592_Insullae_Moluc_Plancius.jpg>

Pictures 40, 41: Tartaria, circa 1630. *University of Washington Libraries, Special Collections, MAP005.*

Accessible at:

<<http://digitalcollections.lib.washington.edu/cdm/singleitem/collection/maps/id/76/rec/19>

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Picture 42: : Tabu Totius Orbis : Orbis Typus Universalis iuxta Hydrographorum Traditionem exactissime. 1535. Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence .

Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=251.0001#img0>>

Picture 43: : Typus Cosmographicus Universalis. 1534.

Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence .

Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=250.0001#img0>>

Picture 44, 45: Hispalensis conventus sive Andaluzie pars. 1579. Source: Osher Map Library.

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Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=26.0001#img0>>

Picture 46 : Africa Ex magna orbis terre descriptione. 1633. Detail.

Source: Osher Map Library.

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Unported Licence .

Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=394.0001#img0>>

Picture 47 : Maris Pacifici (quod vulgo Mar del Zur) cum regionibus circumiacentibus, insulisque in eodem passim sparsis, novissima descriptio. 1602. Detail. Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence .

Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=353.0001#img0>>

Picture 48 : Calabria Ultra olim Altera Magnae Graeciae pars. 1640. Detail.

Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence .

Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=141.0001#img0>>

Picture 49 : Mappa Aestivarum Insularum alias Bermudas dictarum, ad Ostia Mexicani aestuarij jacentium in latitudine gradum 32 minutorum 25... 1635. Detail.

Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence .

Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=402.0001#img0>>

Picture 50, 51 : Andalusia continens Sevilam et Cordubam. 1640. Detail. Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence .

Accessible at:

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Picture 52 : Antiquorum Hispaniae Episcopatum Geographica Descriptio. 1640. Detail.

Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence .

Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=48.0001#img0>>

Picture 53 : Graecia 1640. Detail.

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Picture 54 : Virginiae Partis Australis, et Floridae Partis Orientalis, Interjacentiumq, Regionum Nova Descriptio. 1640. Detail. Source: Osher Map Library.

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Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=416.0001#img0>>

Picture 55 : Bercheria Vernacule Barkshire. 1645. Detail. Source: Osher Map Library.

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Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=148.0001#img0>>

Pictures 56-60 : Iconologia, or, Moral Emblems by C.Ripa. 1600. Detail. Source: Emblem Collection of the University of Illinois, Internet Archives .

Accessible at:

<<https://archive.org/details/iconologiaormora00ripa>>

Picture 61 : Novissima et Accuratissima Totius Americae Descriptio per N. Visscher. 1689.

Detail. Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence .

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<<http://www.oshermaps.org/search/zoom.php?no=518.0001#img0>>

Picture 62 : Terra Nova ac maris Tractus circa Novam Franciam, Angliam, Belgium, Venezuelam, Novam Andalusiam, Guianam, et Brasiliam Apud F. de Wit Terra Neuf en de custen van Nieu Engeland, Nieu Nederland, Nieu Andalusia, Guiana en Venezuela Fredrick de Wit. 1675. Detail. Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence .

Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=1764.0001#img0>>

Picture 63 : Nova Totius Americæ Descriptio. Auct. F. de Wit . 1666. Detail.

Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence .

Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=1750.0001#img0>>

Picture 64 : Mappemonde. 1742. Detail. Source: David Rumsey Map Collection.

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Accessible at:

<http://www.davidrumsey.com/luna/servlet/view/search?q=4638001&sort=Pub_List_No_InitialSort&search=Search>

Pictures 65,66 : Presbiteri Johannis sive, Abbissinorum Imperii Descriptio. 1579.

Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence .

Accessible at:

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Pictures 67, 68 : Nova Totius Terrarum Orbis Geographica Ac Hydrographica Tabula a Pet.

Kaerio. 1631. Detail. Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence .

Accessible at:

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Picture 69, 70 : Insula Sive Regnum Siciliae urbibus Praecipuis exornatum et Novissime

editum. 1675. Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence .

Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=11832.0001#img0>>

Pictures 71-73 : Nova et accurata Tabula Hispaniae Praecipuis Urbibus, Vestitu Insignibus, et Antiquitatibus exornata per N. Johannis Visscher. 1652.Source: Osher Map Library.

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Pictures 74, 75: *Antwerpen, het markgraafschap en de belangrijkste gebouwen (Antwerp, the march and the most important buildings)* . 1624. Atlas Van der Hagen.

Source: Atlas van der Hagen in Wikimedia Commons, Public Domain.

Accessible at:

<[http://commons.wikimedia.org/wiki/File:Marchionatus Sacri Romani Imperii - Antwerpen, het markgraafschap de de belangrijkste gebouwen %28Claes Jansz. Visscher, 1624%29.jpg](http://commons.wikimedia.org/wiki/File:Marchionatus_Sacri_Romani_Imperii_-_Antwerpen,_het_markgraafschap_de_de_belangrijkste_gebouwen_%28Claes_Jansz._Visscher,_1624%29.jpg)>

Picture 76-80 : Orbis Terrarum Tabula Recens Emendata et in Lucem Edita per N. Visscher. 1663. Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence .

Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=460.0001#img0>>

Picture 81-83 & 94,95 : Nova et Accuratissima Totius Terrarum Orbis Tabula. Auctore Joanne Blaeu. 1662. Source: Osher Map Library. Creative Commons, licenced under Non commercial-ShareAlike 3.0 Unported Licence .

Accessible at:

<<http://www.oshermaps.org/search/zoom.php?no=458.0001#img0>>

Picture 84: God as Architect/ Builder/ Geometer/ Craftsman from the Frontispiece of Bible moralisé. Mid-13th Century. Ink, tempera, and gold leaf on vellum. Vienna. Österreichische Nationalbibliothek. Source: Wikimedia Commons, Public Domain.

Accessible at:

<<http://commons.wikimedia.org/wiki/File:God-Architect.jpg>>

Picture 85-90: Iconologia, or, Moral Emblems by C.Ripa. 1600. Detail. Source: Emblem Collection of the University of Illinois, Internet Archives .

Accessible at:

<<https://archive.org/details/iconologiaormora00ripa>>

Picture 91: Representation of Ptolemy by Unknown Author.1854. Paris.

Source: Wikimedia Commons, Public Domain.

Accessible at:

<http://commons.wikimedia.org/wiki/File:Ptolemy_Thevet_1584.g.png>

Picture 92: Der Kartograf und Globenhersteller Gerhard Mercator im Alter von 62 Jahren. 1574. Source: Atlas sive Cosmographicae Meditationes de Fabrica Mundi et Fabricati Figura, 1595 in Wikimedia Commons, Public Domain.

Accessible at:

<http://commons.wikimedia.org/wiki/File:Gerardus_Mercator_3.jpg>

Picture 93: Gerard Mercator and Jodocus Hondius, in the frontispiece of Mercator's posthumous Atlas (1613)

Source: The Telegraph,

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Accessible at:

<<http://www.telegraph.co.uk/culture/books/bookreviews/9556037/A-History-of-the-World-in-Twelve-Maps-by-Jerry-Brotton-review.html>>

Pictures 96-98: Typus totius Orbis Terrarum, in quo & Christiani militis certamen super terram (in pietatis studiosi gratiam) graphicè designatur. à lud. Hondio caelatore", 1597.

Austrian Academy of Sciences: The Woldan Collection. K-V(BI): WE 49

Pictures 99-100: "*Fool's Cap Map of the World*", between circa 1580 and circa 1590.

Source: [Coin des cartes anciennes](#) in Wikimedia Commons, Public Domain.

Accessible at:

<http://commons.wikimedia.org/wiki/File:Fool%27s_Cap_Map_of_the_World.jpg>

Appendix



Plate 1: "Americae Sive Novi Orbis, Nova Descriptio" , circa 1570 . University of Washington Libraries, Special Collections, MAP005.



Plate 3: "Italiae Novissima Descriptio Avctore Iacobo Castaldo Pedemontano" , 1579 . University of Washington Libraries, Special Collections, MAP111.

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Plate 4: "Tartariae Sive Magni Chami Regni", 1584. University of Washington Libraries, Special Collections, MAP129.

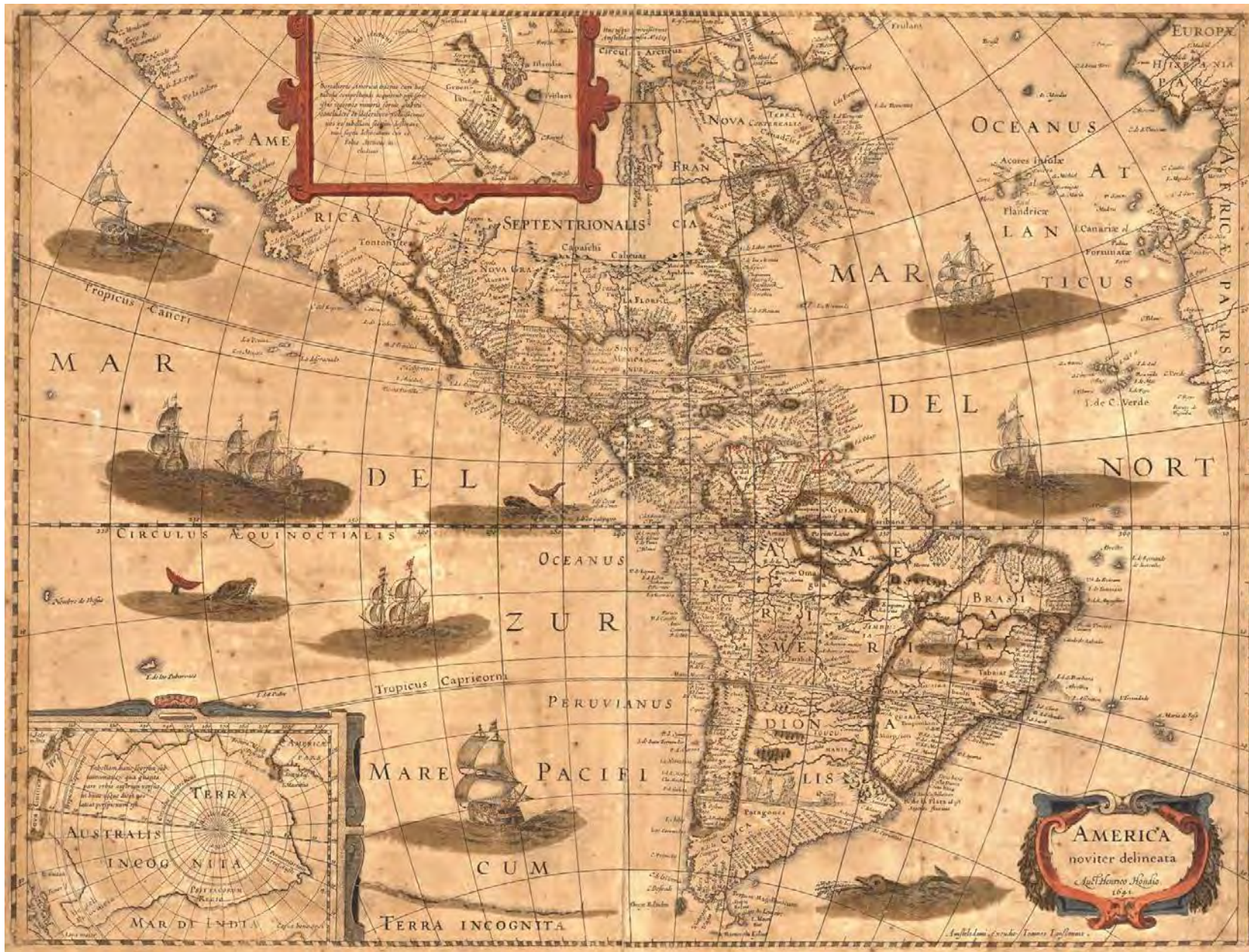


Plate 5: "America noviter delineata" , 1641 . University of Washington Libraries, Special Collections, MAP010.



Plate 6: "Tabula Geographica Mexicæ et Floridae etc." , 1722 . University of Washington Libraries, Special Collections, MAP101.



Plate 7: "China Veteribus Sinarum Regio nunc Incolis Tame dicta" , 1635 . *University of Washington Libraries, Special Collections, MAP115.*



Plate 8: "Nova Orbis Tabula in Lucem Edita. A.F. de Witt." , circa 1680 . *University of Washington Libraries, Special Collections, MAP002.*



Plate 9: "Novissima et accuratissima totius Americae descriptio", circa 1670 . *University of Washington Libraries, Special Collections, MAP176.*

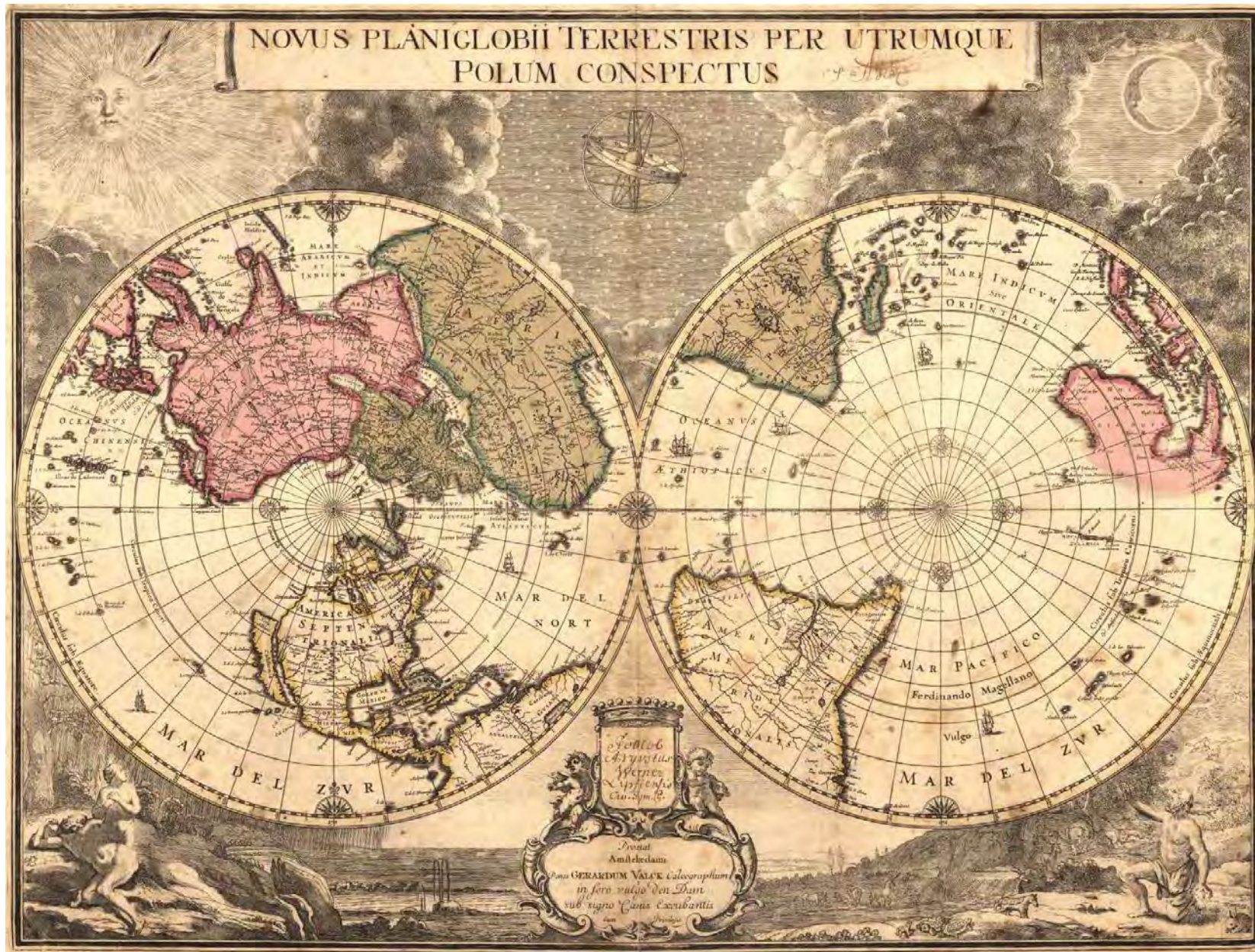


Plate 10: "Novus Planiglobii Terrestris per Utrumque Polum Conspectus" , 1695 . University of Washington Libraries, Special Collections, MAP174.

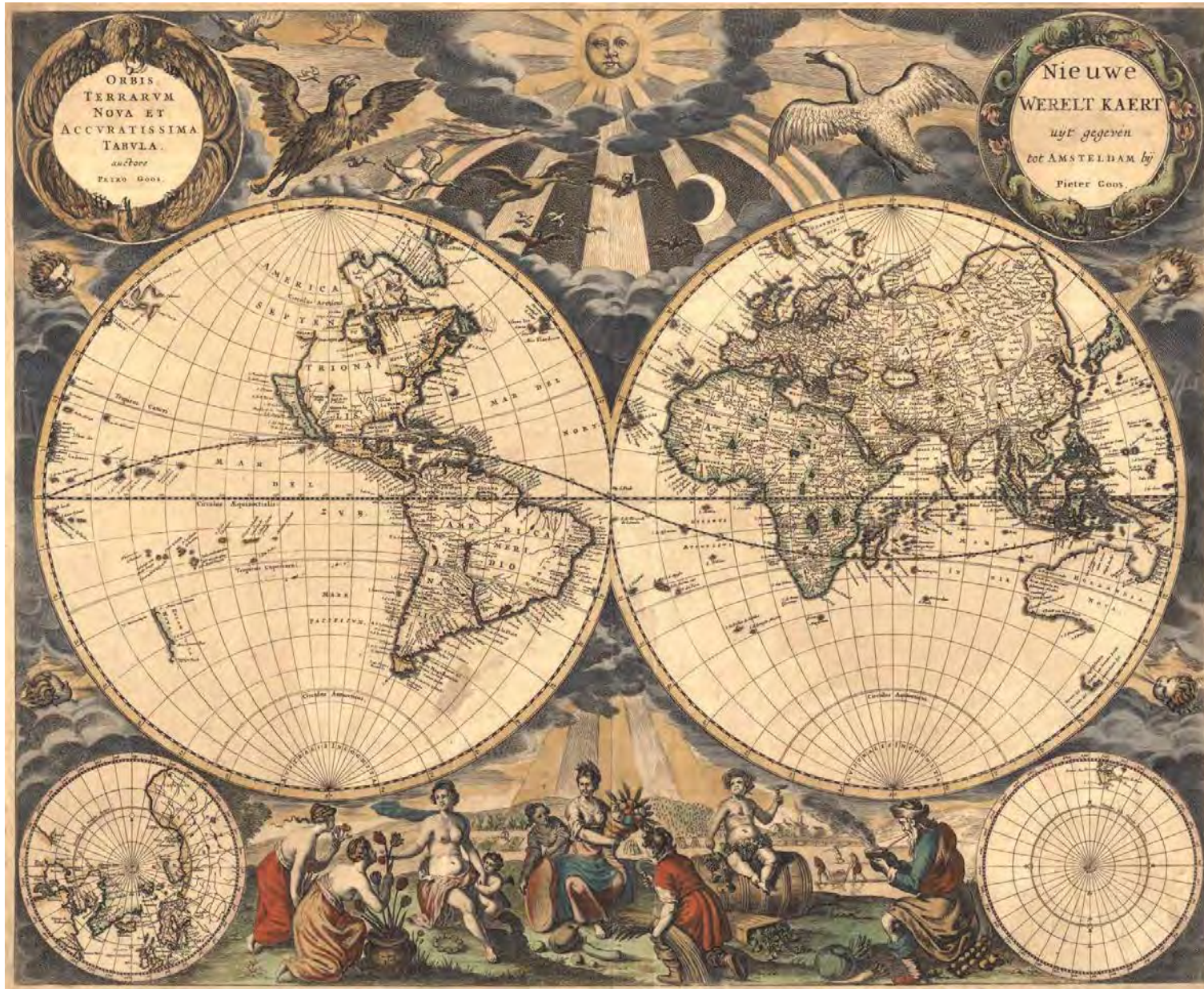


Plate 11: "Orbis Terrarum Nova et Accuratissima Tabula" , circa 1666. *University of Washington Libraries, Special Collections, MAP007.*



Plate 12: "Tabula Indiae Orientalis", 1662 . University of Washington Libraries, Special Collections, MAP153.



Plate 13: "Tartaria", circa 1630. University of Washington Libraries, Special Collections, MAP131.



Plate 14: "Nova totius Terrarum Orbis geographica ac hydrographica tabula", 1631. Wikimedia Commons.

http://commons.wikimedia.org/wiki/File:Nova_totius_Terrarum_Orbis_geographica_ac_hydrographica_tabula_%28Hendrik_Hondius%29_balanced.jpg