

Representing Reality: A Century of Dutch Golden Age Maps at New College Library

From 1588 until 1672, the Dutch experienced an almost unparalleled period of political, economic, and military growth. Despite only declaring independence from Spain in 1581, the following century saw what historians have coined as ‘the Dutch miracle’.¹ Subsequently, many commentators have described the seventeenth century as a ‘Golden Age’ for the country,² though the term has more recently come under scrutiny.³ Throughout this period, the fledgling Dutch Republic became a world power: ships financed by the Dutch East India Company expanded trade, Dutch merchants established the first modern stock exchange, and Dutch science and culture flourished. New College Library is fortunate to own many books from this extraordinary period of history—with a particular strength in one of the most important elements behind the success of the Dutch Republic: cartography.

In this article, three beautiful Golden Age atlases are explored. Beginning with a fine copy of one of the first world atlases ever produced, the *Theatrum Orbis Terrarum* from 1584, the essay then showcases the library’s tenth edition of Gerhard Mercator’s famous atlas from 1630, reflecting on the cartographical innovation produced in the Netherlands throughout this period. Finally, it shows how Dutch cartography expanded into the heavens towards the end of the century, with the publication of Andreas Cellarius’s *Harmonia Macrocosmica* in 1660.⁴ As each subsequent book is discussed, their unique histories are explored, revealing how, when, and why they were acquired by the library. Thanks to these three books, it is possible to chart the development of cartography—and indeed the Dutch Golden Age itself—through New College Library’s unique collections.

Firstly, though, it is important to note just how difficult it was to create maps during this period. An extremely laborious process, they were perhaps the most expensive books that could be produced. Each map that appeared in an atlas had to be cut as an individual copperplate—a highly skilled and therefore extremely expensive task. As each atlas naturally consisted of several maps bound together, the creation of even one volume required significant investment.⁵ As such, it is important to understand the unique circumstances present in the Low Countries in this period—circumstances that helped to create modern cartography. To begin with, there was already an existing and healthy market for books in the Dutch Republic. Thanks to improved education, literacy rates steadily climbed throughout the seventeenth century, with the country having, as Van Miert points out, ‘the most literate society of seventeenth-century Europe’.⁶ A highly literate population led to an explosion of interest in printed material, creating the perfect conditions for

¹ Helmer J. Helmers and Geert H. Janssen, ‘Introduction: Understanding the Dutch Golden Age’, *The Cambridge Companion to the Dutch Golden Age*, ed. Helmer J. Helmers and Geert H. Janssen (Cambridge: Cambridge University Press, 2018), pp. 1–12, at p. 1.

² See for example J. L. Price, *Dutch Culture in the Golden Age* (London: Reaktion Books, 2011), p. 9, and Dániel Margócsy, *Commercial Visions: Science, Trade, and Visual Culture in the Dutch Golden Age* (Chicago: University of Chicago Press, 2014), p. 28.

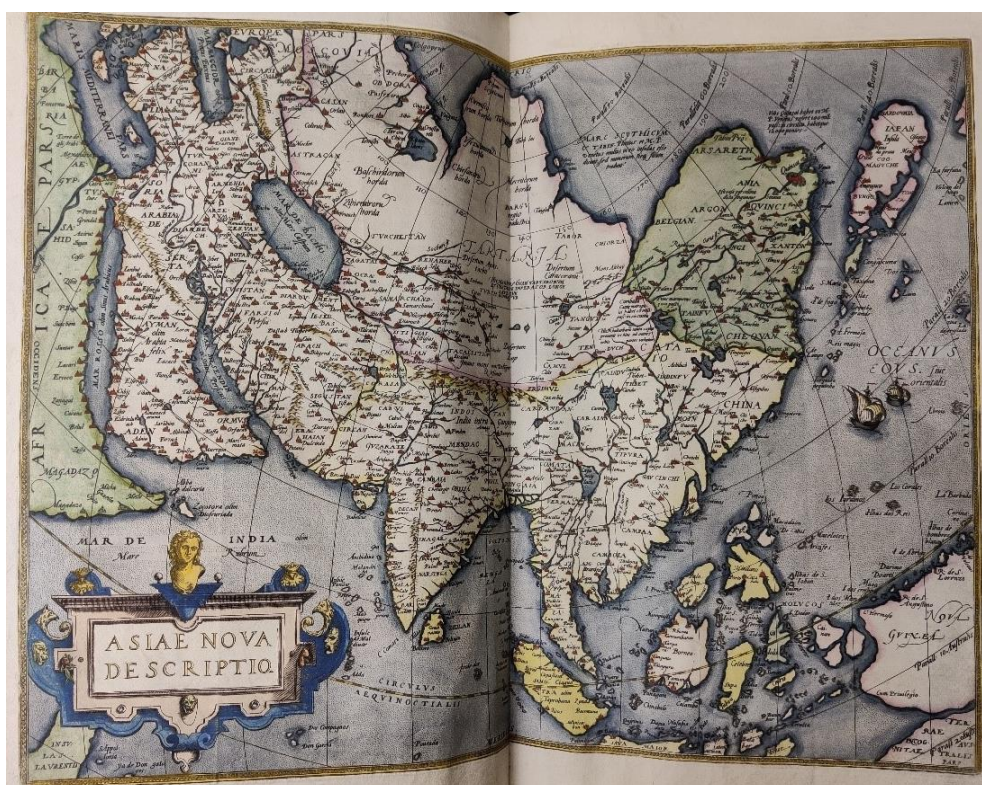
³ As the Dutch Republic profited from colonialism and the slave trade during this period, public institutions have started to reconsider the use of the word ‘Golden’ to describe this period. The Amsterdam Museum, for example, decided in 2019 to no longer use the term to describe the city in the seventeenth century. For more information, see Daniel Boffey, ‘End of Golden Age: Dutch museum bans term from exhibits’, *The Guardian* (13 September 2019): <www.theguardian.com/world/2019/sep/13/end-of-golden-age-amsterdam-museum-bans-term-from-exhibits>.

⁴ Abraham Ortelius, *Theatrum Orbis Terrarum* (Antuerpiæ: Auctoris ære & cura impressum, absolutumque apud Christophorum Plantinum, 1584); *Gerardi Mercatoris Atlas sive Cosmographicae meditationes de fabrica mundi et fabricati figura* (Amsterdam: Sumptibus et typis aeneis Henrici Hondij, 1630); and Andreas Cellarius, *Harmonia macrocosmica seu Atlas universalis et novus totius universi creati cosmographiam generalem, et novam exhibens* (Amstelodami: Apud Joannem Janssonium, 1660), New College Library, Oxford, held at respectively BT1.24.1, BT1.32.7, and BT1.32.8.

⁵ Andrew Pettegree and Arthur der Weduwen, *The Bookshop of the World: Making and Trading Books in the Dutch Golden Age* (New Haven: Yale University Press, 2019), p. 112.

⁶ Dirk Van Miert, ‘Education’, *Cambridge Companion*, ed. Helmers and Janssen, pp. 333–49, at p. 333.

publishers to thrive.⁷ Secondly, there was a clear local market just for atlases. The Golden Age was an unprecedented era of expansion, with Dutch sailors exploring the world in a merchant fleet that exceeded the combined size of those of England, Spain, and France.⁸ All of these newly visited and newly discovered territories needed to be mapped in order to aid navigation, creating a new interest in the science of cartography.⁹ Finally, all of this trade and economic growth created the wealth that could finance the creation of ever more lavish maps. In the seventeenth century, a confederation of towns and provinces had transformed itself into ‘a cosmopolitan center of finance and international trade’.¹⁰ As such, lavish maps came to be considered status symbols, helping to create and display bourgeois distinctiveness—‘projecting the official, legitimate view of national solidarity, triumph and wealth’.¹¹ The Dutch had grown the economy thanks to global trade links, and merchants could then finance the production of ever more luxurious atlases to demonstrate their wealth and increased scientific knowledge.



The map of Asia in the *Theatrum Orbis Terrarum*—New College Library, Oxford, BT1.24.1
This and following images © Courtesy of the Warden and Scholars of New College, Oxford

Now that we have established just why the Netherlands became such an important centre for the creation of books—and especially maps—throughout this period, we can now turn to the start of this cartographical development by examining New College Library’s copy of Abraham Ortelius’s *Theatrum Orbis Terrarum*. Dating from 1584, this book is a very early edition of this text,

⁷ The Dutch Republic of this period has been described as a land ‘teeming with books’. More of its citizens owned books than anywhere else in Europe, with the Dutch Republic publishing ‘more books per capita than any other book producing nation’. See Pettegree and der Weduwen, *Bookshop of the World*, p. 1.

⁸ John F. Richards, *The Unending Frontier: An Environmental History of the Early Modern World* (Berkeley, Calif.: University of California Press, 2003), p. 49.

⁹ W. Redmond Cross, ‘Dutch Cartographers of the Seventeenth Century’, *Geographical Review* 6 (1) (1918), 66–70.

¹⁰ Charles H. Parker, *Global Calvinism: Conversion and Commerce in the Dutch Empire, 1600–1800* (New Haven: Yale University Press, 2022), p. 1.

¹¹ Elizabeth Sutton, *Capitalism and Cartography in the Dutch Golden Age* (Chicago: The University of Chicago Press, 2015), p. 131.

which was completely revolutionary when it was first published in 1570. Although maps attempting to depict the entire world had been published to some extent before,¹² Ortelius's decision to create an entire volume only consisting of maps was completely new. Indeed, it was so new that there was no commonly defined term for this new invention. Ortelius decided to use the term 'Theatrum' [theatre], but 'Speculum' [mirror] and, of course, atlas were also used. It was not until the last third of the seventeenth century that the modern term atlas became generally accepted.¹³

The atlas covers all known continents, but perhaps the most interesting is the map shown above, depicting the continent of Asia. Deliberately designed to catch the eye, this impressive map is designed to showcase the latest cartographical knowledge to the reader. Recognisable to a modern viewer, it represented a complete break with older medieval ideas based purely on the traditions of Christianity and Antiquity, with Ortelius deliberately segregating modern geography from the Ptolemaic geography of the classical era.¹⁴ The New College Library copy of this book is then further enhanced as it is coloured by hand and embellished with decoration in the world's oceans. Sea monsters appear throughout the atlas, together with the modern ships that were bringing back all this new knowledge to the Low Countries. Such decoration would add another fifty or one hundred gulden to the price, making this copy a luxurious, expensive item.¹⁵



A sea monster and ship depicted off the coast of Mexico
in the *Theatrum Orbis Terrarum*
New College Library, Oxford, BT1.24.1

Such decoration would add another fifty or one hundred gulden to the price, making this copy a luxurious, expensive item.¹⁵

This atlas is particularly important, though, as it represents the very start of Dutch Golden Age cartography—revealed through its publication date and location. Its publication location of Antwerp, for example, is significant when the wider Dutch revolt against Spanish rule is considered. Despite resisting Spanish occupation, Antwerp fell to Spanish forces in 1585—only one year after the publication of this atlas. After this event, the city became fully Catholic once more, but, crucially, Calvinists in the city were allowed to emigrate and given a two year grace period to remove their capital and goods from the city.¹⁶ Many of the wealthiest and most enterprising of these Protestants, therefore, decided to emigrate north to Holland and Zeeland.¹⁷ Amongst them, naturally, were cartographers and publishers keen to continue their trades free from persecution. This New College Library book, therefore, is interesting as its publication date represents the start of a period of innovation that would transform the Dutch book trade forever. Shortly after its publication, the centre of book production started to pivot northwards, with refugees bringing their existing knowledge to the ever growing cities of the Dutch Republic.

¹² Indeed, some of these earlier maps can be found in New College Library's own collections. MS 274—a thirteenth century copy of Pliny's *Historia naturalis*—includes a medieval world map, and BT3.187.1(2)—a copy of Sebastian Münster's *Cosmographia*—includes early woodcut maps of Europe. For more information, see Jenny Adams, 'A Book with a Price in the World: New College MS 274', *New College Notes* 11 (2019), no. 2, and William Shire, 'A Changing World: Sebastian Münster's *Cosmographia* from 1544—BT3.187.1(2)', *New College Notes* 16 (2021), no. 5.

¹³ James R. Akerman, 'Atlas: Birth of a Title', *The Mercator Atlas of Europe: Facsimile of the Maps by Gerardus Mercator Contained in the Atlas of Europe, circa 1570–1572*, ed. Marcel Watelet (Pleasant Hill, OR: Walking Tree, 1998), p. 26.

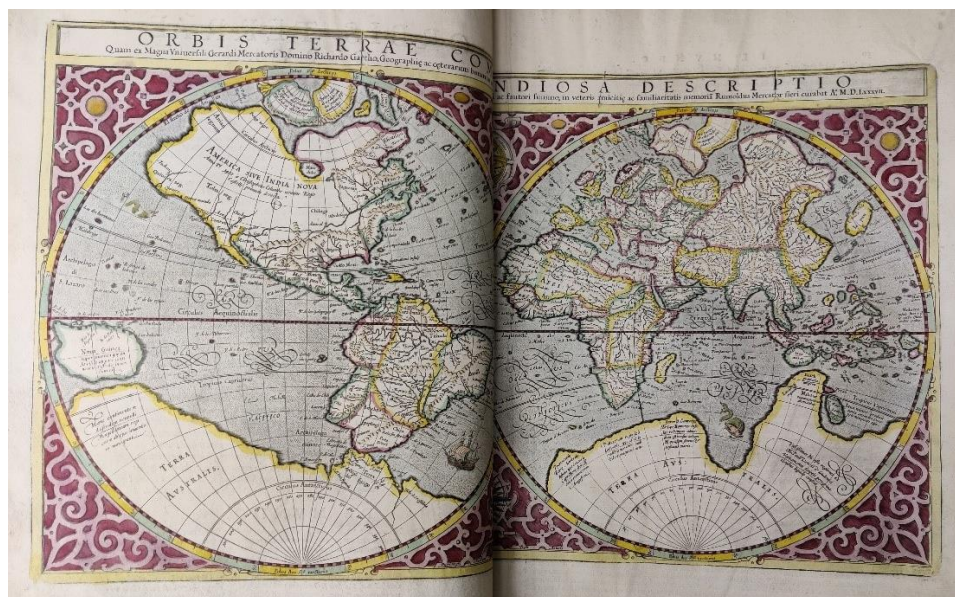
¹⁴ Walter Goffart, *Historical Atlases: The First Three Hundred Years, 1570–1870* (Chicago: The University of Chicago Press, 2003), p. 17.

¹⁵ Pettegree and der Weduwen, *Bookshop of the World*, p. 112.

¹⁶ C. R. Boxer, *The Dutch Seaborne Empire, 1600–1800* (London: Hutchinson, 1965), p. 18.

¹⁷ *ibid.*, p. 18.

Interestingly, this religious turmoil and political change is further reflected in the book's unique provenance history. Thanks to the Library Benefactors' Book, we know that a copy of the *Theatrum Orbis Terrarum* was donated to the college in 1588 by Thomas Martin (1520/21–1592/3), shortly before his death.¹⁸ Although there are no provenance markings on the New College copy, William Poole has rightly argued that this copy must correspond to Martin's original donation—particularly as it is such a fine and expensive book, bound in vellum.¹⁹ Indeed, it is clear that Thomas Martin had a demonstrable interest in geography. Together with the Ortelius atlas, he also donated a 1493 copy of *De Situ Orbis*, a classical text by the Roman geographer Pomponius Mela, and, later, Richard Hakluyt's famous navigations to the New World.²⁰ Thomas Martin perfectly represents the religious and political turmoil of the start of the Dutch Golden Age throughout Europe. A Catholic who had worked as Bishop Gardiner's protégé under Mary Tudor, he had played an important role as an enforcer of the Marian Reformation.²¹ In contrast with the Dutch merchants who fled Antwerp to Amsterdam, though, Martin still decided to donate his copy of the *Theatrum* to New College, even though by the time of his donation New College had become a convincingly Protestant college.²² This may seem surprising at first glance—especially as this atlas would have been one of Martin's most prized possessions. As Poole points out, though, it proves that Old Members in England could feel loyalty to their college that surpassed purely religious grounds²³—a reality that may not have been possible on the continent at this period. This beautiful book, therefore, is not only interesting purely for its cartography, although the fact that it is one of the world's oldest atlases would secure its bibliographical importance on its own. Both its publication history and provenance only add to its significance, with the New College copy of this atlas revealing a world in flux. This was a world that changed both cartography and New College forever, with publishers, cartographers, and book purchasers all reacting to the ever changing world of the Reformation.



The world map in Mercator's atlas, utilising the now famous Mercator projection
New College Library, Oxford, BT1.32.7

¹⁸ Library Benefactors' Book, New College Library, Oxford, BT1.4.6, p. 40.

¹⁹ William Poole, 'The 1588 Donations to New College Library of Thomas Martin, Lawyer and Recusant', *New College Notes* 4 (2013), no. 3.

²⁰ Arabella Milbank, 'Sixteenth-Century Ownership of the Bohun Apocalypse, New College MS 65', *New College Notes* 4 (2013), no. 5.

²¹ *ibid.*

²² Poole, '1588 Donations'.

²³ *ibid.*

We can now turn our attention to our second Golden Age atlas, created by the famous Dutch cartographer Gerhard Mercator (1512–1594). A tenth edition of a text originally published from 1585, the New College Library copy was first published in 1630. Easily the most famous map from this beautiful atlas is shown above, with Mercator depicting the entire world in exquisite detail over two full pages. A cartographical revolutionary, Mercator's first experience with globe making occurred around 1536, when he engraved the lettering for a terrestrial globe.²⁴ His greatest contribution to cartography, though, can be seen in the design of maps, not globes. In 1569, he developed what later became known as the Mercator projection, shown in the map above. A revolutionary new projection, it used unequally spaced lines of latitude to depict the spherical globe in two dimensions. Although it distorted surface area and made its scale extremely variable (particularly at high altitudes),²⁵ this new projection had the potential to greatly aid navigation. By maintaining constant angles, it enabled sailors to represent a curved line on the sphere of the Earth with a straight line on a map—greatly facilitating the task of the navigator in plotting a steady course.²⁶ If you look closely at the map above, you can see just how influential this new projection came to be. The map looks strikingly familiar to the modern eye—the entirety of Africa is clearly recognisable and North and South America are coming into shape. Indeed, it looks so modern because it is familiar. The standard world map used today is still based on the Mercator projection—an important example of Dutch cartography still influencing the modern era.

The fact that this atlas is a tenth edition, published in 1630, only adds to its significance, as it can be directly contrasted with the earlier Ortelius map explored above. Thanks to its publication history, it perfectly represents the continued cartographical development present in the Dutch capital throughout the early seventeenth century. Although based on Mercator's earlier work, this tenth edition was produced in the workshop of Henricus Hondius (1597–1651), who had in turn inherited the business from his father, Jodocus Hondius (1563–1611). Originally from a Protestant family in Ghent, Jodocus Hondius had fled to Amsterdam via London, due to religious persecution.²⁷ After moving to the prosperous city of Amsterdam, he set up a publishing house, crucially coming into possession of the plates of Gerhard Mercator after his death.²⁸ Importantly, though, the Hondius family did not merely reprint Mercator's plates. Instead, they continually developed and adapted them, dropping Mercator's old plates and replacing them as they became antiquated.²⁹ Henricus continued this process after his father had died, ensuring that this tenth edition was as accurate as possible when it was published. This map, therefore, highlights the continued development of cartography in Amsterdam—a process facilitated by the continued development of cartographical theory in workshops and the perfect conditions described above that made the growing city of Amsterdam the perfect place to market atlases.

Fortunately, we again know the precise provenance history of this book. Thanks again to the Benefactors' Book, we know that the Mercator atlas was donated to New College in 1665.³⁰ Similarly to the Ortelius atlas, it was donated by a member of college: Robert Sharrock (1630–1684). Most famous as a natural historian, Sharrock was active in the establishment of the University's new botanic garden. Sharrock's most famous written work was in the field of botany, as he published a work in 1660 on the history of the propagation and improvement of vegetables.³¹ After studying at Winchester College, he developed a deep and long-standing connection with New College, after he was elected as a perpetual fellow of the college in March 1649. It is not clear

²⁴ Mark Monmonier, *Rhumb Lines and Map Wars: A Social History of the Mercator Projection* (Chicago: The University of Chicago Press, 2004), p. 3.

²⁵ Mireille Pastoreau, 'The 1569 World Map', *Mercator Atlas of Europe*, ed. Watelet, p. 79.

²⁶ *ibid.*

²⁷ Anita McConnell, 'Hondius, Jodocus [Joost de Hondt] (1563–1612)', in *Oxford Dictionary of National Biography*: <<https://doi.org/10.1093/ref:odnb/13655>>.

²⁸ Cross, 'Dutch Cartographers', 67.

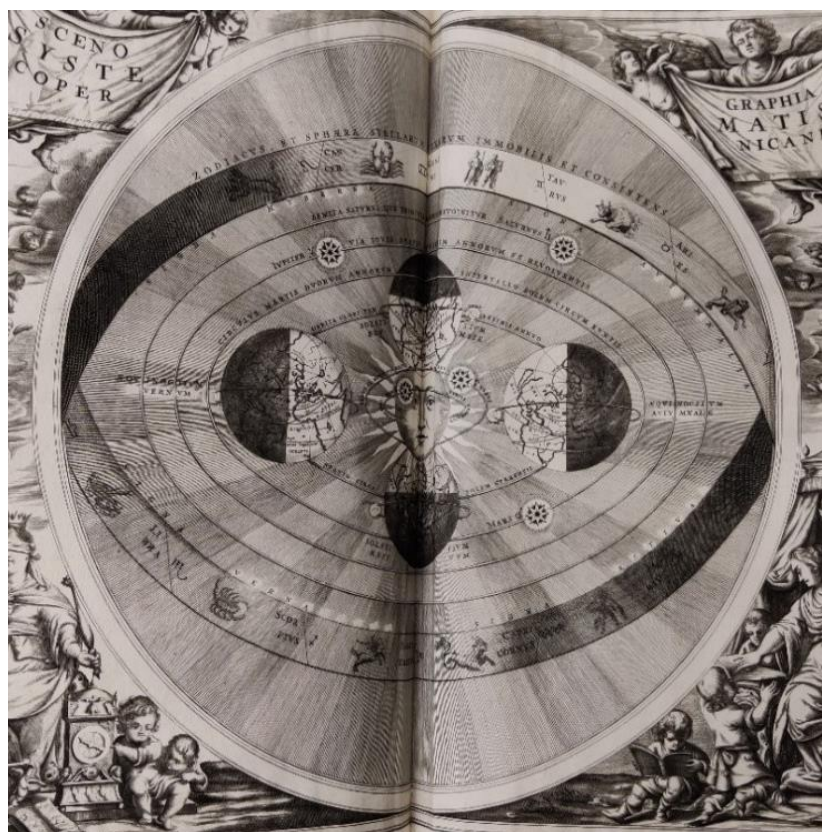
²⁹ *ibid.*, 68.

³⁰ Library Benefactors' Book, p. 97.

³¹ This book—Sharrock's first published work—is also held in New College Library, Oxford, at BT3.264.25(1).

precisely why Sharrock decided to donate this item to New College. In total, he donated over forty books to the college in his life time, covering several subject areas. The fact that the major atlas he donated was produced in the Netherlands, though, reveals the international reputation of Dutch cartography—which only grew throughout the seventeenth century. Sharrock may have wanted to donate the best atlas possible in gratitude to his alma mater—and the best atlases money could buy were produced in the Netherlands in this period.

To conclude this article, we can now focus on our final atlas—the *Harmonia Macrocosmica*—produced towards the end of the Golden Age by the Dutch-German cartographer Andreas Cellarius (c. 1565–1665), again in Amsterdam. Dating from 1660 and considered to be one of the highlights of Dutch cartography,³² New College is fortunate to own a first edition copy of this influential text. Thanks to Robert Selby's decision to donate it to the college,³³ New College Library is the only library in Oxford to own such an edition, and one of only four libraries in the United Kingdom known to hold it.³⁴ This early edition is particularly interesting in terms of cartography as it expanded the scope of the previous atlases discussed above. Instead of focusing purely on the Earth's surface, it attempted to depict the cosmos itself and to understand humanity's place within it. Such a project had long been the aim of Dutch cartographers, with Mercator himself originally wanting to create 'a great cosmography, a work that would attempt to describe the history and disposition of the entire universe'.³⁵ Cellarius's *Harmonia Macrocosmica*, therefore, is a unique development—utilising the cartographical and cosmographical skill developed in Amsterdam to map not just the globe, but the entire cosmos.



The Copernican model of the solar system, as depicted in the *Harmonia Macrocosmica*
New College Library, Oxford, BT1.32.8

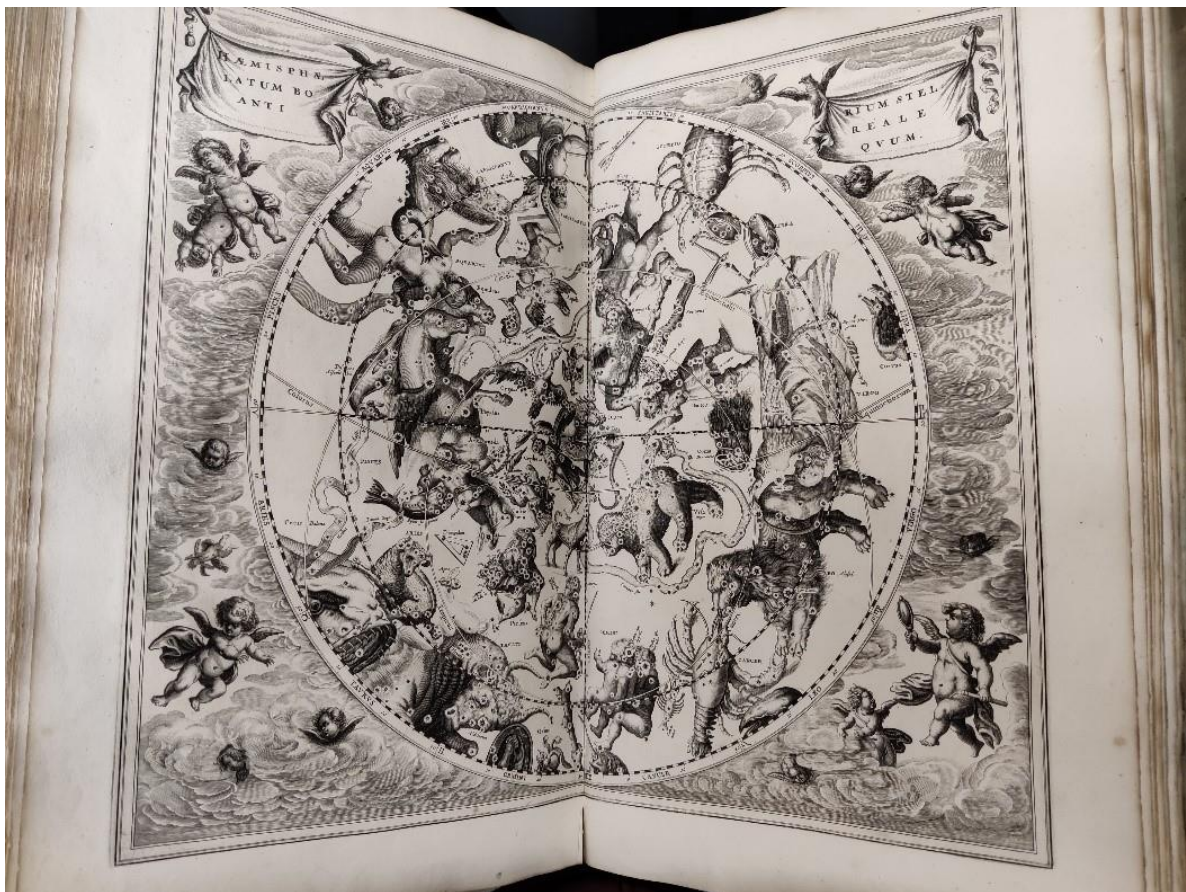
³² Nick Kanas, *Star Maps: History, Artistry, and Cartography*, 3rd ed. (Cham: Springer, 2019), p. 217.

³³ Robert Selby was an alumnus of New College, who in total donated fifty books to New College Library in the late seventeenth century. His donation of the *Harmonia Macrocosmica* is listed on p. 149 of the Library Benefactors' Book.

³⁴ The other three are Aberdeen University Library, the British Library, and Queens' College Library, Cambridge.

³⁵ Nicholas Crane, *Mercator: The Man Who Mapped the Planet* (London: Weidenfeld & Nicholson, 2002), p. 195.

Published at a time of intense debate around the nature of the solar system, Cellarius starts his atlas with a discussion of different astronomical theories. After depicting the established Ptolemaic model—which argued that the Sun orbited the Earth—Cellarius introduces two newer models: the Tychonian system and the Copernican system, developed by Tycho Brahe (1546–1601) and Nicholas Copernicus (1473–1543) respectively. Both dating from the sixteenth century, the Copernican system argued that the Earth revolved around the Sun, whereas the Tychonian system acted as a compromise. As Copernicus’s new system ran against established Church thinking, Brahe devised a complex model that incorporated part of the Copernican model, but argued that the Earth, not the Sun was stationary.³⁶ Although geocentric and hence more in line with religious thought, the system was eventually disproved in favour of the Copernican model. In the *Harmonia*, each system in turn is depicted using strikingly beautiful plates. One of these plates, depicting the successful Copernican system, is shown above. In the centre of the page, you can clearly see the sun at the centre of the solar system, with a cartographically accurate globe—reminiscent of the Mercator world map—shown revolving around it. Although discussing all of these systems, Cellarius clearly favoured the Copernican system long before it gained wider acceptance in later decades.³⁷



The signs of the zodiac, as depicted in the *Harmonia Macrocosmica*
New College Library, Oxford, BT1.32.8

Beautifully decorated throughout, the most famous plate from this celestial atlas appears towards the end of the volume. Above, you can see an impressive depiction of the heavens, illustrated with various signs of the zodiac. Immediately eye-catching, these depictions were

³⁶ Michael A. Seeds, Dana Backman, *Universe: Solar System, Stars, and Galaxies* (Boston, Mass.: Cengage, 2012) p. 55.

³⁷ *The Oxford Handbook of the History of Mathematics*, ed. Eleanor Robert and Jacqueline A. Stedall (Oxford: Oxford University Press, 2009), p. 543.

lastingly popular, with the plates issued as individual prints until well into the eighteenth century.³⁸ Even today, their baroque beauty attracts interest from collectors the world over.³⁹ This celestial atlas, therefore, effectively combined new scientific knowledge with technical expertise and physical beauty, making it representative of a highpoint of Dutch Golden Age cartography. Indeed, it is so important as it would never be bettered in the Low Countries. In 1672—just over a decade after this book was published—the Dutch experienced their *Rampjaar*, or Disaster Year. Following the outbreak of war with France, the bishops of Münster and Cologne, and with England at sea, most of the country was occupied by foreign forces.⁴⁰ The Dutch Republic would never recover from this disaster, and the world's centre of economic power began to move towards other European countries, most notably Great Britain and France. Consequently, key developments in map production began to move to other countries, particularly Enlightenment France and, later, the newly independent United States.⁴¹

In conclusion, therefore, this article has demonstrated the significance of these three unique items from New College Library's collections. To begin with, it has shown that they are without doubt key texts in the history of geography. By exploring their contents and comparing them, the development of cartography as a science throughout the Dutch Golden Age is revealed. Secondly, the texts are bibliographically interesting. Together, they highlight the development of the atlas as a book format and showcase the crucial role that Amsterdam played in the seventeenth century book trade. Thanks to the Dutch Republic's wealth, publishing expertise, and skilled immigration, the city could not only develop cartography, but also had the ability to publish any new developments in increasingly lavish atlases—so beautiful that they are still admired the world over today. Finally, these three atlases are important for the history of New College Library itself. As they were all such expensive items, they demonstrate perfectly the generosity of former members to the college's collections. The Dutch Republic itself had long given remarkable atlases produced in the country as state gifts, which puts the donations to New College Library into perspective.⁴² New College, therefore, is without doubt fortunate to own such a distinguished collection of Dutch Golden Age atlases—which definitely warrants further investigation by experts in the field.

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³⁸ John M. J. Gretchko, 'Tapping a Source: The Frontispiece to Andreas Cellarius's *Harmonia Macrocosmica*, a Template for "After the Pleasure Party"', *Leviathan* 23 (1) (2021), 75–87, at p. 77.

³⁹ Kanas, *Star Maps*, p. 194.

⁴⁰ Pepijn Brandon, 'Armed Forces', *Cambridge Companion*, ed. Helmers and Janssen, pp. 69–86, at p. 79.

⁴¹ Matthew H. Edney and Mary Sponberg Pedley, 'Introduction', *The History of Cartography: Volume Four: Cartography in the European Enlightenment*, ed. Matthew H. Edney and Mary Sponberg Pedley (Chicago: Chicago University Press, 2020), pp. xxiii–xxxvii, at pp. xxviii–xxix.

⁴² Pettegree and der Weduwen, *Bookshop of the World*, p. 113.