



## Globalization

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## Globalization

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## Introduction

*On a round ball  
A workman that hath copies by, can lay  
An Europe, Afric, and an Asia,  
And quickly make that, which was nothing, all*

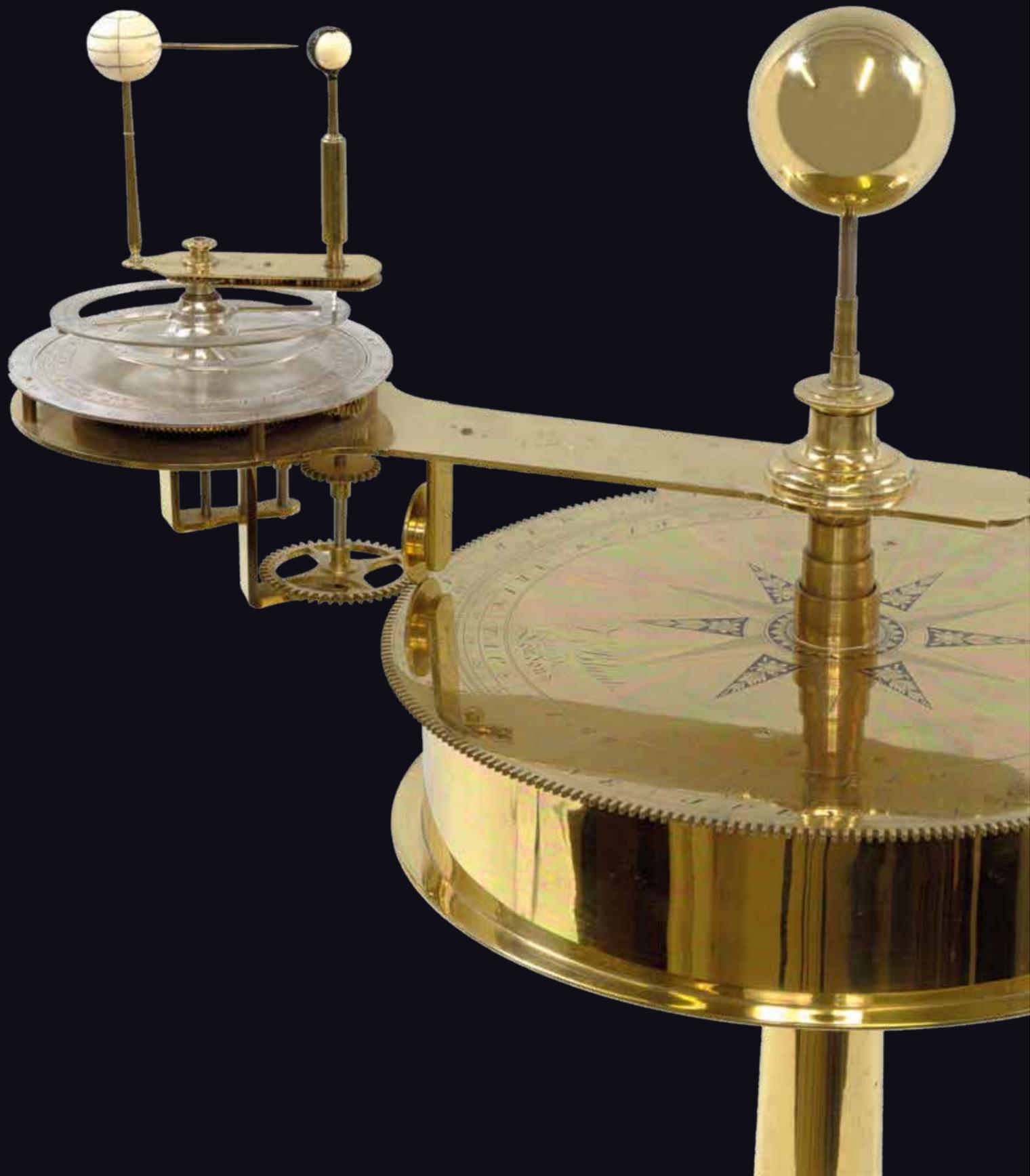
A Valediction: of Weeping, John Donne, 1612

Navigation, exploration and discovery are key motifs in the work of John Donne, along with all their technical accoutrements. From the ‘stiff twin compasses’ to which he compares two lovers in *A Valediction: Forbidding Mourning*, to ‘all flat maps’ with which he identifies in *Hymn to God, My God*, in *My Sickness*, the poet embraces the cartographical zeal that began to spread across Europe at the time. Writing in the early seventeenth century, Donne was witnessing the genesis of a Golden Age of globemaking, which was to see cartographers across the continent produce ever more accurate and impressive spheres showing the earth and heavens.

Although the earliest extant terrestrial globe was created in 1492 (see item 1), it was during the seventeenth and eighteenth centuries that the art of globe-making was perfected, and some of its most extraordinary works were produced. The Age of Exploration generated a wealth of new geographical information, and, although contemporary globes are often littered with cartographical inaccuracies and errors, they nevertheless stand as a testament to the ingenuity and scientific achievement of the European Renaissance.

Given that all globes ostensibly strive to represent the same entity, it can be surprising to see how much they vary in both form and design. They differ dramatically in size, from a pair of tiny 2-inch spheres (item 38) to Blaeu’s monumental 26-inch globes (item 5), and span an aesthetic spectrum ranging from monochrome minimalism (item 58) to solid silver extravagance (see item 20). Nor are they confined to any one medium: collapsible balloons (item 53), three-dimensional puzzles (item 55) and ornate inkwells (item 49) all serve as platforms on which the world can be depicted.

As alluded to in Donne’s poem, globe-makers often used pre-existing plates to create new globes, rather than beginning anew for each globe. Globe-sellers would acquire old plates and reissue them with their own imprint, giving rise to a long and complex legacy that saw the same plates adapted and re-used by numerous publishers. Innovation was certainly not lacking, however, with nineteenth century inventors producing a number of fine scientific instruments used to demonstrate the movements of celestial bodies (see item 30, for example). Mapping the earth was vital, but equally important was looking up to the sky and mapping the stars. Triangulating positions on earth with the stars was, after all, how cartographers mapped the world in the first place.



The primary purpose for globes may have been as navigational instruments, but globes also circulated among the upper-classes as status symbols. The skill, time, and resources that went into the construction of large terrestrial and celestial spheres made them items of such enormous value that they were available only to the elite few. Similarly, throughout the eighteenth and nineteenth centuries, pocket globes came into fashion as the ultimate accessory for the cultured gentleman. A globe could send a silent message that the owner had both the education needed to appreciate it and the wealth to acquire it.

The globes within these pages are far more than guides to geography and astronomy; they offer a glimpse into history. Observe how land, sea and stars shift over the course of 500 years, as human endeavour and ingenuity gradually uncovered more about the world around us.

## The oldest surviving terrestrial globe

### 1 [BEHAIM, Martin]

[“Erdapfel” Globe].

#### Publication

[Originally Nuremberg, 1492, but]  
Greeves and Thomas, [1992].

#### Description

Modern reproduction of globe,  
12 lithographed paper gores, with polar  
calottes, within a wrought iron meridian  
ring, supported on wrought iron stand.

#### Dimensions

Diameter: 510mm (20 inches).

#### References

Dekker and van der Krogt pl.2.

A fine facsimile of “Erdapfel” (or earth apple) produced by Martin Behaim in 1492, considered to be the oldest surviving terrestrial globe, is now in the Germanische Nationalmuseum in Nuremberg. It is constructed of a laminated linen ball in two halves, reinforced with wood and overlaid with a map painted by Georg Glockendon.

#### Biography

Martin Behaim (1459-1507) was a navigator and geographer born in Nuremberg. He began his career as a merchant and he first travelled to Portugal in around 1480. In 1484, King John appointed him as an adviser on navigation. In this post he was connected to a number of expeditions down the coast of Africa and spent time on the island of Fayal.

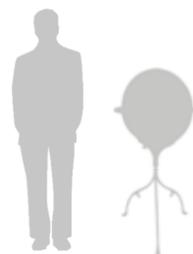
In 1490 Behaim returned to his home in Nuremberg and the City Council member George Holzschuher proposed to the council that Behaim construct a globe based on the recent geographic discoveries in Portugal. Along with the painter Georg Glockendon, Behaim started work on the globe and completed it in 1492.

#### Geography

The Americas are not included, as Columbus returned to Spain no sooner than March 1493. The globe shows an enlarged Eurasian continent and an empty ocean between Europe and Asia. The mythical Saint Brendan’s Island is included. Cipango (Japan) is oversized and well south of its true position; Martellus’ map is followed in developing an enormous phantom peninsula east of the Golden Chersonese (Malaysia). The globe has a wonderfully artistic quality to it, including the animated ship depicted in the Indian Ocean with its billowing sails.

The idea to call the globe “apple” may be related to the Reichsapfel (“Imperial Apple”, Globus cruciger) which was also kept in Nuremberg along with the Imperial Regalia (Reichskleinodien).

From its creation until early in the sixteenth century, it stood in a reception room in the Nuremberg town hall. After that time it was held by the Behaim family. In 1907, it was transferred to the Germanic Museum in Nuremberg. In 1992, it was moved to the Vienna University of Technology, to be studied at high resolution by the Behaim Digital Globe Project. In 2011, a second digitalization by the German National Museum began. The present facsimile was produced by the firm of Greeves and Thomas in 1882 to commemorate the quincentenary of the production of the original.



## The culmination of Renaissance ingenuity and scientific achievement

2 [Celestial sphere with traces of a mechanism].

Publication  
[Lyon/Blois, c1540-1550].

Description  
Celestial sphere, two large brass fretwork hemispheres joined at the equator with two sets of rings. The first set consists of five parallel horizontal rings representing the Equator, Tropics of Cancer and Capricorn, and both polar circles as well as vertical colures and meridians intersecting both poles and crossing the equator at 30 degrees. The second set consists of six rings intersecting the equatorial poles at an angle of 23.5 degrees – this angle would allow the now-missing inner terrestrial sphere to consistently point to the north and south equatorial poles of the celestial sphere. Placed atop this set of 17 rings are the 48 Ptolemaic constellations and two non-Ptolemaic ones. The Lynx (LE LYNX) located between the Great Bear and Leo and the constellation of Eridanus, depicted as a naked female figure, were both added later. The planetary symbols and series of stars up to five magnitudes are engraved on the figures of each constellation. The celestial sphere is mounted on a graduated brass meridian ring held in place by two recesses on the horizon ring. One face of the meridian is stamped with a scale of 360 degrees, and an hour-ring and index is mounted at the North Pole.

A set of four brackets support the horizon ring with engraved acanthus leaf decoration and foliage, which terminate in scrolls with a pierced opening holding a peg attached to the horizon. The upper face of the horizon features an inner scale of 360 degrees divided into 12 signs for the zodiac labelled in Latin and depicted with its symbol. An outer scale depicts the Julian calendar with the names of the months stamped in Roman capital letters. The first point of Aries coincides with the 11th of March. The 12 winds are engraved at the outer edge as blowing figures.

The sphere is supported by a chased-brass circular base with three grotesque human figures amongst arabesque decoration. The sphere rests on a cylindrical marble stand with minor chips consistent with age.

Dimensions  
Sphere diameter: 330mm (13 inches).  
Overall height: 860mm (34 inches).

This magnificent celestial sphere belongs to a small and rare group of sixteenth century models with clockwork mechanisms illustrating Ptolemy's theory of the nine spheres. Of all extant models, the present sphere is by far the largest example and offers an imposing and impressive representation of the constellations and their stars.

This group of spheres is based on Ptolemy's principle that the Earth is at the centre of the universe while the Sun, Moon, planets and stars all rotate around it. Ptolemy identified nine spheres representing the heavenly bodies of the Moon, Venus, Mercury, the Sun, Jupiter, Mars, Saturn and the eighth sphere of the stars. The ninth sphere is stationary and supports the other spheres while Atlas holds the entirety on his shoulders.

This model represents the eighth sphere - the stars and constellations. The 48 Ptolemaic constellations depicted on this sphere reflect the groupings identified in antiquity based on the stars visible at the time, approximately one thousand in total. The design in fretwork offers the opportunity to glimpse the constellations and stars from the inside of the sphere as they would have been seen in the sky from Earth.

### Mechanics

The tradition of mechanical spheres, or clockwork globes, dates back to the 3rd century BCE with Archimedes credited for making a celestial sphere with planetary motions that rotated on geared wheels. Cicero later wrote that this device was brought back to Rome by Marcus Claudius Marcellus after he conquered Syracuse in 212 BCE. Claudian wrote a poem in circa 400 CE championing Archimedes' incredible feat:

*When in a glass's narrow sphere confined,  
Jove saw the fabric of the Almighty mind,  
He smiled, and said, 'Can mortal's art alone  
Our heavenly labour mimic with their own?  
The Syracusan's brittle work contains  
The eternal law, that through all nature reigns.  
Framed by his art, see stars unnumbered burn,  
And, in their courses, rolling orbs return:  
His Sun, through various signs describes the year,  
And, every month, his mimic Moons appear.  
Our rival's laws his little planets bind,  
And rule their motions by a human mind.  
Salmeus could our thunder imitate,  
But Archimedes can a world create.*

Translation by James Ferguson, 5 February 1766



#### References

Hans Von Bertele, *Globes and Spheres, Globen und Sphären, Globe et Sphères* (Lausanne, 1961); Koenraad Van Cleempoel, *Astrolabes at Greenwich: A Catalogue of the Astrolabes in the National Maritime Museum* (Oxford, 2005); Alexis Kugel and Koenraad Van Cleempoel, *Spheres: The Art of the Celestial Mechanic* (Paris, 2002); John Leopold, 'Mechanical Globes circa 1500-1650' *Bulletin of the Scientific Instrument Society*, no. 53 (1997), pp. 5-8; Herbert Lloyd, *The Collector's Dictionary of Clocks* (South Brunswick, A.S. Barnes, 1965); Peter Whitfield, *The Mapping of the Heavens* (London, 1995).

Renaissance artisans combined the latest developments in clock-making and scientific instruments with the revived interest in astronomy from antiquity to create elaborate mechanical spheres, building on the tradition developed by Archimedes and his contemporaries. John Leopold, former curator of horology at the British Museum, identified four groups of these movable spheres, and this particular sphere belongs to the second group, which is regarded as the “first generation” of French mechanical spheres. These models first appeared around 1530 in Blois and Lyon with a stationary central terrestrial globe fixed with a mechanism that allows the outer celestial sphere to rotate around it. Although it is now lost, the present model would have originally featured a terrestrial sphere, the Earth, and an associated mechanism for the celestial sphere to rotate around it.

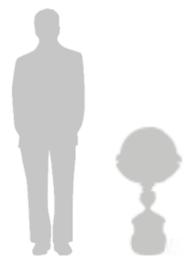
#### Biographies

The original maker associated with these spheres is Julien Coudray of Blois, who made examples for both Louis XII and François I. The inventory of the Château de Blois of 1544 includes “une théoretique des planètes à neu fronds mobiles où se trouvent sept roux d’azain, établie à mouvements”. In Coudray’s wake three makers began to produce these mechanical spheres: Jacques de la Garde (active in Blois, c1540-1580), Pierre de Fobis (active in Lyon, c1540-1575), and Jean Naze (active in Lyon c1540-1581). These spheres typically featured mechanisms that allowed the celestial sphere to rotate around the Earth, completing a rotation in 24 hours. Some examples featured a bell on the terrestrial sphere that would ring on the hour.

Jacques de La Garde was one of the most important French watchmakers of the Renaissance, operating from his workshop in the Puy du Quartier in Blois between 1540 and about 1580. He received the title “King’s Orlogeur” in c1578. He was the first of a long dynasty because three of his sons, Antoine, John and Abraham, became watchmakers.

Pierre de Fobis was one of the most famous French watchmakers of his time. Also called Fobys or “maître Pierre, orlogier[sic]” in archival documents, he was born in Provence around 1507. He probably began his career in Aix-en-Provence, an important watchmaking town, before settling in Lyon around 1535. Lyon was an important intellectual centre and a prosperous city, and it was strategically situated on the road that connects the countries of the North and Italy and therefore attracted craftsmen of all kinds, including watchmakers.

Jean Naze apprenticed in Creil before settling in Lyon in 1554. One of Naze’s signed astrolabes is in the collection of the Musée des Beaux-Arts in Lyon.



There are only a few surviving examples, which include:

1. A mechanical sphere formerly in the Palais Rothschild in Vienna, now in a private collection, made by Pierre de Fobis in Lyon c1540-1550.
2. A complete sphere, signed: "J Naze A Lion D L Cordeliers" in the collection of the Hessisches Landesmuseum in Kassel.
3. An incomplete sphere, signed and dated "J de La Garde Bloys 1551" at the British Museum (ZAA0070).
4. The present example.

Of the surviving examples, the present model is the largest of its kind. It is possible this model would have originally been supported on a stand of three columns, as seen on the Rothschild and British Museum examples.

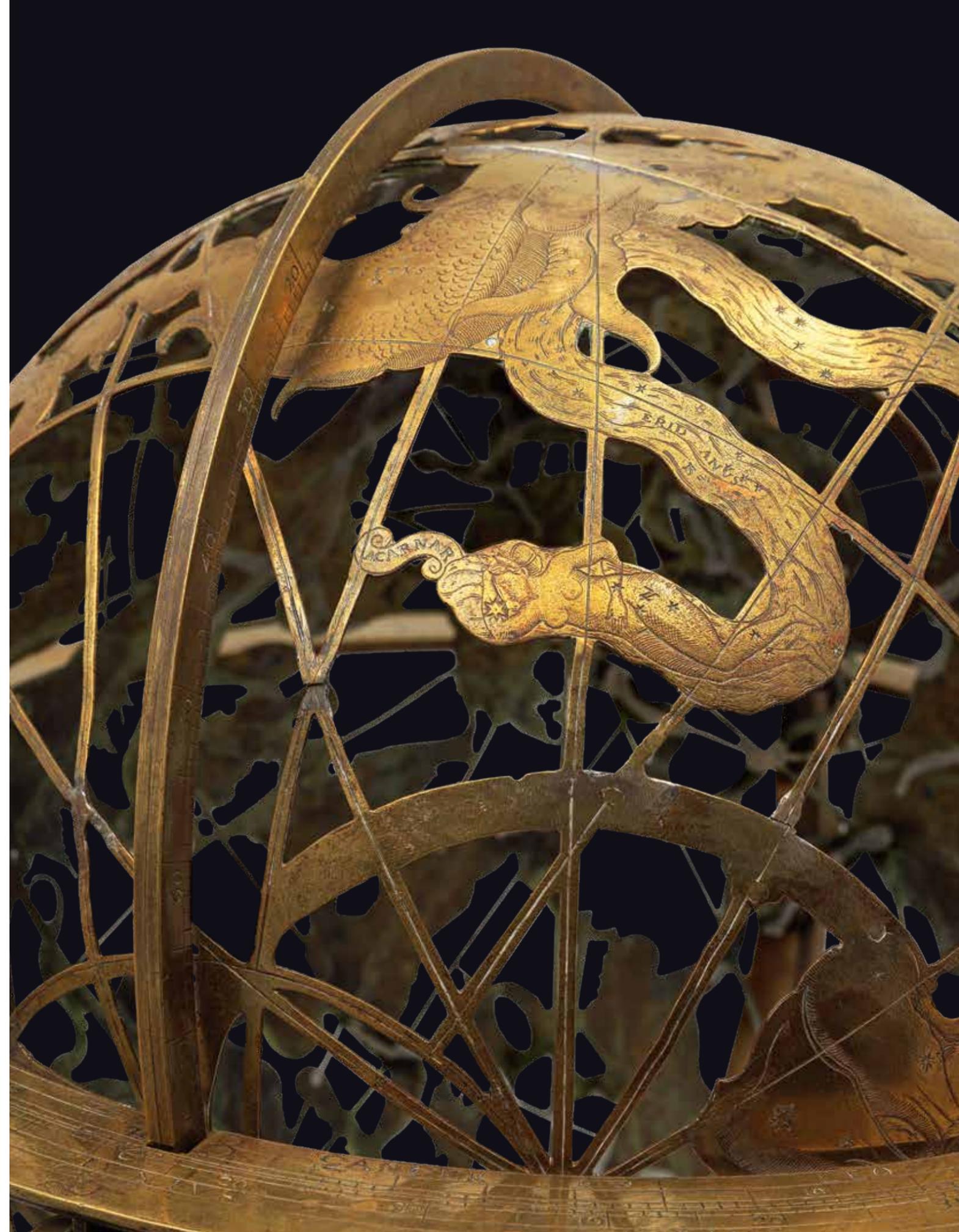
This sphere shows traces of a mechanism that would have originally connected to a terrestrial sphere. Two raised rims remain on the model that would have held the main wheel in its place at the South Celestial Pole. Additional traces for holes are also visible which would have supported the axis of the geared wheels.

#### Astronomy

Albrecht Dürer engraved the first printed celestial map in 1515. Prior to his publication, only manuscript star-charts were available, often copied by monastic scribes. The Vienna Manuscript, dating to c1440, was one of the first complete western star maps and is housed in the collection of the Österreichische Nationalbibliothek, Vienna. The source for the Vienna Manuscript is unknown, but scholars have linked it with the work of the astronomer Johannes von Gmunden (c1384-1442), who taught at the University of Vienna, lecturing on the 'Sphaera Materialis'. This map was highly influential and served as a pattern for most of the succeeding star maps in Europe, and Dürer's map is linked to the Vienna Manuscript.

In addition to influencing Dürer's printed map, the Vienna Manuscript also served as a source for a finely engraved metal celestial globe made in 1480 by Hans Dorn for Martin Bylica, and now in the collection of the Jagellonian University in Krakow.

The current model also reflects the latest developments in celestial mapping with details drawn from the 1537 Frisius-Mercator Globe made in Louvain (National Maritime Museum, Greenwich) given its related iconography of the 48 Ptolemaic constellations. This 1537 source introduced a number of new features not seen in Dürer's map, including the transformation of Eridanus, a river god, into a figure of a naked swimming maiden, which was introduced in an early edition of Hyginus' *Fabulae* from the 1530s. The representations of Virgo,



Leo and Hercules relate more closely to the 1537 model in profile and contour. Frisius was also responsible for introducing planetary symbols on the Ptolemaic constellations, which he included on his 1537 globe and also appear on the present model.

The sphere also includes figures of the Ship in the southern hemisphere, either Navis or Argonaus, the shape of a Whale, Cetus and an updated depiction of Orion, who rests with his knees on the Rabbit (Lepus). François Demongenet published a series of gores around 1560 that became a leading source for the decades to come and correspond closely to these three depictions. However, the present model pre-dates Demongenet's publication, suggesting that Demongenet was incorporating earlier, unattributed sources into his designs.



## “Amongst the rarest to survive”

### 3 BLAEU, Willem Janszoon

*[Pair of nine-inch table globes].*

Publication  
Amsterdam, 1602 [but c1621].

Description  
Terrestrial and celestial globes, each with 12 hand-coloured engraved gores heightened in gold, with two polar calottes, over a papier mâché and plaster sphere, rotating on brass pinions within a brass meridian ring with graduated scale, and a graduated brass altitude quadrant, set into a seventeenth century Dutch wooden base with an engraved horizon ring, adumbrating scales, calendar, almanacs etc. With usual defects: paper equinoctial tables present gaps that are filled and restored, small splits along the gores, several partially deleted entries, small scattered spots but in general in good condition for such an early globe pair, modern hour circles and pointers.

Dimensions  
Diameter: 230mm (9 inches).

References  
Dekker GLB0152, van der Krogt, Globi Neerlandici BLA III; GLB0083 (terrestrial) and GLB0151 (celestial).

#### Biography

Willem Janszoon Blaeu (1578-1638) started “one of the most successful publishing houses of the seventeenth century” (Dekker). Originally trained in astronomy, he quickly became a leading maker of maps, atlases and instruments. At the time the Low Countries hosted the best cartographers in Europe, and Blaeu produced ever more accurate and more beautiful globes, spurred by his rivalry with fellow Dutch cartographer and publisher Jodocus Hondius.

Blaeu’s globes were luxury items for wealthy and intellectual merchants and nobility who benefited from Blaeu’s access through the Dutch East India Company to the latest navigational discoveries and geographical information. As van der Krogt observes, “During the preceding century, more than half of the known world, including the entire western hemisphere, had been charted and, more recently, during Blaeu’s own time, large portions of the Pacific were being explored”. Dutch explorers had played a key role in the expanding European worldview: from Olivier van der Noort’s circumnavigation of the earth, to Willem Barentsz’s attempts to find the Northeast Passage. Blaeu also had the advantage of considerable personal technical skill: he studied under the astronomer Tycho Brahe to create a star catalogue for his first celestial globe.

Blaeu’s pair of 230mm (9 inch) table globes are amongst the rarest to survive in comparison with the smaller or larger globes by Blaeu (100, 150, 340 and 680mm; 4, 6 13.5, and 26 inches).

#### Geography

Willem Jansz Blaeu (1571-1638) collected information that Dutch mariners gathered from around world and brought back to Amsterdam. Crews were instructed to record information about the lands they visited and the skies they saw. Blaeu incorporated these observations in maps and globes. Through his web of contacts and thanks to assiduous research, he was also able to obtain the most recent information about the latest discoveries in the western hemisphere and the South Pacific, where Dutch explorers were particularly active at the time.

Since the globe was published after 1618, Blaeu was able to include the discoveries made by Henry Hudson in his attempt to find a passage to the East Indies. He also included recent Pacific discoveries of the celebrated voyages of Willem Cornelis Schouten and Jacob Le Maire, who both traversed the South Pacific and the Atlantic in 1616. The findings of Schouten and Le Maire in the Tierra del Fuego region are also incorporated.



The Strait of Le Maire is drawn and the hypothetical southern continent is labelled "Terra Australis Incognita Magalanica". Olivier van Noort's track is drawn and labelled. His route is indicated with a broken line and the words: "Navigationis Olivierij ductus" (several times). There are various decorative features, such as animals on the different continents, many ships on the high seas and allegorical and mythical figures around the cartouches.

The nine-inch globe is not just a smaller version of the one published in 1599. Drawings of animals and people do often correspond to those on the earlier globe, but Blaeu made several significant changes.

- The west coast of North America is drawn differently and the river system of Brazil is altered.
- The hypothetical southern continent is labelled: Terra Australis Incognita Magalanica.
- There are nine ocean names in handsome curling letters: Mare Congelatum, Mare Atlanticum, Oceanus Aethiopicus, Mare Arabicum et Indicum, Mare di India, Oceanus Chinensis, Mar del Zur, Mare Pacificum, Mar del Nort.
- Willem Blaeu, always eager to display the latest discoveries, traced the route of Van Noort's route with a broken line. The findings of the voyage of Schouten and Le Maire in the Tierro del Fuego region are included, despite the 1602 date (names: Fr. Le Maire, Mauritius, Staten Landt, C.Hoorn, I.Barneveltij).

#### Astronomy

The first maker of globes from the northern Netherlands was the cartographer Jacob Floris van Langren (before 1525-1610). He published his first terrestrial and celestial globes in 1586 with a diameter of 325mm (12.75 inches) the terrestrial globes being based on the work of Mercator. The second edition of the celestial globe was improved after the observations of the southern hemisphere by Pieter Dirkz Keyser and Frederik de Houtman were incorporated by the geographer Petrus Plancius (1552- 1622), who was also influential as a globe maker.

Two other famous Dutch mapmakers produced celestial globes: Jodocus Hondius the Elder (1563-1612), one of the most notable engravers of his day, and Willem Jansz Blaeu (1571-1638).





#### Publication history

According to Peter van der Krogt, the following states are known:

#### Terrestrial

First state: 1602 (no known examples).

Second state, c1618-1621 (no known examples).

Third state: 1602, but c1621 (the present example).

All the states are dated 1602 but the second state must have been published after 1618, since it includes the discoveries of Schouten and Le Maire (1615-1617), but not the name "Blauu".

Dekker makes no distinction between the different states. The third state can be divided into states 3a and 3b. All globes have a different production number, some of which are illegible today. This terrestrial nine-inch globe is marked with "fabr. nr. 4".

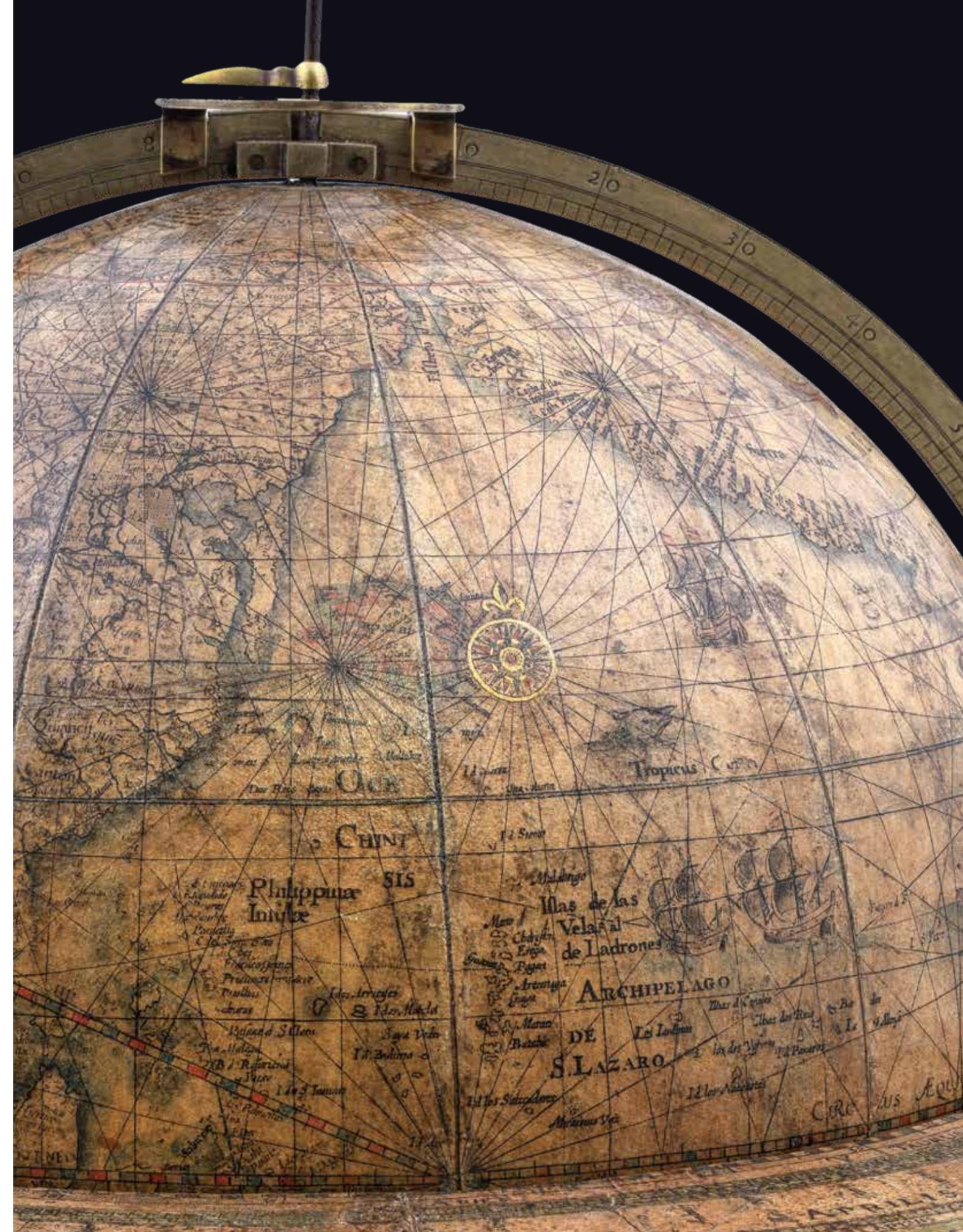
#### Celestial

First state: 1602 (known in a catalogue record but no known example surviving).

Second state: presumably published after 1621.

All 30 known celestial globes are in the second state, as this one, which is marked with "fabr. no. 12".

Rare: there are 19 recorded pairs, of which 14 are in institutions.



## The sky according to Plancius

### 4 PLANCIUS, Petrus

*In hac coelestis Sphaera stelle Affixae majore. De integro addidi: quae omnia secundum Astronomorum Principis Thyconis Brahe... observationem verae suae Longitudini, ac Latitudin.*

**Publication**  
Petrus Plancius, 1625.

**Description**  
Globe, 12 hand-coloured engraved gores, over a papier mâché and plaster sphere, with metal pins, supported by a wooden structure of four arms with a circular band with partially applied graduated paper, set into a modern wooden base.

**Dimensions**  
Diameter: 245mm (9.75 inches).

**References**  
Van der Krogt KEE I; Science Museum Group 1986-427; for reference see Stevenson vol. II, pp.46-50.

### Biography

Petrus Plancius (1552-1662), a theologian and geographer, was one of the most influential cartographers of his day. He was forced to flee to Amsterdam in 1585, for fear of persecution as a Protestant minister. There he began his cartographical career, studying Portuguese charts and becoming friends with the explorer Henry Hudson. He issued his impressive world map in two hemispheres entitled 'Nova et exacta terrarum orbis tabula geographica ac hydrographica' in 1592, which likely influenced both Blaeu and Hondius in the preparation of their masterpieces published in 1605 and 1611, respectively.

In addition to his world map, Plancius turned his eyes to the skies. In 1589, he collaborated with the Amsterdam cartographer Jacob Floris van Langren on a 325mm (12.75 inches) celestial globe incorporating the limited information available about southern celestial features, which included Crux (the southern cross), Triangulum Australe (the southern triangle) and the Magellanic Clouds (Nubecula Major and Minor).

On a quest to expand knowledge of the southern hemisphere, Plancius commissioned Pieter Keyser, to record as many southern stars as possible on his voyage of the Indies in 1595. Although Keyser died at sea in 1596 before his return, he was able to record about 130 stars alongside his colleague Frederick de Houtman, and the records reached Plancius when the surviving voyagers returned. Plancius took these new discoveries and divided the stars into 12 new southern constellations, which mostly referred to animals and subjects described in natural history books and travellers' journals of his day. The constellations are: Apis the Bee (later changed to Musca by Lacaille), Apus the Bird of Paradise, Chamaeleon, Dorado the Goldfish (or Swordfish), Grus the Crane, Hydrus the Small Water Snake, Indus the Indian, Pavo the Peacock, Phoenix, Triangulum Australe the Southern Triangle, Tucana the Toucan and Volans the Flying Fish.

Plancius plotted these southern constellations on a 350mm celestial globe in late 1597 (or early 1598) in collaboration with the Amsterdam cartographer Jodocus Hondius the Elder. No copies of this globe survive, but in 1602 Blaeu produced a copy of the globe, now in the Maritime Museum.

These constellations, together with the constellation Columba that Plancius included on his 1592 map of the world, were then incorporated by Johann Bayer in his sky atlas of 1603, the 'Uranometria'.

Plancius created another globe in 1612-1614, published in co-operation of Pieter van den Keere with updated celestial cartography. The celestial globe is inscribed with the following: "In hac coelesti sphaera stellae affixae majore quam hactenus numero ac accuratiore industria delineantur. Novos Asterismos in philomathëom gratiam de integro addidi: quae omnia secundum Astronomorum Principis Tychonis Brahe, ac meam

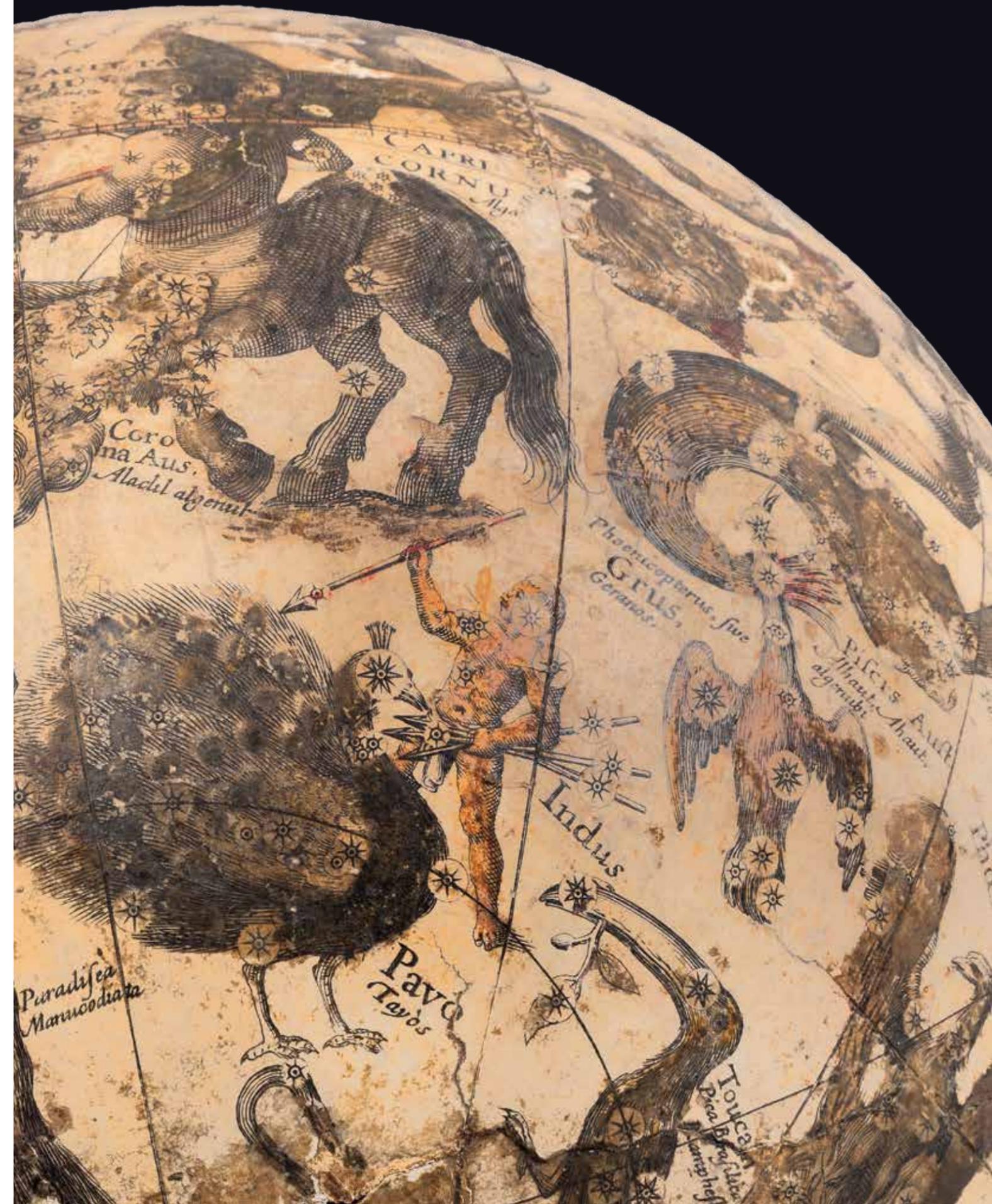


observationem verae suae Longitudinis ac Latitudinis ad annum Christi 1615 restitui. Petrus Plancius” (translation: “In this celestial sphere the fixed stars to a greater number than previously and with more exactness are depicted. I have added for the use of the student some entirely new star readings according to the prince of astronomers Tycho Brahe, and also my own observations of their true latitude and longitude adapting these to the year of Christ 1615. Peter Plancius”). Plancius includes a portrait of Tycho Brahe in the southern hemisphere. On this updated globe, Plancius introduced the following eight constellations: Apis the Bee, Camelopardalis the Giraffe (often interpreted as a Camel), Cancer Minor the Small Crab, Euphrates Fluvius et Tigris Fluvius the Rivers Euphrates and Tigris, Gallus the Cock, Jordanis Fluvius the River Jordan, Monoceros the Unicorn and Sagitta Australis the Southern Arrow. Of the latter constellations, only Camelopardalis and Monoceros are still found on modern star charts, and recognized by the International Astronomical Union (IAU).

#### Astronomy

The names of the constellations are given in Latin along with alternative names, some in Greek. The 48 Ptolemaic constellations appear along with Antonious, Coma Berenices, Cruz (“Cruzero Hispanis, at Ptolomeo Pedes Centauri”), and Columba (“Hemame. Columba Noachi”). The 12 constellations of Plancius appear as well as a number of constellations that appear on the globe for the first time: “Apes”, “Gyraffa Camelopardalis”, “Monoceros, Callus”, “Cancer minor”, “Jordanis fluv:”, “Sagitta Aust:” and “Euphrates fluv en Tigris flu”. The magnitude chart is drawn and labelled “Magnitudo Stellarum”. One nova is shown and is labelled with the following notation: “Stella mirabilis quae insolito prae alijs fulgore a[nn]o 1571 per an[num] et tri-entem appa-ruit” (translation: The wondrous star, which shone with an uncommon shine compared to the others in the year 1571 for one and one-third years”.

A portrait of Tycho Brahe appears below the figure of Cetus.



## The apotheosis of the Golden Age of Dutch cartography

### 5 BLAEU, Willem

*Globus Orbis Terrae.*

Publication  
[Amsterdam, Joan Blaeu, c1645-48].

Description  
Terrestrial and celestial globes, each with 36 hand-coloured engraved half gores, with two polar calottes, over a papier mâché and plaster sphere, rotating on brass pinions within a brass meridian ring with graduated scale, set into a seventeenth century Dutch wooden base with an engraved horizon ring, adumbrating scales, calendar, almanacs etc. With minor nicks and scratches to several parts of the printed surface, as is inevitable for a globe of this scale and period. A remarkable survival in very fine condition.

Dimensions  
Diameter: 680mm (26 inches).

References  
Dekker GLB0130; van der Krogt, *Globi Neerlandici* BLA V, pp.176-187; van der Krogt, *The Most Magnificent and Largest Globes of Blaeu, the World's Greatest Globe Maker* (Houten: HES, 2001).

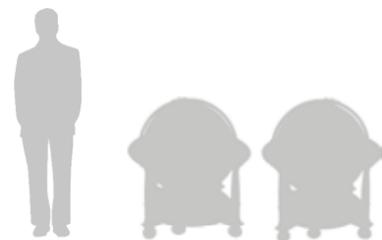
Willem Janszoon Blaeu's 680mm (26 inch) globes are the apotheosis of Golden Age Dutch cartography. Their size and grandeur stand as testimony to the confidence and wealth of a great maritime and trading nation at the height of its powers.

"These globes were not merely the largest globes ever made in Amsterdam, and even the world's largest up to that time, and virtually until the end of the seventeenth century, they were also representations of enormous human achievement - an extraordinary record of an extraordinary period of geographical discovery. During the preceding century, more than half of the known world, including the entire Western Hemisphere, had been charted and, more recently, during Blaeu's own time, large portions of the Pacific were being explored. Spanish, Portuguese, Italian and French explorers had contributed the lion's share of what was known, but during Blaeu's generation the Dutch themselves had taken up the mantle as masters of the sea and changed the face of the world with their voyages of discovery. What better way for a small seafaring nation with large ambitions to express its pride than to construct a symbol of its achievement in such a quintessentially representative form; a three-dimensional model of the world that would fill a room with its mass; a magnificent statement of what the Dutch had achieved and were achieving with every new fact and update added by Blaeu over the course of the Globe's transformation, through four states from 1617 to 1645/48?" (van der Krogt, *Globus Neerlandici*).

### Biography

Willem Janszoon Blaeu (1571-1638) started "one of the most successful publishing houses of the seventeenth century" (Dekker). Originally trained in astronomy, he quickly became a leading maker of maps, atlases and instruments. At the time the Low Countries hosted the best cartographers in Europe, and Blaeu produced ever more accurate and more beautiful globes, spurred by his rivalry with fellow Dutch cartographer and publisher Jodocus Hondius.

Blaeu's globes were luxury items for wealthy and intellectual merchants and nobility who benefited from Blaeu's access through the Dutch East India Company to the latest navigational discoveries and geographical information. As van der Krogt observes, "During the preceding century, more than half of the known world, including the entire western hemisphere, had been charted and, more recently, during Blaeu's own time, large portions of the Pacific were being explored". Dutch explorers had played a key role in the expanding European worldview: from Olivier van der Noort's circumnavigation of the earth, to Willem Barentsz's attempts to find the Northeast Passage. Blaeu also had the advantage of considerable personal technical skill: he studied under the astronomer Tycho Brahe to create a star catalogue for his first celestial globe.





Even at the time, Blaeu's globes were an expensive purchase: the terrestrial globe cost 16 guilders and the celestial globe cost nine guilders. However, it was also the most advanced cartographic document of the age: it was a monument and tool, to be used as much as admired.

#### Geography

The 'Globus Orbis Terrae' of 1617 was the first dated printed documentation of Hudson's first voyage and the first to give the name "Nieu Nederland" to the area now known as New York, Manhattan and Long Island. It was also the first depiction of Schouten and Le Maire's discovery of a navigable passage around Cape Horn (named after Schouten's hometown of Hoorn); a revelation of such economic importance that Blaeu's globe was initially suppressed by the States General following a dispute between the Dutch East India Company (V.O.C.) and Schouten and Le Maire's 'Australian Company'. Schouten and Le Maire's voyage was undertaken in order to circumvent the monopoly held by the V.O.C. on all trade with the East via the Cape of Good Hope or through the Straits of Magellan. By discovering a route to the Pacific via Cape Horn, the Australian Company changed cartographic orthodoxy by rendering the existence of a great southern landmass contiguous with Tierra del Fuego impossible. Blaeu obtained this information from undisclosed sources, as the documentation of Schouten and Le Maire's voyage was sequestered by the V.O.C., and sought to publish it in a book featuring maps of their discoveries. However, in an ultimately unsuccessful effort to obtain a charter to publish his voyage, Le Maire pressed for an injunction on Blaeu's book. Blaeu, with more than a little cheek, kept his globe from becoming outdated with the simple device of removing the old, incorrect information and replacing it with... nothing! In due course the injunction was lifted and Blaeu was able to publish his globe with the new shape of Tierra del Fuego and a reduced southern continent of Magellanica.

After Willem Blaeu's death in 1638, his son, Joan Blaeu (1596-1673), undertook a major update of the globe to incorporate new discoveries. These were carried out with a combination of re-engraving the plates and printed overlays pasted on to the relevant portions of the globe. The most drastic of these updates involved the erasure of an entire dedication and cartouche bearing the "Advice to Reader" in order to make room for the findings of Abel Tasman's voyages and to show Australia. Other areas of re-engraving included changes to Canada to show the discoveries of Thomas Button (1612-1613), William Baffin (1616), and others; alterations to the coast of Greenland; and the removal of the name and diminution in size of the mythical island of Frisland. The printed overlays allowed Joan to alter Japan to incorporate the discoveries of Maarten de Vries in 1643, and to shift the entire coast of North America approximately 20 degrees eastwards and show California as an island. North of California, however,



he became less sure of himself and retained his father's delineation. Here any attempt at a western coastline is abandoned, replaced instead by a large decorative cartouche surrounded by beavers and Native Americans. The various attempts of Gaspar and Michael Corte Real, Sebastian Cabot, Hugh Willoughby, Martin Frobisher, John Davis, Willem Barentz, Jan Huyghen van Linschoten and Henry Hudson to find a northwest and northeast passage are described, ending with the hope that Hudson's discovery of a "huge and wide open sea" would result in the long sought-after route.

#### Astronomy

Astronomical details on the sphere include a magnitude table close to the North Pole. The Milky Way and Magellanic Clouds are labelled. Close to the North Pole, there are two tables in a cartouche, one explaining the astrological symbols marked on the sphere and the other explaining the precession with a table based on a constant precession rate. There are novae with explanations in Cassiopeia, Cyngus and Ophiuchus, with the first and last observed positions marked. A total of 83 stars and up to eight star groups are named; some of the stars are also named in Arabic script. The 48 Ptolemaic constellations and four of the non-Ptolemaic constellations are drawn. The 12 southern constellations of Plancius are also drawn. The nomenclature for some of the Ptolemaic constellations is extensively detailed and some of them are given in Greek, followed by the name in Arabic script. The constellations are said to be in the tradition of Mercator, but this is not the case. For this globe Blaeu relied on the style used by Johann Bayer in his 'Uranometria' of 1603.

#### Publication History

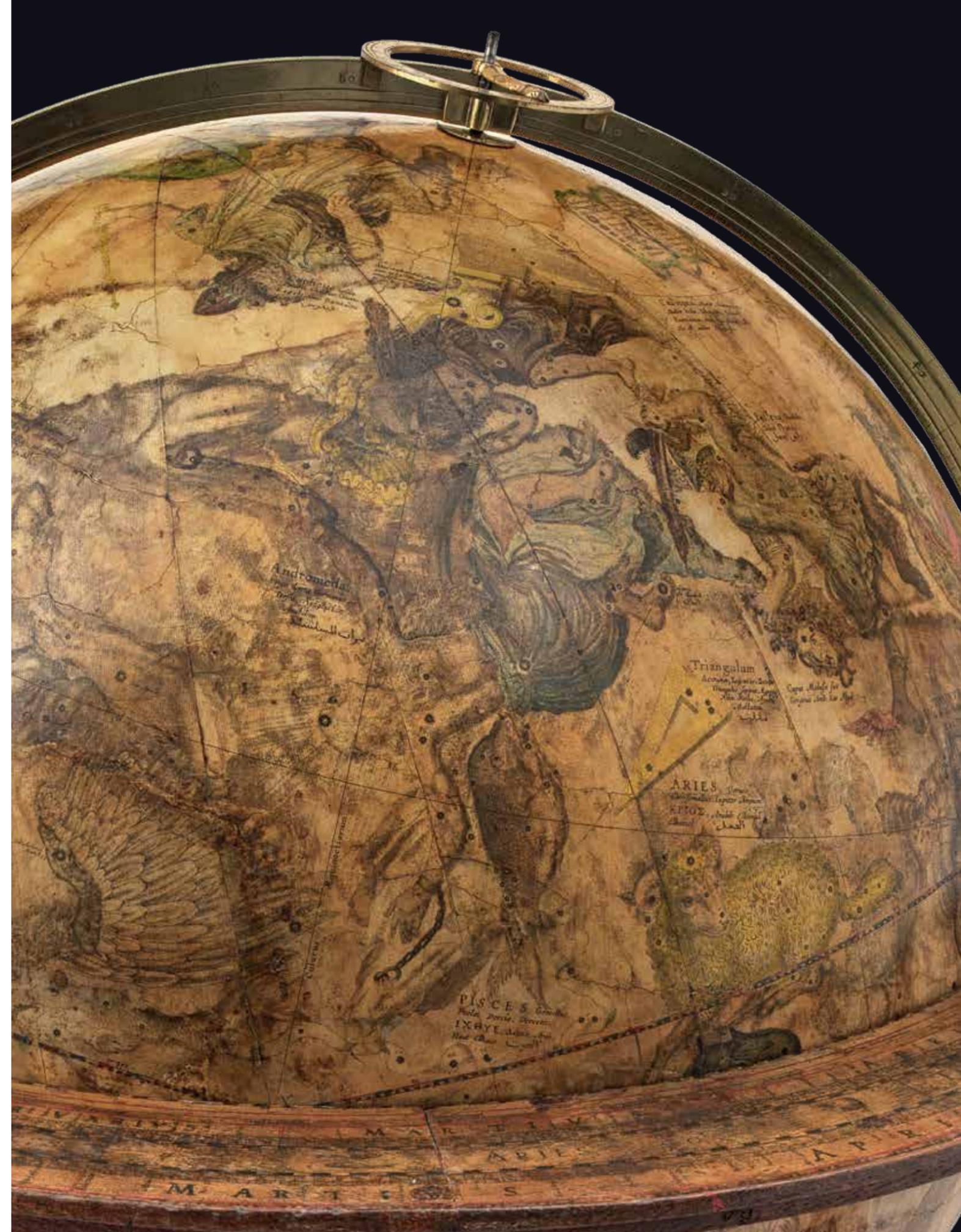
Peter van der Krogt has identified four states of the terrestrial, with three variants of the first state and two of the second, and three states of the celestial. These may be summarized as follows:

First state, 1617.

1a. First edition.

1b. [May 1617] Tierra del Fuego removed.

1c. [c1618] Re-engraved to show Cape Horn, Le Maire Strait, revised coastline for New Guinea and numerous newly discovered islands in the Pacific.



Second state, [1622].

In the “Advice to the Reader”, “In ista quam”, the signature and date are changed to: Guiljelmus Caesius Auctor. Anno MDCXXII. If the original dedication is visible, two variants may be distinguished.

2a. The name “Ianssonius” is changed to “Caesius”.

2b. The name “Caesius” is changed to “Blaeuw”.

Third state, [between c1622 and c1645].

In the “Advice to the Reader”, “In ista quam”, the signature is changed to: “Guiljelmus Blaeu Auctor. Anno MDCXXII”. Although the date is unaltered, judging by other publications, the spelling of “Blaeu” indicates that this state dates from after c1630. In the charter, “Ianssonij” is changed to “Blaeuw”.

Fourth state, [c1645/48].

The cartography is heavily revised by Joan Blaeu.

#### Celestial

First state, dated 1616.

The advice to the Reader is signed Guiljelmus Janssonius.

Second state, dated 1622.

The advice to the Reader is now signed, Guljelmus Caesius.

Third state, after c1630.

The advice to the Reader is now signed, Guiljelmus Blaeuw.

Fourth state, c1700.

Bearing the imprint of Jacques de la Feuille.

#### Provenance

1. The current pair were acquired by the 10th Earl of Northumberland, Algernon Percy (1602-1668), Lord High Admiral and a prominent supporter of the Parliamentary cause in the English Civil War; hence by descent.

2. Private European collection, late twentieth century to present.





## A pair of early Baroque terrestrial and celestial globes

6 CORONELLI, Vincenzo

*[Pair of globes].*

Publication  
Venice, 1696.

Description  
Terrestrial and celestial globes, each with sets of 12 hand-coloured engraved gores, with two polar calottes, over a papier mâché and plaster sphere constructed over a wooden frame, varnished, each mounted on a wooden stand.  
All the circles are graduated. Distance of meridians and parallels: 5°. The average scale of the terrestrial globe is 1/26 200,000. The prime meridian "circolo del primo meridiano, dal quale si principiano a contare i gradi di longitudine" is on the west side of the Azores. The ring of the brass meridian forms a full circle approximately 24mm wide. First and fourth quadrants with broad indication. Second and third quadrants with distance to the poles. Intervals of division: 1°, 5°, 10°. Eight gods of the winds are depicted in the gusset fittings, small signs of use on the polar cap and on the line of equator.

Dimensions  
Diameter: 387mm (15.25 inches). Overall: 760 by 800mm. (30 by 31.5 inches).

In 1678 Vincenzo Coronelli was commissioned to make an enormous pair of globes for Louis XIV. This pair of terrestrial and celestial globes was constructed in Paris between 1681 and 1683, measuring 4m in diameter. To this day these globes remain unequalled in both beauty and technical prowess. The giant globes were intended for the Palace of Versailles, but they were transferred to the Marly estate as far back as 1703, and then carried to the Royal Library in 1722 where a room of globes was installed in 1731. Subsequent to this, they were displayed in the Grand Palais, from where were removed for conservation work. The newly restored Coronelli globes are now on permanent display in the Bibliothèque nationale de France.

Vincenzo Coronelli's globes were primarily intended as a teaching aid for the popularisation of geographic and celestial knowledge. However, to own such an item soon became a seventeenth century symbol of power, international commerce and cultural sophistication. Coronelli, ever the skilful businessman, capitalised on the new found market for his works as status-symbols, and brought out several more cost-effective scaled-down versions of his globes, such as the present pair.

### Biography

Vincenzo Coronelli (1650-1718) was arguably the finest globemaker of the seventeenth century, and his career was punctuated with numerous prestigious appointments. He was made Cosmographer of the Most Serene Republic of Venice in 1685 before founding and taking over as the head of the Académie des Argonautes, which, under his stewardship, became one of the main geographical societies of Europe. In 1678, the Cardinal César d'Estrées, French ambassador of Louis XIV to the Holy See was so impressed by a pair of Coronelli's 1.5m globes made for the Duke of Parma, that he requested that the cartographer create the two globes of gigantic proportions for Louis XIV.



#### Geography

The globes were more than objects of beauty, however, they were also the most up-to-date cartographic documents of the period. Thanks to Colbert's patronage, Coronelli had access to the maps and charts that were being collected for the publication of the first 'Neptune Français' – the atlas published at the end of the seventeenth century for the needs of French sailors. He also received documents from Blaeu and Sanson, and scoured mariners' maps for the latest information. It is interesting to note, therefore, that, despite such rigours of research, California still appears as an island. Other noteworthy geographical features include a distorted Australia, especially the south and south-east coasts, and an absence of the south and east of New Zealand.

#### Astronomy

The celestial globe depicts the constellations as they would have been on the evening of Louis XIV's birth.





## Homann's rare pocket armillary

### 7 HOMANN, Joh[ann] Bap[tiste]

*Globus Terrestris [and] Globus Coelestis.*

Publication  
Nuremberg, Opera Ioh. Bapt. Homanni Geographi, [c1702-1715].

Description  
Globe, 12 hand-coloured engraved paper gores, over two wooden concave hemispheres, paste-board armillary sphere inside, housed within original black morocco over paste-board clamshell case, decorated with fine gilt daisy flower tools and fillets, with hook and eye, lined with two sets of 12 hand-coloured engraved celestial gores. Short split to globe in the northern hemisphere with early repair. In addition to the terrestrial and celestial globe, this pocket globe features a rare armillary sphere, which is revealed by opening the hollow wooden terrestrial globe.

Dimensions  
Diameter: 64mm (2.5 inches).

References  
Dekker and van der Krogt, pl.20; Sumira 22.

The earliest state, previously unrecorded, of Homann's only known pocket globe, here with rare 'nesting' armillary.

#### Biography

Johann Baptist Homann (1664-1724) was a German geographer and cartographer. He was educated as a Jesuit and destined for an ecclesiastical career, but converted to Protestantism and then worked as a notary in Nuremberg. He founded a publishing business there in 1702, and published his first atlas in 1707, becoming a member of the Academy of Sciences in Berlin in the same year. He collaborated with Johann Gabriel Doppelmayr on his book 'Kosmotheoros', which represented the solar system based on the Copernican system laid down by Christiaan Huygens.

Homann was appointed Imperial Geographer to Charles VI in 1715, and produced his great work the following year, 'Grosser Atlas uber die ganze Welt'. Homann was well placed to take advantage of the decline of Dutch supremacy in cartographic publishing, and he became the most important map and atlas producer in Germany. After his death, the company was continued by his son Johann Christoph. When Johann Christoph died in 1730, the company continued under the name of Homann Heirs until 1848.

#### Geography

Homann is only known to have produced one pocket globe. Although the present example reflects an earlier issue than previously identified, it does not include Homann's title as Imperial Geographer, which he received in 1715. The globe features cartography plotted from recent observations of the Académie Royale des Sciences in Paris. In addition to his collaboration with Doppelmayr, Homann published the gores of George Christoph Eimmart's globes in his atlases, which would have provided additional cartographic information. The equator is graduated and shows ecliptic and prime meridian. None of the Antarctic continent appears, nor is there a coast to northwestern Canada, or eastern Australia. "New Zealand" and "Diemens Land" are shown only in part, and California is shown as an island.



#### Astronomy

The celestial cartography appears on the inside of the clamshell case is graduated in degrees, the ecliptic is graduated in days of the houses of the Zodiac with sigils and the constellations are brightly coloured and depicted by mythical beasts and figures and some objects, with names in Latin. A cartouche gives the stars and nebulae to six orders of magnitude.

#### Armillary sphere

The miniature armillary sphere, with graduated meridian and three latitudinal bands, contains a miniature sun at its centre.

Rare. Only one institutional example is known: that in British Library, although the BL example exhibits different form of the armillary sphere.



## “accurst hunger for gold!” (Virgil)

8 PRICE, C[harles], SENEX, [John] and [MOLL, Herman]

*New & Correct Globe w.th ye Trade Winds &c. by C. Price and I. Senex Geographers [and] A Correct Globe with ye New Constelations of Mr. Hevelius.*

**Publication**  
London, Printed for John Bowles, [c1710], [Celestial globe dated 1719].

**Description**  
Globe, 12 hand-coloured engraved paper gores, clipped at 70 degrees latitude, with two polar calottes, over a papier mâché and plaster sphere, varnished, lacking metal pivots, housed within original shagreen over paste-board clamshell case, with hooks and eyes, lined with two sets of 12 hand-coloured engraved celestial gores, varnished. Surface of globe rubbed with some losses, the hinge to the case is loose.

**Dimensions**  
Diameter: 70mm (2.75 inches).

**References**  
A variant to Dekker GLB0013 (terrestrial), GLB0197 (celestial); Worms and Baynton-Williams, pp.599-601; Worms, 'The Search for John Senex' (2000).

One of the last globes from the Price/Senex partnership.

### Biography

John Senex (1678-1740) was apprenticed to the London bookseller Robert Clavell in 1695, branching out on his own in 1702. Between 1703 and 1706 Senex formed an early partnership to produce instruments with Jeremiah Seller and Charles Price, the successors of John Seller. Senex continued in partnership with Price until 1710, and he then joined forces with John Maxwell, by which time he had gained a reputation as a successful publisher of atlases, maps and geographical texts. He produced his first set of 325mm (12 inch) globes in 1706, and then, in 1710, just before his split with Price, a pair of pocket globes. In 1728 Senex was appointed Fellow of the Royal Society, and in 1738 he presented a paper to the Society with suggestions for making a celestial globe into a precession globe. His globes were held in such high regard that one appears in a portrait by Richard Wilson of George III and his brother Frederick with their tutor: “if we can judge from survival rates and geographical spread, he was the greatest globe-maker of his day” (Worms). Following his death, Senex’s publishing interests were continued by his widow, Mary. In 1755 his stock was acquired at auction by James Ferguson. Only one set of plates escaped, the Senex-Price celestial pocket globe and those for a newly engraved matching terrestrial sphere, which went to the celebrated instrument maker George Adams Snr (1704-1772).

Herman Moll (?1654-1732) moved to London from Germany or the Low Countries, sometime before 1678. His career in London would span some 60 years and see him move from a jobbing engraver to a successful publisher of maps and atlases. He was part of the intellectual circle that gathered at Jonathan’s Coffee House, counting Robert Hooke, Daniel Defoe and Jonathan Swift amongst his acquaintance. Moll even provided a map for Defoe’s work ‘Robinson Crusoe’ showing the track of Crusoe’s supposed voyage, and is mentioned by Lemuel Gulliver in ‘Gulliver’s Travels’.



### Geography

This globe is one of the last that Senex produced in partnership with Charles Price, and it follows English cartography. The prime meridian is labelled “the Meridian of London” and the equator is graduated and labelled “the Aequinoctial”. The ecliptic is graduated and labelled “the Ecliptic” with notations with the symbols of the zodiac. The location of the Antipodes to London is marked and the trade winds are indicated by lines between the tropics. California is drawn as an island, and Australia is drawn according to the Dutch discoveries, Tasmania is labelled “Dimens Land” and the east coast of New Zealand appears as “Zeland”. The Dampier Strait is labelled “Dampiers Str.”. There is no hypothetical southern continent but inside the Antarctic circle is a label “Incognita”. Around the North Pole, there is an inaccurate quotation from Virgil’s Aeneid, III, 56 “Quo non Mortalia pectora cogit Auri sacra fames” [“To what extremes you will not drive the hearts of men, accurst hunger for gold!”].

### Astronomy

The celestial globe gores, pasted to the inner lining of the case, are a later edition of Herman Moll’s 1710 globe, ‘A Correct Globe with New Constellations of Mr. Hevelius. 1719’ [sic]. There is a magnitude table in front of Ursa Major, titled “Magnitu. Stel” and the Milky Way is labelled “via Lactea”. 48 Ptolemaic constellations are shown, with Crater spelt “Ciater”, and the non-Ptolemaic constellations: Coma Bernices, Crosero, Columba Noachi. The southern constellations of Plancius appear, as well as those of Hevelius, as mentioned in the title cartouche. In the later anonymous pocket globe published in c1775, the cartouche is updated to name Halley instead of Hevelius.



## “Homann Sac. Caes. Ma.”

9 HOMANN, Joh[ann] Bap[tiste]

*Globus Terrestris [and] Globus Coelestis.*

### Publication

Nuremberg, Opera Ioh. Bapt. Homanni Sac. Caes. Ma. Geographi, [after 1715]. Stands by Homaenischen Erben [Homann Heirs], [after 1730].

### Description

A pair of terrestrial and celestial globes, each with 12 hand-coloured engraved paper gores, over a papier mâché and plaster sphere, each globe with papier mâché meridian rings, mounted on horizon rings with manuscript annotation “VIII” and “III” on the underside of each, respectively, supported by four quadrants with text “Zufinden in Nurnberg bey denen Homaenischen Erben” connected to a baluster turned single ebonized wooden column resting on stepped circular base plinth.

### Dimensions

Diameter: 64mm (2.5 inches).

A fine pair of globes from the official mapmakers to the emperor.

### Biography

For a biography of Johann Baptist Homann see item 7.

### Geography

The cartography follows Homann’s pocket globe of c1700 with armillary sphere inside (see item 7). The present globe features an updated imprint on the cartouche stating “Opera Joh. Bapt. Homann Sac. Caes. Ma. Geographi Noriberg”. The “Sac. Caes. Ma.” indicates that Homann had been named official mapmaker to the emperor in the time between these two globes’ publications. It is rare to see a globe with this imprint.

The equatorial line is graduated in degrees, the ecliptic in degrees and showing the symbols of the signs of the Zodiac. Both are labelled. The prime meridian of Ferro is graduated in degrees, but not labelled; the tropics and the polar circles are drawn and labelled. The continents are coloured in outline showing rivers, mountains and (coastal) cities. California is depicted as an island, the coastline of Australia, “Nova Hollandia”, is incomplete, but with Torres Strait between the continent and New Guinea drawn.

### Astronomy

The imprint on the celestial globe also includes the reference to Homann as an official mapmaker to the emperor.

The equatorial and the ecliptic are graduated, the polar circles and tropics are drawn and labelled. The 42 Ptolemaic and the non-Ptolemaic constellations are labelled and drawn.



## Follow the trade winds

### 10 MOLL, H[erman]

*A Correct Globe with the Trade Winds [and] A Correct Globe with ye New Constellations of Mr Hevelius 1710.*

**Publication**  
[London, H. Moll, over against Devereux Court in the Strand, 1719].

**Description**  
Globe, 12 hand-coloured engraved paper gores, clipped at a latitude of 70 degrees, with two polar calottes, over a papier mâché and plaster sphere, housed in a shagreen over paste-board clamshell case, rim painted red, with hook and eye, lined with two sets of 12 finely engraved and hand-coloured celestial half-gores. Globe toned and with minor surface wear, case with remains of two sets of hooks and eyes.

**Dimensions**  
Diameter: 90mm (3.5 inches).

**References**  
Dekker GLB1097, Lamb, Collins and Schmidt 5.4.

Moll's cartography was influenced by his friend and collaborator, William Dampier (1651-1715). Dampier was the first Englishman to explore Australia, and the first to circumnavigate the world three times. Moll went on to publish the maps in Dampier's personal accounts 'New Voyage and 'A Voyage to New Holland'.

The globe includes information on Dampier's voyage of 1679-1691 labelled "Cap.t Damp(ier) tract round ye world" as well as updated coastlines based on his discoveries, and records of trade winds based on his treatise on the subject.

#### Biography

For a biography of Herman Moll see item 8.

#### Geography

California appears as an island as Spanish explorers of the region provided conflicting reports that led to confusion as to whether it was attached to the mainland or not, a misunderstanding that would not be resolved until the voyages of Juan Bautista de Anza (1774-1776).

The prime meridian is labelled "First Meridian from Ferro", and there are labels for the "North [Pole]", the "Artik Circle", the "Trop. of Cancer", the "Trop. of Capricorn", the "Antartick Circle" and the "South Pole". The ocean regions between the tropics are hatched and show the trade winds by arrows. There is a compass rose west of Australia.

#### Astronomy

The celestial cartography appears on the inside of the clamshell case.

There is a magnitude table in front of Ursa Major, titled "Magnitu. Stel" and the Milky Way is labelled "via Lactea". 48 Ptolemaic constellations are shown, with Crater spelt Ciater, and the non-Ptolemaic constellations: Coma Bernices, Crosero, Columba Noachi. The southern constellations of Plancius appear, as well as those of Hevelius, as mentioned in the title cartouche. In the later anonymous pocket globe published in c1775, the cartouche is updated to name Halley instead of Hevelius.



## Popularising the new scientific ideas of the Enlightenment in Germany

### 11 DOPPELMAYR, J[ohann] G[abriel]

*Terrestris Novus [and] Globus Coelestis Novus.*

Publication  
Nuremberg, Ioh. Georg. Puscher, 1730.

Description  
Terrestrial and celestial globes, each with 12 hand-coloured engraved paper gores, on a papier mâché and plaster sphere, graduated brass meridian ring, wooden octagonal horizon ring, supported on four turned ebonized columns united by cross-stretchers under the turned base, with four bun feet. Professionally restored, with small areas of infill, manuscript facsimile, uniformly toned, revarnished.

Dimensions  
Diameter: 200mm (7.75 inches).

References  
Dekker GLB0075 (terrestrial), GLB0076 (celestial); van der Krogt Dop 4 (terrestrial), Dop 7 (celestial).

#### Biography

Johann Gabriel Doppelmayr (?1677-1750) was an astronomer and geographer who, from 1704 until his death, occupied the post of Professor of Mathematics at the Aegidien Gymnasium at Nuremberg. His activities as a globemaker formed part of his efforts to popularize the new scientific ideas of the Enlightenment in Germany. For that purpose, he translated several works into German, one of which was N. Bion's work on globes. He also produced several celestial maps, which were later included into his most famous work 'Atlas novus coelestia' of 1742, published by the house of Johann Baptist Homann.

Between 1728 and 1736 Doppelmayr designed pairs of globes of several sizes - 100, 200 and 320mm (4, 8 and 12.5 inches) - in co-operation with the Nuremberg engraver Johann Georg Puschner I (1680-1749).

#### Geography

Doppelmayr's first globes of 1728 were 320mm (12.5 inches) in size, and the present example of 1730 are slightly smaller, measuring 200mm (8 inches) in diameter. The cartography follows Doppelmayr's 1728 globes with Spitzbergen drawn as an island, as it was known to be since De Rijp and Giles circumnavigated it in 1707. The river system in North America is represented based on the explorations of De la Salle, up to 1687, and California is drawn as a peninsula. Australia appears according to Tasman's discoveries, but Tasmania does not appear. There is a label for a hypothetical southern continent, reading "Terra Australis Incognita" without any contours shown. Dampier's exploration track is drawn and labelled "Navigatio Dampierie 1688". The globe, which is in Latin, includes scales for degrees, the zodiac, the Julian calendar, the Gregorian calendar and for 32 compass points.

#### Astronomy

The cartography is given in Latin, and the equator and ecliptic are both graduated and labelled. There is a magnitude table labelled "magnitudo stellarum", and the Milky Way is identified as "Via Lactea". The Magellanic Clouds are shown but not labelled. The globe depicts 48 Ptolemaic constellations, as well as the non-Ptolemaic constellations of Coma Berenices, Antinous, Crux and Columba. It also presents the 12 southern constellations of Plancius, and all of those of Hevelius.





## The “unknown parts” of Hudson Bay

### 12 CUSHEE, R[ichard]

*A New Globe of the Earth by R. Cushee 1731.*

Publication  
[London], R. Cushee, 1731.

Description  
Globe, 12 hand-coloured engraved paper gores, clipped at 70 degrees latitude, with two polar calottes, over a papier mâché and plaster sphere, housed within original shagreen over paste-board clamshell case, with hooks and eyes, lined with two sets of 12 hand-coloured engraved celestial gores, clipped at 70 degrees declination, varnished.

Dimensions  
Diameter: 70mm (2.75 inches).

References  
Dekker GLB0044; van der Krogt Cus 1 (terrestrial), Cus 3 (celestial); Sumira 26; for reference see Worms and Bayton-Williams, pp.176-177.

### Biography

Richard Cushee (1696-1733) was a globemaker, surveyor and publisher who worked at the sign of the Globe and Sun between St Dunstan's Church and Chancery Lane. He was apprenticed in 1710 to Charles Price and was made a freeman in 1721. In 1731, Cushee took on Nathaniel Hill as an apprentice. In the same year, in collaboration with the instrument maker Thomas Wright, Cushee published the popular book by Joseph Harris, 'The description and use of the globes, and the orrery'. He also began to make pocket globes: these small terrestrial globes were also used by Wright for his own orreries. Cushee died young, and his wife Elizabeth took over his business, later marrying one of his relatives, Thomas Cushee. In the following years she went on to work both with her younger brother William Wyeth and her husband's former apprentice Hill.

### Geography

In North America, the area west of the Hudson Bay is marked “Unknown parts” and California is drawn as an island. The title cartouche has been strategically placed in the Pacific Ocean between America and Asia to avoid having to define the area more clearly, although Cushee has chosen to show the two continents as separate, perhaps after news of the exploration of the Bering Strait in 1728 reached Britain. Australia is named “New Holland”, and William Dampier's explorations are indicated by “Sharks Bay” on the west coast. Australia is joined to New Guinea; however Dampier's Strait is not marked, as on Senex's globe. Tasmania is named “Dimens Land”, and New Zealand “N. Zeeland”. Both North and South Poles are marked, as is the meridian from London; the equator and the line of the Ecliptic, with signs of the zodiac; trade winds are marked by hatched lines in the ocean between the tropics. In Asia, the Great Wall is identified as “Ch. Wall”.

### Astronomy

The celestial globe is pasted to the inside of the case, and the projection of the celestial gores is geocentric but the constellations are seen from the back. Cushee has reversed the human figures. The stars are represented by different symbols to denote magnitude, but there is no key. The Milky Way is labelled: “Via Lactea”. The 48 Ptolemaic constellations are marked, with five of the non-Ptolemaic. Six of Plancius' southern constellations are named, but two not drawn; all those of Hevelius are shown, though Triangulum Minus is not labelled.



## Doppelmayr's smallest globes

### 13 DOPPELMAYR, J[ohann] G[abriel]

*Globus Terrestris Novus [and]  
Globus Coelestis Novus.*

Publication  
Nuremberg, I.G. Puscher, 1736 [celestial  
globe dated 1735].

Description  
Terrestrial and celestial globes, each with  
12 hand-coloured engraved paper gores,  
over a papier mâché and plaster sphere,  
brass meridian ring, wooden octagonal  
horizon ring, supported on four turned  
bone columns united by cross-stretchers  
under the turned base, with four bun feet.  
Terrestrial globe gores occasionally worn  
with loss, recent infill to the coastline of  
eastern South America, celestial globe  
with very minor wear in two places.

Dimensions  
Diameter: 100mm (4 inches).

References  
Variant of van der Krogt Dop 1 (terrestrial),  
Dop 3 (celestial).

Of the three sizes of globes Doppelmayr produced, this pair is the smallest. It is also the last pair he produced dating from 1736, although the celestial globe is dated 1735 - we have been unable to trace any record or other examples of Doppelmayr's celestial globe with this date.

#### Biography

For a biography of Johann Doppelmayr see item 11.

#### Geography

The cartography on this globe is the same as Doppelmayr's 320mm (12.5 inches) globes of 1728 and 200mm (8 inches) globes of 1730 (see item 11), however there are no exploration tracks drawn.

#### Astronomy

The cartography is given in Latin, the equator and ecliptic are both graduated and labelled. The constellations are depicted as mythical beasts and figures and some scientific instruments. Below "Carter" (ie Crater) appears a magnitude table labelled "Magnit: Stell:". The Magellanic Clouds are shown but not labelled. The globe depicts 48 Ptolemaic constellations, as well as the non-Ptolemaic constellations of Coma Berenices, Antinous, Crux and Columba. It also presents the 12 southern constellations of Plancius, and all of those of Hevelius.



## “The greatest globemaker of his day”

### 14 SENEX, J[ohn]

*New & Correct Globe of the Earth*  
by I. Senex F.R.S.

Publication  
[London], I. Senex, [after 1744].

Description  
Globe, 12 engraved hand-coloured paper gores, clipped at 70 degrees latitude, with two polar calottes, over a papier mâché and plaster sphere, varnished, housed in original shagreen over paste-board clamshell case, with hooks and eyes, lined with two sets of 12 hand-coloured engraved celestial gores, varnished.

Dimensions  
Diameter: 70mm (2.75 inches).

References  
Dekker GLB0034; van der Krogt Sen 1; a later version of Sumira 25; for reference see Worms and Baynton-Williams, pp.599-601; Worms, 'The Search for John Senex', 2000.

Senex engraved new gores to differentiate them from the plates he had produced in partnership with Price.

#### Biography

For a biography of John Senex see item 8.

#### Geography

To distinguish this globe from the one Senex produced with Price, he changed the lettering, emphasized the trade winds and erased the track of Francis Drake's voyage. The title sits within a rectangular cartouche in the northern Pacific Ocean. The prime meridian is marked as London but ungraduated. The North and South Poles are labelled as well as the Arctic and Antarctic Circles, and their respective landmasses marked "Incognita". The "Pacific Ocean or Great South Sea", the "Western or Atlantic Ocean" and the "Etheopic Ocean" are shown with arrows for trade winds and monsoons. Australia is drawn according to the Dutch discoveries, and appears as "New Holland", although "New Zeland" appears in the place most contemporaries assigned to "Van Diemen's Land". Portions of the western and southern coastline are missing, and all of the eastern coastline. The northern coastline is connected to New Guinea. Africa includes "Negroland", "Zaara Desert", "Coast of the Caffres" and "Zanguebar". Asia lacks a firm northern and north-eastern coastline, and both areas are labelled "Incognita". Japan is incorrectly drawn, with its southern island labelled "Bongo".

The plates were updated again in 1744, revised to show California as a peninsula and George Anson's circumnavigation of the same year. The Kamchatka Peninsula also appears on this globe, reflecting the findings of Vitus Bering's second expedition spanning ten years (1733-1743) exploring northern Russia, mapping the Arctic coast of Siberia and reaching Alaska in North America. Bering died of scurvy during the voyage, and an island off the Kamchatka Peninsula was eventually named in his honour.

George Adams went on to buy the Senex plates in c1756, and the present globe has been incorrectly attributed to him in the past. However, it can be distinguished from the Adams globes as it does not include the hypothetical eastern coast of Australia.

#### Astronomy

The celestial gores, lining the case, bear no revision from the set Senex published with Charles Price in 1710. The signs of the zodiac are shown along the ecliptic. Both ecliptic poles are marked; as are the Arctic and Antarctic circles, the tropics and the celestial equator. The 48 Ptolemaic constellations are named, and two non-Ptolemaic; together with the 12 southern constellations by Plancius - although Dorado is named "Xiphias" - and three by Hevelius.



## Showing the results of Bering's expedition to the Kamchatka Peninsula

15 HILL, Nath[aniel]

*A New Terrestrial Globe by Nath Hill 1754.*

Publication  
[London], Nath Hill, 1754 [but c1755 or later].

Description  
Globe, 12 hand-coloured engraved paper gores, clipped at 65 degrees latitude, with polar calottes, over a papier mâché and plaster sphere, varnished, housed within original shagreen over paste-board clamshell case, with hooks and eyes, lined with two sets of 12 hand-coloured engraved celestial gores, varnished. The terrestrial globe a bit toned.

Dimensions  
Diameter: 70mm (2.75 inches).

References  
For Hill's 1754 pocket globe see Dahl and Gauvin, pp.93-95 (Stewart Museum 1979.28.2); for reference see Dekker, pp.355-357; van der Krogt, Hil 1 and Hil 4; Worms and Baynton-Williams, pp.318-319.

### Biography

Nathaniel Hill (fl1746-1768) was a surveyor, mathematician and instrument maker based in London. He started his career as an apprentice globemaker to Richard Cushee, and he later took on Cushee's nephew, Leonard, as his apprentice. His shop was at the Globe and the Sun in Chancery Lane, and his trade card advertised "New and Correct Globes of 3, 9, 12 and 15 inches". Hill's most popular items were the three and nine-inch globes, which he published either as pocket globes, mounted on a stand or for orreries. After Hill's death, his business was continued by Thomas Bateman, who took on John Newton and William Palmer as apprentices.

### Geography

This pocket globe by Hill shows the rapid changes in European knowledge of the world. Although it bears the same date as another globe he published in 1754, it shows some significant revisions, the most obvious of which is the addition of trade winds. In Asia, the Caspian Sea has been reduced in width to reflect the findings of the Russian nautical surveyor, Feodor Soimonov, who thoroughly surveyed the sea for the first time between 1719 and 1727, and published his findings in 1731. The most significant development is the redrawing of eastern Russia, influenced by Vitus Bering's second expedition to the Kamchatka Peninsula. Bering spent ten years (1733-1743) exploring along northern Russia, mapping the Arctic coast of Siberia, and reaching Alaska in North America. Bering died of scurvy during the voyage, and an island off the Kamchatka Peninsula was eventually named in his honour. Stephan Krasheninnikov published the first detailed description of the peninsula, 'An Account of the Land of Kamchatka' in 1755, which is possibly where Hill acquired the new information.

### Astronomy

The celestial gores, lining the case, are geocentric in orientation and, in a departure from most previous pocket globes, are concave, thus depicting the constellations as seen from earth. Previous pocket globes, most notably John Senex's pocket globe of 1730, simply used gores intended for celestial globes, thus rendering the night sky in reverse when pasted to the inside of the case. The difference is most noticeable in the orientation of Ursa Major, with the bear facing in the other direction.



## The shepherd's globe

### 16 FERGUSON, James

*A New Globe of the Earth by James Ferguson.*

**Publication**  
[London], James Ferguson, J. Mynde Sc.  
[engraver], [c1756].

**Description**  
Globe, 12 hand-coloured engraved paper  
gores, over papier mâché and plaster sphere,  
varnished, housed in original shagreen case  
with rims painted red, with hooks and eyes.

**Dimensions**  
Diameter: 75mm (3 inches).

**References**  
Dekker GLB0057 (edition II- see p.132,  
table 9.1); James Ferguson, *Life of James  
Ferguson*, F.R.S. (Cambridge: Cambridge  
University Press, 2010); John Millburn,  
*Wheelwright of the Heavens. The Life and  
Work of James Ferguson* (London, 1988).

### Biography

James Ferguson (1710-1776) was a Scottish autodidact who settled in London after a peripatetic life involving spells as a shepherd, miller, engineer, astronomer and lecturer. In his autobiography, he claims that, at the age of 20, he “made a globe in three weeks at my father’s, having turned the ball thereof out of a piece of wood, which ball I covered with paper, and delineated a map of the world upon it—made the meridian ring and horizon of wood—covered them with paper, and graduated them” (Ferguson, p.21). In 1755, he purchased the vast majority of the plates and instruments previously owned by John Senex, a leading producer of pocket globe. Ferguson subsequently designed his own pocket globe and produced several editions, but in 1757 he sold his business to Benjamin Martin, overwhelmed by his numerous responsibilities. Ferguson is most widely-known as a remarkable example of self-education, and for his production of scientific instruments and apparatus, notably orreries.

### Geography

Although Ferguson acquired Senex’s copper plates for globes, he did not have those for the smallest 76mm (3 inch) globes and therefore the cartography is his own. The globe features a myriad of details, including notations of the Great Wall of China and the monsoons of the Indian Sea. Australia and New Zealand are drawn according to the Dutch discoveries. The countries are distinguished by colour outline, and within them are shown some significant geographical details, such as rivers and deserts. A broken line wending its way around the world represents the voyage of George Anson, who circumnavigated the globe in the early 1740s. In some areas, the territorial geography is lacking, with California drawn as a peninsula, and the antipodes, taken from Dutch surveys, missing large parts of their coastlines.

Below the title cartouche, “J. Mynde” is identified as the engraver. James Mynde also engraved Ferguson’s ‘Astronomical Rotula’ and his armillary trigonometer.

### Astronomy

The celestial cartography, lining the case, displays the houses of the Zodiac with their sigils and the constellations, depicted by mythical beasts. The 48 Ptolemaic constellations and four of the non-Ptolemaic constellations are drawn. Four of the southern constellations are drawn with those of Plancius and Hevelius. The celestial cartography contains certain flaws, such as erroneous star names (“Archarus” for Arcturus and “Pomahant” for Fomahant) and misplacement of the solstitial colure.



## Adding the American colonies

### 17 CUSHEE, L[eonard Compere]

*A New Globe of the Earth by L. Cushee.*

**Publication**  
[London, Sold by Benjamin Cole, Instrument-maker to His Majesty at the Orrery and Globe near Salisbury Court, Fleet Street, c1760].

**Description**  
Globe, 12 hand-coloured engraved paper gores, clipped at 70 degrees latitude, with two polar calottes, over a papier mâché and plaster sphere, varnished, housed within original shagreen over paste-board clamshell case, with hooks and eyes, lined with two sets of 12 hand-coloured engraved celestial gores, varnished. Terrestrial globe with one or two short splits to the paper and plaster, a bit toned, the case with slight separations to shagreen joins.

**Dimensions**  
Diameter: 70mm (2.75 inches).

**References**  
National Library of Australia 3673780.

### Biography

Leonard Compere Cushee (fl1751-1760) is thought to have been the nephew of Richard Cushee (1696-1733), globemaker, surveyor and publisher (for a biography of Richard Cushee see item 12). Leonard Cushee was apprenticed to Nathaniel Hill (fl1746-1768) in 1751, who in turn had apprenticed with Richard Cushee before publishing his own globes. He was only known to have made one pocket globe independently, working opposite Temple Gate on Fleet Street. He sold his globes with Benjamin Cole (1695-1766), who ran his workshop at "The Orrery & Globe", which was formerly run by Thomas Wright. Wright had previously worked with Richard Cushee to publish 'The Description and Use of the Globes, and the Orrery' by Joseph Harris.

### Geography

The cartography on Leonard Cushee's globe is an updated version of Richard Cushee's 1731 globe with a new cartouche. Leonard Cushee has added notations of extensive trade winds in ocean areas, and California is no longer shown as an island. Further, American colonies are indicated, including "Maryland", "N. Carolina", "S. Carolina" and "Georgia", in addition to the notations that appeared on the 1731 globe including "Florida" (now just "F"), "Virginia", "N. Eng." and "New Britain". The globe is also updated to show the tracks of George Anson's voyage (1740-1744).

### Astronomy

The cartography pasted to the inside of the case is the same as Richard Cushee's celestial globe. The projection of the celestial gores is geocentric but the constellations are seen from the back with the figures reversed - for example, the Great Bear looks right. The stars are represented by different symbols but there is no magnitude table. The Milky Way is labelled, and the 48 Ptolemaic constellations and four of the non-Ptolemaic constellations are drawn. Four of the southern constellations are drawn, as well as those of Plancius and all those of Hevelius.

Rare. Not in the National Maritime Museum Collection.



## A hypothetical Australian coastline

### 18 ADAMS, G[eorge]

*A Terrestrial Globe.*

Publication  
London, G. Adams, No. 60 Fleet Street,  
[c1766-1771].

Description  
Globe, 12 hand-coloured engraved paper  
gores, clipped at 70 degrees latitude, with  
two polar calottes, over a papier mâché  
and plaster sphere, varnished, housed  
in original shagreen over paste-board  
clamshell case with rims painted red,  
lined with two sets of 12 hand-coloured  
engraved celestial gores, with hooks and  
eyes, varnished.

Dimensions  
Diameter: 70mm (2.75 inches).

References  
Dekker GLB0052, GLB0014.

### Biography

George Adams (c1704-1773) was a leading British instrument maker. Apprenticed in 1718, he set up his business in 1735 at the sign of Tycho Brahe's Head in Fleet Street. He began making scientific instruments for the East India Company from 1735, was mathematical instrument maker to the Royal Ordnance from 1748 to 1753 and later instrument maker to the Prince of Wales and King George III. He also supplied the instruments for Captain Cook to observe the transit of Venus in 1769. After his death, his sons George and Dudley continued the business; with Dudley setting up on his own in 1788, working from a shop at 53 Charing Cross. In 1796, Dudley returned to the family firm and remained there until its bankruptcy in 1817. George Adams Snr acquired John Senex's plates at some point in the 1760s. His son Dudley in turn acquired 76mm (3 inch) globe plates from James Ferguson. After the firm's bankruptcy in 1817 the Ferguson-Dudley Adams globes would be acquired by Thomas Lane.

### Geography

The same cartography is used as Senex's 1750 globe, but with the addition of an eastern coastline of Australia, presumably hypothetical in nature, and a correction for New Zealand. The western coastline of North America is extended and shows the Bering Strait, but is not labelled.

The globe can be dated after 1766, as Fleet Street only became numbered that year and the cartouche includes Adams' address at No. 60 Fleet Street. The globe also dates prior to 1771 given the eastern coast of Australia is only outlined in a hypothetical projection.

### Astronomy

The gores are pasted to the inside of the case. The same celestial cartography is used as Senex's 1750 globe, which featured the same cartography as Senex's globe made in partnership with Price earlier in the eighteenth century.



## “Ingénieur-Mécanicien pour les Globes et Sphères”

19 FORTIN, [Jean] and BUY DE MORNAS, M. [Claude]

*Globe terrestre sur le quel Les Principaux Points sont placez sur les dernieres Observations de Mrs de l'Academie Royale des Sciences Par M. Buy de Mornas Geographe du Roi et des Enfants de France [and] Globe celeste.*

**Publication**  
Paris, Chez le Sr. Fortin, Ingenieur, Mecanicien du Roy pour les Globes et Spheres, rue de la Harpe, 1768 [celestial globe dated 1770].

**Description**  
A pair of terrestrial and celestial globes, each with 12 hand-coloured engraved paper gores over papier mâché and plaster sphere, varnished, paste-board meridian ring, wooden horizon ring, raised by four quadrant supports, mounted on an ebonized turned wood table stand.

**Dimensions**  
Diameter: 220mm (8.75 inches).

### Biography

Jean Fortin (1750-1831) was a scientific instrument maker born in Picardy, France. Chiefly remembered for designing a barometer that ensured more accurate readings, he also produced celestial atlases, scales and was commissioned by the French royal family to make globes. He made terrestrial and celestial globes of 320 and 220mm (12 and 8.75 inches) diameter, as well as a terrestrial globe of 55mm (2.25 inches) to go into his armillary spheres.

Fortin operated in Paris, with a shop in the Rue de la Harpe, where he referred to himself as “Ingénieur-Mécanicien pour les Globes et Sphères”. He is also known for publishing the new celestial atlas of John Flamsteed (1646-1719) in 1762, which was highly influential as a source for celestial cartography throughout the rest of the century. His business was continued by his son Augustin, grandson Michel and great-grandson Augustin.

### Geography

The prime meridian, which runs through the Canary Islands at Ferro, the equator, and the ecliptic are all graduated and labelled. The ecliptic includes the signs of the zodiac. Australia and New Zealand are drawn according to the discoveries of Abel Tasman; a dotted line marks a hypothetical northeast, east, and south coast of Australia. There are no tracks of voyages shown, but the lands seen by Quiros and David are marked. The two demi-meridian rings mark the latitude and longitude of the major cities of the world.

North America extends almost to the north pole, and is apparently attached to Asia in the west and Greenland in the east. However, California is shown as a peninsula.

### Astronomy

The equator is graduated and labelled “Cercle de L'Equateur” and “Cercle Equinoctial”. The ecliptic is graduated; it is labelled “Ligne Eclipt” and “la Zodiacue” and provided with the symbols of the signs of the zodiac. There are labels for the “Artique” along the north polar circle “the Tropicque de Capricorn”, “the Tropicque de Cander”, “the Pol. d'eclipt. Australle”, “the Colure des Aequinoxe” and “the Colure des Solstique”. There is a magnitude table which is labelled “Gr. et Figure des Etoilles”. The 48 Ptolemaic constellations are shown as well as the non-Ptolemaic constellations Antinous, La Chevelure de Berenice, La Croix, and La Colombe. The 12 southern constellations of Plancius are depicted.





## The world turned upside down

20 COOK, Captain James R.N., F.R.S.,  
BANKS, Sir Joseph, 1st Baronet,  
GCB, PRS, ROBINS, John

*The "Endeavour" Globe.*

### Publication

London, Globe: Valentine Ansheutz & Co,  
July 1772; stand: John Robins, 1781, 1772.

### Description

Engraved silver terrestrial globe, righted  
so that the Southern Hemisphere is  
uppermost, topped by the figure of a  
reclining Atlas, hollow with a lid that opens  
at the Tropic of Capricorn; supported by a  
later tripod stand, with an inner ring to fit  
a spirit lamp or compass, 128 by 240mm,  
hallmarked 1781 [Leopard's Head, 'JR' and 'f'].

### Dimensions

240 by 240mm. (9.5 by 9.5 inches).

### References

The Royal Society Archives, online; The  
State Library of New South Wales, The  
Banks Papers online; Sutro Library,  
California State Library, Sir Joseph Banks  
Collection, 1770-1812, online; Allibone  
F.R.S., T.E., 'The Thursday's Club called the  
Club of the Royal Philosophers, and its  
relation to the Royal Society Club', 1971;  
Beaglehole, J.C. (ed.), *The Endeavour  
Journal of Joseph Banks* (Sydney, 1962);  
Beaglehole, J.C. (ed.), *The Journals of  
Captain Cook* (London, 1955-1974); Brett,  
Vanessa, *The Sotheby's Directory of Silver,  
1600-1940* (London, 1986); Clifton, Gloria,  
*Directory of British Scientific Instrument  
Makers, 1550-1851* (London, 1995);  
Cook, Andrew S, Alexander Dalrymple  
(1737-1808), *Hydrographer to the East  
India Company and to the Admiralty as  
Publisher: A Catalogue of Books and  
Charts*, Ph.D. thesis University of St.  
Andrews, 1993 (online); Gilbert, Pamela  
(ed.), *The Banks/Cook Portfolio* (Melbourne  
& London, 1990); Millburn, John R, *Adams  
of Fleet Street: instrument makers to King  
George III* (London, 2000).

A magnificent silver globe made to commemorate Cook's first voyage, almost certainly commissioned by the voyage's official naturalist, Sir Joseph Banks.

Resplendent, witty and triumphant, the globe epitomizes the amalgam of science and art associated with the reign of George III and the Age of Enlightenment. It is a gleaming commemoration of one of the greatest voyages of scientific discovery and human endeavour, and outlines with clean simplicity and pinpoint accuracy the track of the voyage of the Endeavour, the first voyage of Captain James Cook, to the south seas, and the only voyage there of Joseph Banks.

Papers retained at the Mitchell Library in Australia, and at the British Museum in London, show that the Endeavour globe is almost certainly the one commissioned by Banks in early 1772 as "a globular silver punch bowl" intended to accompany him on Cook's second voyage aboard HMS Resolution, for which he paid a princely £24 and 8 shillings; and that he subsequently sold "the spherical silver bowl" for use as a "proper punch bowl" to his elite dining society, the Royal Society Club, in November of 1778, for a bit more than £26. It is a heartfelt and deeply personal tribute to the Endeavour voyage, and one of the earliest maps of Cook's first voyage.

### Voyage of the Endeavour (1769-1771)

"When this service is perform'd you are to put to Sea without Loss of Time, and carry into execution the Additional Instructions contained in the inclosed Sealed Packet" (the Admiralty).

King George III became obsessed by the prediction of a rare astronomical event: the transit of Venus across the sun, which, for a few precious minutes on the 3rd of June, 1769, would allow the planet to be viewed from the earth in silhouette. The King gave the Royal Society £4,000 to fund Captain James Cook's first expedition to the South Seas to record the event, which would help determine the distance of the earth from the sun and therefore aid the calculation of longitude. George III had an observatory built at Richmond (now the Kew Observatory) so that he could personally observe the event himself.

For completely different reasons, the Admiralty also supported the idea of a voyage to the Pacific Ocean. On the 30th of July, 1768, they issued Cook with both his public and secret commissions for the voyage: to first view the transit of Venus from a vantage point on the South Pacific island of "la nouvelle Cythère" (now Tahiti); and then "to proceed to the Southward in order to make discovery of the Continent abovementioned until you arrive in the Latitude of 40°, unless you sooner fall in with it. But not having discover'd it or any Evident sign of it in that Run you are to proceed in search of it to the Westward between the Latitude beforementioned and the Latitude of 35° until you discover it, or fall in with the Eastern



side of the Land discover'd by Tasman and now called New Zeland” (Letter to James Cook from the Admiralty, 30th of July, 1768).

Cook followed their instructions to the letter. Having successfully observed the transit of Venus, he sailed due south, but where he had expected to find “a Continent of Land of great extent” at the 40th parallel, he instead found mountainous seas. He subsequently headed west towards New Zealand. At this point Cook made a fateful decision: rather than returning to England by crossing the Pacific Ocean and rounding Cape Horn, he sailed directly westward towards the coast of New Holland, then northwards to the East Indies, and home. On the 28th of April, 1770, Cook made land at Botany Bay, and the rest is history.

Joseph Banks had joined the voyage as ship’s naturalist with a team of eight assistants, including the Swedish naturalist Daniel Solander. Banks contributed about £10,000 of his personal wealth to the outfitting of the voyage, taking on board “a fine Library of Natural History” (Letter from Ellis to Linnaeus, 19th August, 1768). When Banks and Solander made it back to Deal on the 12th of July, 1771, “their huge collections of seeds, plants, shells, insects, bottled specimens, native implements and reams of notes and drawings were taken to Banks’ London house, where Solander was soon installed as secretary and librarian. Linnaeus was delighted” (L.A. Gilbert, ADB online). London society was enraptured by news of the voyage, and Banks and Solander became the toast of the town.

‘Voluntiers, Instructions, Provision for 2d. Voyage’

Banks quickly began planning a second voyage to the Pacific with Cook in pursuit of the elusive southern continent. The vigour and enthusiasm with which Banks applied himself to making preparations for the voyage is evident in the contents of a large folder entitled: ‘Voluntiers, Instructions, Provision for 2d. Voyage’, held in the State Library of New South Wales as part of the Brabourne Papers, acquired in the 1880s. In it (and now digitized) are nearly two hundred documents; mostly receipts for supplies, equipment, and items for exchange with indigenous peoples. There are receipts for the engraving and printing of John Bayly’s celebrated map, ‘The Great Pacific Ocean’, 1772, the first printed map to show discoveries made during Cook’s first voyage. The story behind many of these items was for decades shrouded in mystery: the existence of Bayly’s Pacific map was not even recorded until 1974, when H.B. Carter found the copper-plate and then, later again, a copy of the actual map in a volume of charts belonging to Sir Joseph Banks held by the British Library; even Banks’ greatest achievement from this era, the ‘Florilegium’, a group of 743 engravings of plants collected on the voyage, was not widely known until the original plates were published for the first time in the 1980s.

Hidden amongst this vast inventory there was one last mystery: a small slip of paper as receipt for one “globular silver punch bowl” from



Valentine Ansheutz, known for his fine silver inlaid cabinetry and scientific instruments. In his introduction to volume one of his 1962 edition of 'The Endeavour Journal of Joseph Banks', John Beaglehole mentions this receipt in passing, but no one has ever been able to explain what it referred to, until now. It is almost certain that globe is the Endeavour globe.

A second circumnavigation for Banks was not to be, and there would only ever be a single voyage engraved on the Endeavour globe. Cook, with the agreement of the Admiralty and the Navy Board, was not able to accommodate Bank's required alterations to the ship and he therefore decided to withdraw from the expedition (State Library of NSW).

#### Punch drunk

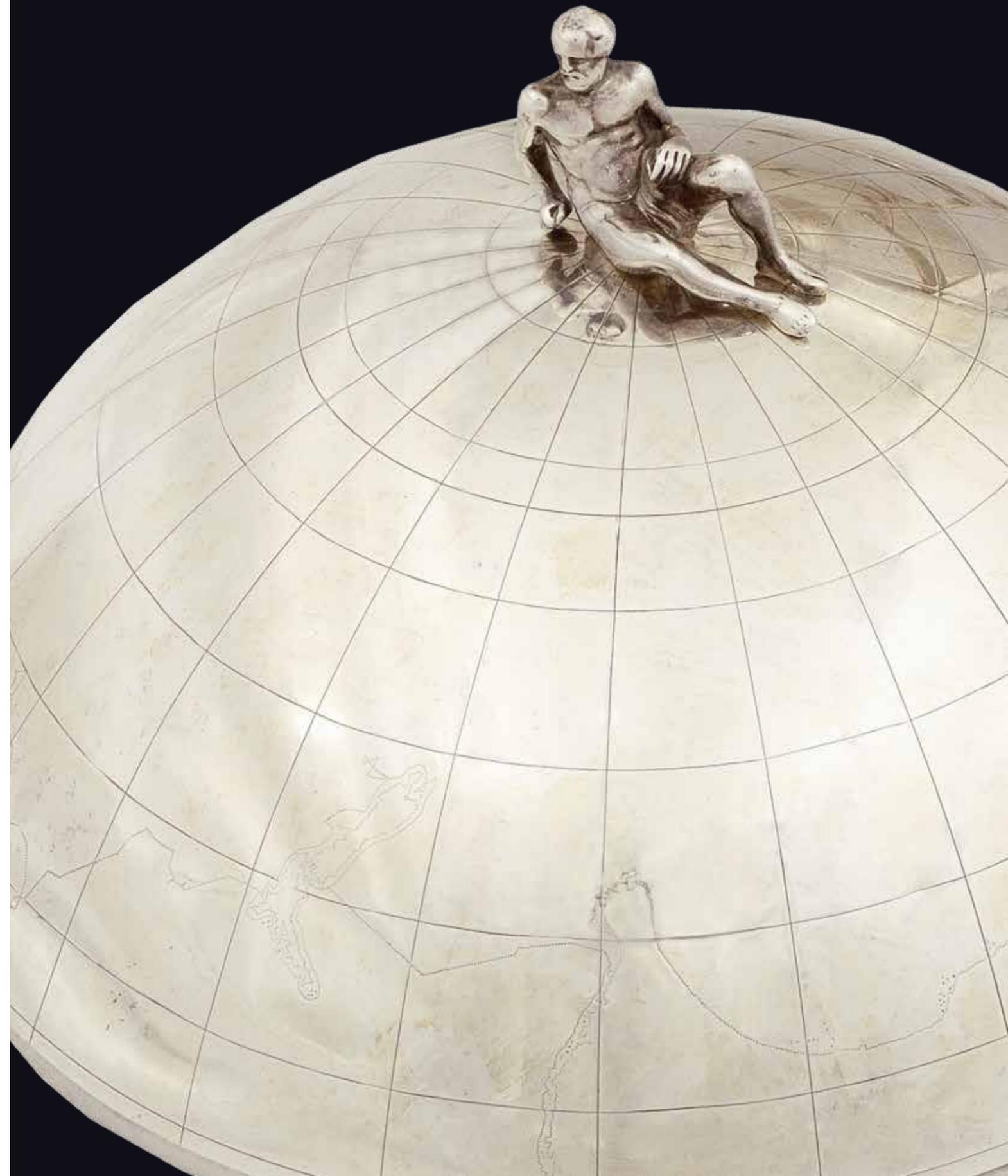
The Endeavour globe is almost certainly that originally commissioned by Sir Joseph Banks in 1772. It was collected on "July 3rd 1772" in return for payment from Banks of "sixteen pounds which with eight pounds eight received from Mr. Zoffani is in full for a globular silver punch bowl". Zoffany, a German-born portrait painter, was a founding member of the Royal Academy and, like Banks, a particular favourite of George III. Banks invited Zoffany to join his growing entourage on board the Resolution as official artist for the voyage.

Precious few Georgian silver punch bowls are described as "globular", and not very many have lids. While the central conceit behind the design is obviously to have the whole globe figured, it is also true that such a specific design would serve a practical purpose during a voyage on the high seas. It may even have been designed to be suspended from the ship's beam, as another receipt suggests: on May the 9th, 1772, Banks paid the silversmith Mark Bock more than £5 for a "silver hanger" and a "steel wast band and chains" (State Library NSW, The Banks Papers, 06.039).

The "globular silver punch bowl" of 1772 was made by the firm of Valentine Ansheutz & Co, which was renowned for its fine scientific instruments. Valentine Ansheutz (1724-1796) emigrated to London and married Mary Ann Poy, daughter of the renowned London clockmaker Godfrey Poy. He worked for Gray and Vulliamy in the early 1760s and for James Cox of Shoe Lane in the 1770s.

#### Royal Society Club

In 1777, Banks established his own exclusive dining society, the Royal Society Club, a spin-off of the oldest dining club in Europe. He immediately discussed the commission of a "proper punch bowl" to adorn their table. On Thursday, December 18th, 1777, "the Committee for considering of a proper punch bowl reported that they had agreed that a bowl able to contain one gallon was the size best adapted to the use of the Society", matching the capacity of the Endeavour globe, which has been measured



at one imperial gallon. On Thursday, January 29th, 1778, it was agreed that the Club would buy exactly what they needed from Banks himself: “ordered nem. con. that a spherical silver bowl be provided & that Mr. Banks do provide the same for the sale & at the expense of the club”. On Thursday, November 5th, 1778, the Club minutes record “... the purchase of a silver punch bowl which cost 26=2=0”.

Having been purchased at some expense, this silver bowl was no doubt used at scenes of great conviviality until the society’s declining membership in 1781 led it “to offer the Punch bowl to members for its value in silver to the members... or to sell it to anyone else who chooses to purchase it”. A small group of the society joined Banks in a splinter faction and on Saturday 12 June 1784 proclaimed “that the Punch Bowl be not disposed of till further orders”, but, according to the club historian, “the rest is silence” (T.E. Allibone, F.R.S. ‘The Thursday’s Club called the Club of the Royal Philosophers, and its relation to the Royal Society Club’, 1971).

A precise ‘Chart of part of the South Sea’

Amusingly, and of course correctly, the Endeavour globe is engraved with the southern hemisphere uppermost. For the first time on a globe, it reflects with extraordinary accuracy the cartography of the discoveries of Cook’s first voyage and the details of the track of the Endeavour. It may be the first time they appear in their entirety on any engraved map.

Similar South Polar projections are known from the period, the earliest of which is a rudimentary manuscript map by Cook himself, ‘A map of the Southern Hemi-Sphere shewing the discoveries made in the Southern Ocean up to 1770’, presented to the Earl of Sandwich in February of 1772. The second is John Bayly’s (fl1755-1783) map of the ‘Great Pacific Ocean’, commissioned by Banks in early 1772. While the Bayly map does not show the track of the Endeavour, it does add Cook’s cartographical discoveries, and as such is the earliest engraved chart to depict any of the discoveries of Cook’s first voyage.

In terms of the globe, however, it is actually the work of Bayly’s colleague William Whitchurch that is most important. Whitchurch (fl1769-1779) was an experienced map-maker of the highest degree, who had worked with the hydrographer Alexander Dalrymple since at least 1770. After the first voyage, Whitchurch prepared both the famous map of the eastern coastline of Australia as well as a larger general chart of the southern hemisphere centred on the Pacific, a ‘Chart of part of the South Sea’. The latter, although undated on the plate, was the first published map to include all of the discoveries of Cook’s Pacific and Australian voyage on one sheet, when it appeared in Hawkesworth’s delayed official account of the voyage, ‘An account of the voyages undertaken ... in the southern hemisphere ...’, London, W. Strahan & T. Cadell, 1773.

Receipt issued to Banks and Zoffany by Val Anscheutz & Co., for silverware, 3 July 1772. <https://www.sl.nsw.gov.au/banks/section-03/series-06/06-092-receiptissued-to-banksand-johann>

July 3<sup>d</sup> 1772

Receipt of Mr Banks the sum of sixteen pounds which with eight pounds eight received from Mr Zoffani is in full for a globular silver punch bowl Val Anscheutz & Co

Without doubt the most striking aspect of the mapping on the Endeavour globe is its accuracy and detail, which makes it possible to be certain that the mapping is based on Whitchurch's published chart, and not either of the known manuscript versions (David, nos. 1.70 & 1.72). That the Endeavour globe relies so heavily on this map, a signature piece of Cook's map-making, is striking in itself.

The connection between Whitchurch's cartography and that on the Endeavour globe is revealed throughout, particularly in the precise shape of the track, the coastline of New Zealand, and the east coast of Australia. Other more intricate details confirm the attribution: the shape of the Endeavour River; the precise rendering of the barrier of the reef waters, just to the north; the coasts away from the actual voyage, such as the sketch of the unknown parts of eastern New Guinea; and the figuring of what was noted as Manicola or the "Espiritu Santo" of Quiros, which was deleted from later maps because Cook voyaged through those seas on his second voyage. The list of points of exact correspondence is long.

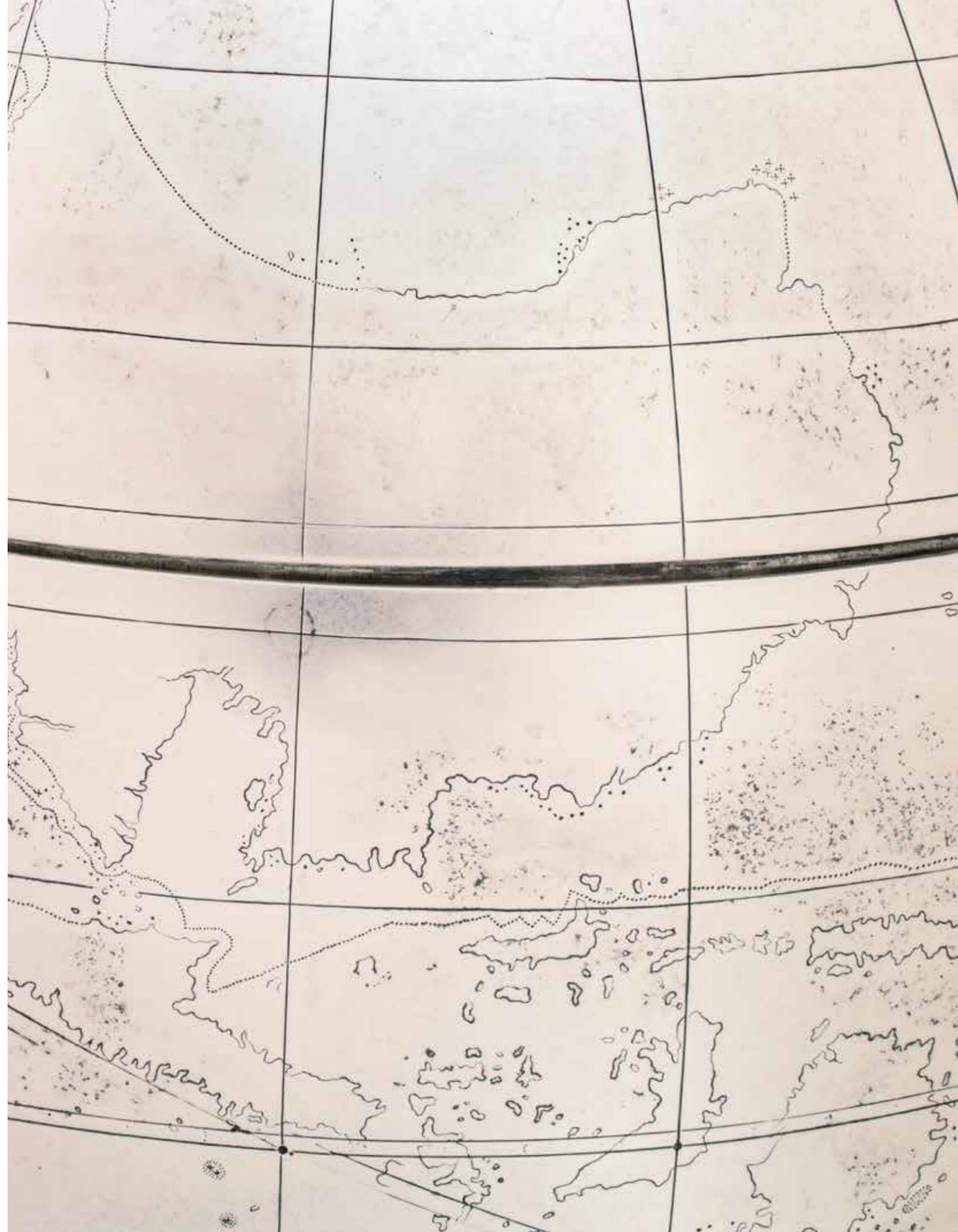
Given how closely the main discoveries from the Endeavour voyage are shown on the Endeavour globe, the only small mystery is how the engraver could have rendered the track of the Endeavour across the Indian Ocean to Africa, given that no such manuscript, nor printed, map is known from the time of first voyage.

This part of the voyage was not only a time of great hardship on board the Endeavour, but was also a time when no major nor new landfalls were made. What this means is that the details of this part of the globe would have been based on a simple voyage track (easily sketched out) with the various coastlines based on the sort of professional, chiefly French, maps that only few could have known or afforded, rather than on any new cartography made by Cook or his officers.

By the time of the first full hemisphere map based on any of Cook's voyages, that published in the official account of the second voyage in 1777, the engraver (Whitchurch again) very clearly relied on a group of known maps, most published by French predecessors such as the great d'Après de Manneville, to fill out the Indian Ocean, in precisely the same way – and with presumably the same sources – as had earlier been done on the globe. The same basic argument holds true, where they appear, for the islands of south-east Asia, the coasts of America, and the west coast of New Holland.

In short, no landfall detailed on the globe dates from a period later than Cook's first voyage, and everything of primary importance in terms of Cook's voyage is based on Whitchurch's 'Chart of part of the South Sea.'

Equally significantly, only the first voyage is traced on the globe, the only Pacific voyage undertaken by Cook to date, and the only one of Cook's voyages to the Pacific that Banks also undertook. There is nothing in the actual detail of the mapping of the Endeavour globe that could



not have been achieved by Whitchurch or one of his colleagues. If it had been engraved later than that period, it would be odd – to say the least! – to leave out details of Cook's second, if not third voyage given the wild interest generated by all of Cook's voyages. Indeed, it is hard not to wonder whether the engraver Whitchurch himself, who would have been a regular visitor to Banks' house in 1772, may have been directly involved in the creation of the Endeavour globe.

#### The English Faberge?

The simple but elegant tripod stand of the Endeavour globe bears the hallmarks of master silversmith John Robins (1764-1831) of Clerkenwell Green. The globe itself bears no hallmark, which points to the more scientifically-minded Anschultz, as he was not officially an English silversmith and therefore did not use a hallmark. The stand is dated 1781, which coincides with the date that the Royal Society Club first announced that they planned to sell the punch bowl, and may have been a nod to practicality. Robins' new stand fits the globe perfectly, neatly balancing the lid, which opens at the Tropic of Capricorn with a stand that holds the globe along the Tropic of Cancer.

In the 1780s, Robins would go on to specialise in creating exquisite globe-shaped objets de vertu. One of Robins' terrestrial globe ink stands, sold at Christie's in 2003, portrays a ripped Atlas in his usual occupation, straining to uphold the world upon his broad shoulders. His features are very similar to those of a far more relaxed Atlas, who having shrugged of his globe-lifting duties, now rests at the top of the Endeavour globe satisfied with his job well done.

#### Joseph Banks (1743-1820)

Banks was a naturalist from a very early age: having found a copy of Gerard's 'Herbal...' in his mother's bedroom, he was largely self-taught when it came to botany. He studied at Harrow and then Eton before entering Christ Church, Oxford in 1760 and devoted himself to the study of botany rather than classical subjects. He inherited a large fortune upon the death of his father in 1761 and chose to pursue natural history and the cultural world of the London elite, where he became an enthusiastic clubman and "a devotee of a free-living demi-monde" (John Gascoigne, DNB).

Already a member for the Society for the Encouragement of Arts, Manufactures, and Commerce in 1761, he became a fellow of the Royal Society and a fellow of the Society of Antiquaries in the same year, 1766. He met Daniel Solander at the British Museum, who soon became his assistant and librarian, a position he held until his death in 1788; and through him became a disciple and correspondent of Linnaeus.



The rituals and paraphernalia of Punch  
- William Hogarth, 'A Midnight Modern  
Conversation', London, 1733.

The voyage of the Endeavour was the making of Banks as a man of science, and the rapturous welcome he received upon his return “overshadowed that of Cook himself” (Gascoigne). As a result, he was introduced to George III, which led to his appointment as the King’s advisor on matters related to science and agriculture. In 1773, he was appointed virtual director of the Royal Botanic Gardens at Kew. By 1778, Banks was elected president of the Royal Society and remained so until his death. In 1795, he was made a knight of the Order of the Bath and in 1797, he was elevated to Privy Councillor. In his new position, he was able to influence the Board of Control (for India), the Home Office, and the Admiralty; he helped to organize the expedition of the Bounty in 1787-1789, and Matthew Flinders’ circumnavigation of Australia, 1801-1803. He also advised on the 1818 Arctic expedition of John Ross.

During his lifetime, Banks and his sister Sarah Sophia Banks (1744-1818) amassed several collections. Much of Sophia Banks’ collections of coins, medals, ephemera, and other “antiquarian items which document the social history of her age” (Gascoigne), can be found in the British Museum and Library. After Banks’ death two years later, and without his own children, his precious papers, library and other collections passed through several hands before being dispersed by Lord Brabourne, a grandnephew of Lady Banks, in a series of auctions at the end of the nineteenth century.

Amongst these papers was a letter Banks wrote, in late 1771, to his friend the Comte de Lauraguais, in which he exclaimed: “O how glorious would it be to set my feet upon the Pole! & turn myself round 360 degrees in a second”. Something that might be celebrated with a tumbler of warm punch.

With thanks to Dr Neil Chambers, Executive Director of the Sir Joseph Banks Archive Project, for his comments on a preliminary draft of this catalogue description.

Provenance:

1. Probably commissioned by Banks from Valentine Anscheutz & Co, receipt for “a globular silver punch bowl”, July 3rd, 1772;
2. Purchased by The Royal Society Club, from Banks, January 29th, 1778;
3. With Rare Art (London) Ltd., The London Silver Vaults, undated receipt late twentieth century; the collection of Victor Niederhoffer, his sale 2019.



## Encircling the globe

21 [FORTIN, Jean]

[*Armillary*].

Publication  
Paris, chez le Sr. Fortin, rue de la Harpe, 1773.

Description  
Armillary sphere, containing globe with 12 hand-coloured engraved gores, over a papier mâché and plaster sphere, varnished wood, raised on four quadrant supports, with ebonised turned wood table stand.

Dimensions  
Globe diameter: 55mm (2.25 inches);  
Armillary diameter: 220mm (8.75 inches).

References  
Dekker ZAA0589; Stevenson fig.129.

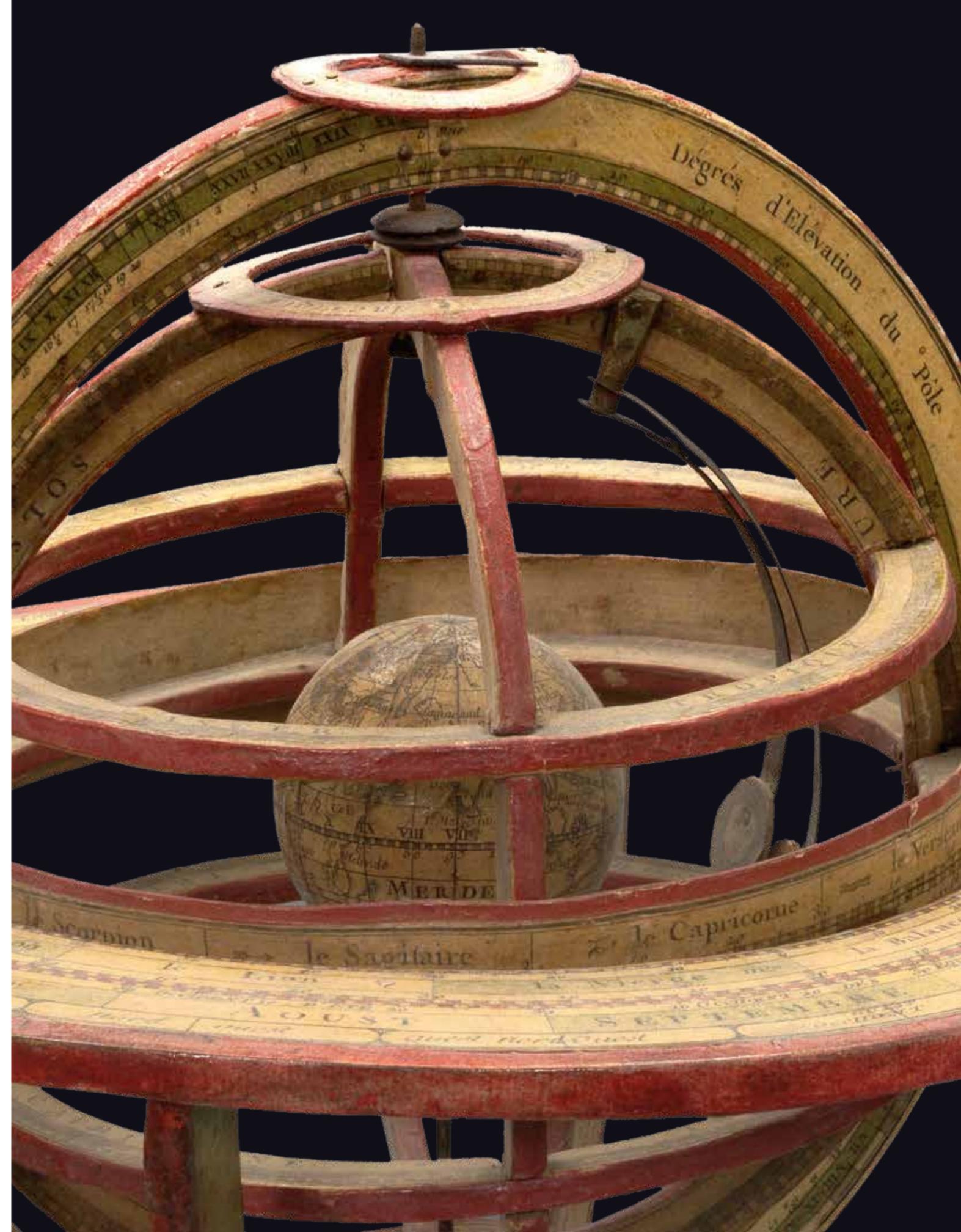
Fortin's armillary is an example of his elaborate scientific instruments that features a small 55mm (2.25 inch) terrestrial globe in the centre.

### Biography

For a biography of Jean Fortin see item 19.

### Geography and Astronomy

A Ptolemaic armillary sphere, showing the cosmos with the earth at its centre. A complex device made of moving circles: a meridian surmounted by an hour circle with metal pointer and an internal ring structure of polar circles, tropics and equator, joined by an equinoctial and a solstitial colure and surrounded by a planar zodiac band, surrounding rotating terrestrial globe with 12 gores and revolving sun and moon of flat paste-board discs, horizon band with calendar and zodiac. The four quadrant supporting the horizon ring give the latitude and longitude of major cities throughout the world.



## Showing the track of Cook's 'Endeavour' voyage

22 [ANONYMOUS, after MOLL,  
Herman]

*A Correct Globe with the new Discoveries [and] A Correct Globe with ye new constelations of Dr. Halley &c.*

Publication  
[London, c1775].

Description  
Globe, 12 hand-coloured engraved paper gores, clipped at 70 degrees latitude, with two polar calottes, over a papier mâché and plaster sphere, housed within original shagreen over paste-board clamshell case, rim painted red, with hook and eye, lined with two sets of 12 hand-coloured engraved celestial gores, clipped at 70 degrees declination, varnished. Globe with a crack extending from the south pole in two directions to the southern tip of Africa and just south of New Zealand, other small areas of abrasion.

Dimensions  
Diameter: 70mm (2.75 inches).

References  
Dekker GLB0196; for Moll's globe see Dekker GLB0197; Lamb, Collins and Schmidt 5.4; Sumira 21; for reference see Worms and Baynton-Williams, pp.456-458.

### Biography

A firm attribution for the maker of this globe has proven elusive. However, it is now recognised to have been at least designed after the work of the globemaker Herman Moll (for a biography of Moll see item 8).

This globe was formerly attributed to George Adams Snr. on the basis that it appeared in one of his instruments. However, it also appears in the instruments of several other publishers, which makes this unlikely.

### Geography

The tracks of Dampier's voyage have been partially erased and overlaid with the track of the first voyage of Captain James Cook (incorrectly dated "Cook's Track 1760"), and the geography of Australasia adjusted accordingly, including the labelling of Cook Strait. It also adds the label "North.n Ocean" to the North Pole, although this is a preference of the cartographer rather than any new information, as the area was still largely unexplored.

### Astronomy

The celestial cartography lines the inside of the case, and the ecliptic is graduated and provided with the signs of the zodiac. The polar circles and tropics are drawn but not named. A magnitude table (1-6) sits below Ursa Major. The 48 Ptolemaic constellations are marked along with four non-Ptolemaic constellations. Only five of the 12 southern Plancian constellations are named, and Scutum is not labelled among the Hevelian constellations.



## The coast (of Australia) is clear

23 FERGUSON, James [and MARTIN, Benjamin]

*A New Globe of the Earth by James Ferguson.*

**Publication**  
[London], James Ferguson, J. Mynde Sc. [engraver], [c1775].

**Description**  
Globe, 12 hand-coloured engraved paper gores, over papier mâché and plaster sphere, varnished, housed in original shagreen case with rims painted red and two original brass hooks and eyes.

**Dimensions**  
Diameter: 75mm (3 inches).

**References**  
Dekker GLB0057 (edition III- see p.132, table 9.1); see fig. 9.100; James Ferguson, *Life of James Ferguson, F.R.S.* (Cambridge: Cambridge University Press, 2010); John Millburn, *Wheelwright of the Heavens. The Life and Work of James Ferguson* (London, 1988).

A fine pocket globe, showing the discoveries made by Captain Cook aboard the Endeavour.

### Biography

For a biography of James Ferguson see item 16.

### Geography

The globe features updated cartography from Ferguson's c1756 globe (see item 16). Benjamin Martin acquired Ferguson's plates in 1757 and produced an updated globe in c1775. In this new edition, the track of Captain Cook's first voyage is marked as the "Endeavour tract", and the coastlines of Australia and New Zealand have been updated with his discoveries.

### Astronomy

The celestial cartography, lining the case, is the same as Ferguson's 1756 globe (see item 16).





## A striking armillary sphere held aloft by Atlas

25 [Anonymous]

[Ptolemaic armillary sphere].

Publication  
[?Italy, c1780s].

Description  
Wooden earth sphere, mounted on an axis with sun and moon orbits within typical Ptolemaic armillary universe, mounted onto a finely carved pinewood figure of Atlas, his outstretched hands supporting articulated models of Saturn with five moons and Jupiter with four moons, traces of paint, secured to a carved Corinthian column terminating in square pediment base.

Dimensions  
Armillary diameter: 268mm (10.5 inches).  
Overall height: 1600mm (63 inches).

This striking column, with Atlas supporting a Ptolemaic armillary sphere, was probably an architectural pediment of a Palladian villa.

The number of moons depicted is of particular note as Saturn was thought to have five moons between 1684 (when Cassini discovered the fifth) and 1789, when Herschel found two more with his powerful new reflecting instrument; Jupiter's four moons were all discovered by Galileo in 1609-1610 with no more being found until 1892.



## Newton's first pocket globe

26 NEWTON, J[ohn]

*A New Terrestrial Globe J. Newton 1783.*

Publication  
London, 1783.

Description  
Globe, 12 hand-coloured engraved paper gores, clipped at 65 degrees latitude, with two polar calottes, over a papier mâché and plaster sphere, varnished, housed within original shagreen over paste-board clamshell case, with hooks and eyes, lined with 12 hand-coloured engraved celestial gores, with two polar calottes, varnished. The case split in both halves where hinge would have been, loss to exterior and minor loss to celestial gores.

Dimensions  
Diameter: 70mm (2.75 inches).

References  
Dekker GLB0029; Dekker and van der Krogt, fig.57; for reference see Dahl and Gauvin, pp.93-95; van der Krogt Hil 1 and Hil 4; Worms and Baynton-Williams, pp.318-319.

### Biography

During the first half of the nineteenth century the firm of Newton, together with Bardin and Cary, occupied a leading position in the manufacture of globes in London. The firm was established by John Newton in 1783 and operated originally from the Globe & Sun 128 Chancery Lane, moving to 97 Chancery Lane in 1803, before settling at 66 Chancery Lane in 1817.

John Newton (1759-1844) was trained by Thomas Bateman (fl1754-81), who had previously been apprenticed to Nathaniel Hill (fl1746-1768). Newton's first globe was a revised edition of Hill's 1754 pocket globe, which he published in 1783 in association with William Palmer. The partnership dissolved shortly after, and Newton continued to publish the pocket globe under his own name. John's second son William Newton (1786-1861) joined the firm between 1814-1816, which traded under the name J. & W. Newton. In the same year the firm produced a new series of globes, including a new pocket globe.

By the 1830s the firm was also active as a patent agent and was joined by Miles Berry, a civil engineer and patent agent, after which the firm was known as Newton, Berry & Son. In 1842, William's eldest son, William Edward Newton (1818-1879), joined the business, followed by his brother Alfred Vincent Newton (1821-1900). The firm became known as W. Newton & Son, or once again, on the death of William, as simply Newton & Son from 1861 until about 1883.

Perhaps the greatest triumph for the Newton family was the Great Exhibition of 1851, where, aside from the globes they exhibited from 150 to 635mm (1 to 25 inches) in diameter, they were awarded a prize medal for a manuscript terrestrial globe of six feet in diameter.

### Geography

Newton used Hill's copper plates from his 1754 pocket globe for the present globe with a number of alternations and updates. He has changed the text within the cartouche to feature his own name, however he retains the rococo cartouche that Hill used. Newton added Captain Cook's track and updated the Australian coastline with his discoveries, including "New Holland", "New South Wales", "Botany Bay", "Dimens Land", "Lewins L[and]", the "[sles of] St Francis" and "New Zeeland".



The globe shows the equinoctial graduated in degrees, and the conforming ecliptic is highlighted in green. The prime meridian passes through London, and the principal land masses are outlined in colour and annotated with some of the major rivers and mountain ranges. The oceans show the winds with islands labelled and printed with dotted lines for Admiral Anson's Tract and the tract of Captain Cook's first voyage in 1760, while, the North Pacific region features a rococo scroll title cartouche.

#### Astronomy

The gores are pasted to the inside of the case, and the cartography features stars expressed in varying orders of magnitude and allegorical representations of the constellations finely executed.



## Doppelmayr expands his horizons

27 [DOPPELMAYR, Johann Gabriel]

*[Globus Terrestris Novus...]* and  
*[Globs Coelestis Novus...]*.

Publication  
Nuremberg, [W.P.Jenig, 1728 (but 1789  
or later)].

Description  
Terrestrial and celestial globes, each with  
two sets of 12 hand-coloured engraved  
gores, over a papier mâché and plaster  
sphere, each within an original graduated  
brass meridian ring, with a brass hour ring  
and pointer, wooden octagonal horizon ring  
with a printed paper ring, each supported  
on four baluster turned and ebonised  
columns united by cross-stretchers under  
the turned base, with four bun feet, each  
globe with fine patina, minor surface loss  
to globe gores.

Dimensions  
Diameter: 320mm (12 inches).

References  
Van der Krogt Dop 10.

The largest of the three pairs of globes produced by the Doppelmayr firm. "Doppelmayr had re-established globe-making in Nuremberg... There were other German globe-makers in the early 1700s but Doppelmayr's globes dominated the German market until the end of the 18th century" (Sumira).

### Biography

For a biography of Johann Gabriel Doppelmayr see item 11.

During his lifetime Doppelmayr designed three different sized pairs of globes - 100, 200 and 320mm (4, 8 and 12.5 inches) - in co-operation with the Nuremberg engraver Johann Georg Puschner I (1680-1749). After his death in 1750, Doppelmayr's legacy continued as the globes were republished by Homann in the 1750s and again in the 1790s - the present examples - by which time the copper plates had passed into the hands of the Nuremberg publisher Wolfgang Paul Jenig.

### Geography

The globes follow cartography from Doppelmayr's 1728 globes with updates by Jenig, including the latest discoveries of Captain Cook with his dated itineraries.

### Astronomy

The cartography remained unchanged from Doppelmayr's 1728 globes.





## The three voyages of Cook

28 CARY, [John] and CARY, [William]

*Cary's Pocket Globe agreeable to the latest Discoveries, London.*

**Publication**  
London, Pub.d by J. & W. Cary Strand,  
Apr. 1 1791.

**Description**  
Globe, 12 hand-coloured engraved paper gores, over a papier mâché and plaster sphere, varnished, metal pivots, housed within original shagreen over paste-board clamshell case, rim painted red, with hooks and eyes, lined with two sets of 12 hand-coloured engraved gores depicting a terrestrial map, varnished.

**Dimensions**  
Diameter: 80mm (3 inches).

**References**  
Dekker GLB0001; van der Krogt Car 1;  
for reference see Worms and Baynton-Williams, pp.129-133.

### Biography

The Cary dynasty of globemakers was founded in the late eighteenth century by John Cary (1755-1835). The son of a Wiltshire maltster, Cary was apprenticed to William Palmer and became freeman in 1778. The first globes by Cary were advertised in the 'Traveller's Companion' in January 1791. The advertisement mentions that his globes were made from "entire new plates". This feature was significant as it was common for publishers to buy or inherit copper plates for gores and alter them rather than go to the expense of creating new ones. The advert also highlighted that the globe contained "the new Discoveries, & the Tracks of the different Circumnavigators".

The address of the company at this time was 181 the Strand, and it was known as J & W Cary, to recognize the contribution of John's brother William (1759-1825).

### Geography

William himself was primarily an optician and nautical instrument maker, having been apprenticed to Jesse Ramsden and had his own premises further down the Strand at Nos. 272 and 182. In his advert Cary was keen to stress that his pocket globe contained "the new Discoveries, & the Tracks of the different Circumnavigators". All three of Captain James Cook's voyages are marked. The first, from 1768-1771 when he commanded the HMB Endeavour, reached Australia and circumnavigated New Zealand. He discovered the Endeavour Strait (marked on the globe) in 1770 between the Australian mainland and Prince of Wales Island and named it after his ship. Botany Bay also appears, named for the specimens found there by Sir Joseph Banks, the naturalist who sailed with Cook. The second voyage, from 1772-1775 when he commanded the HMSs Resolution, reached the Arctic Circle. His third and final voyage from 1776-1779, with HMS Resolution and Discovery, made Cook the first European to have formal contact with the Hawaiian islands in 1778; it was also where he died after a confrontation with natives, commemorated with the inscription "Owhyee where Cook was killed".

### Terrestrial Map

This pocket globe is unusual in showing the world in antiquity rather than the typical celestial sphere on the inside of the case. One hemisphere shows "The World as known in Caesar's Time/agreeable to D'Anville". These landforms only occupy a quarter of the sphere. The other hemisphere shows "A Table of Latitudes & Longitudes of Places not given on this Globe".



## The Cary brothers go small

29 CARY, J[ohn] and CARY, W[illiam]

*New Celestial Globe.*

Publication  
London, Pub.d by J. & W. Cary, Strand,  
[c1791-1820].

Description  
Globe, 12 hand-coloured engraved paper  
gores, over a papier mâché and plaster  
sphere, with metal pivots, housed in a  
shagreen over paste-board clamshell case,  
inside of case painted orange, with hooks  
and eyes.

Dimensions  
Diameter: 70mm (2.75 inches).

References  
State Library of NSW GLOBE 16.

This celestial globe by the Cary firm can be dated between 1791, the date of the firm's first globe, and 1820, when John Cary moved to St. James's Street.

### Biography

For a biography of the Cary family see item 28.

### Astronomy

The stars are marked by the Bayer notation, and a magnitude table is lacking. The constellations are indicated by areas outlined by contours. It shows 24 stars, the Hiades and Pleiades, and the 48 Ptolemaic constellations. Also presented are Plancius' 12 southern constellations, those of Hevelius, with the exception of Cerberus, Mons Maenalus and Triangulum Minus, and Lacaille.



## The Solar System in a box

30 BLUNT, T[homas]

*[Drum Orrery with planetarium, tellurian and lunarium attachments].*

Publication  
London, T. Blunt [22 Cornhill, c1800].

Description  
Brass instrument composed of drum box housing the wheelwork, engraved and graduated on top, the edge indented, mounted on a pillar and tripod foot, and the accessories: detachable crank handle; a central sphere representing the sun; the tellurian arm with engraved pocket globe 'A New Terrestrial Globe by J. Newton 1800', brass twilight and index pointers, on a functional multi-wheeled geared mechanism; the lunarium arm, with two spheres for the Earth and the Moon on a multi-wheeled geared mechanism; seven articulated mechanical arms, each mounted with spheres to illustrate the planets Mercury, Venus, Earth (the Moon on a separate arm), Mars, Jupiter (with four moons), Saturn (with ring and seven moons), Uranus (with six moons); all contained within original locking mahogany case.

Dimensions  
Drum box diameter: 225mm (8.75 inches).  
Pocket globe diameter: 70mm (2.75 inches).  
Height: 480mm (19 inches). Max span: 480mm (19 inches).

References  
John Millburn, "Benjamin Martin: Author, Instrument-maker and "Country Showman".  
*Science in History*, II (Springer, 1976).

A rare complete orrery fashioned for the travelling astronomer.

### Biography

Thomas Blunt (1735/45-1823) was an English scientific instrument maker based in London. He apprenticed with Edward Nairne and later became his business partner, setting up a shop with him on Cornhill from 1774 to 1793. They sold telescopes and microscopes, surveying and marine instruments, reading glasses, globes and "electrical machines", for which Nairne was famous. Blunt was member, and for some time Master, of the Spectacle Makers' Guild, and by 1794 he had acquired the honour of "Mathematical Instrument Maker to His Majesty". He separated from Nairne and opened a new shop just two doors down, and trained three of his sons.

### Mechanics

The present orrery can be labelled "Martin-type" due to its simplified mechanism, which was popularised by the leading British scientist Benjamin Martin (1704/05-1782), who was also known for publishing one of the earliest English dictionaries. He wrote and lectured on science and astronomy, eventually setting up a shop on Fleet Street where he sold, and potentially also built, instruments of all types from reading glasses to solar microscopes. His low prices and itinerant speaking helped make scientific knowledge accessible to the British public, and in 1764 he was asked to re-supply Harvard with instruments after a fire at the university. Towards the end of his life he failed to win a fellowship to the Royal Society and fell into bankruptcy, but he was still acknowledged by contemporaries to be one of the greatest mathematicians of the age on his death.

Martin was particularly concerned that elaborate orreries demanded too high prices and were thus only found in the collections of wealthier patrons. He therefore suggested a system where the planets would be moved by only two gear wheels each, reducing the mechanism to its simplest form. The periods would not be as accurate as those of grand orreries, but they would be sufficient for demonstration purposes.



In this example, the orrery can be set up in three ways by means of its attachments:

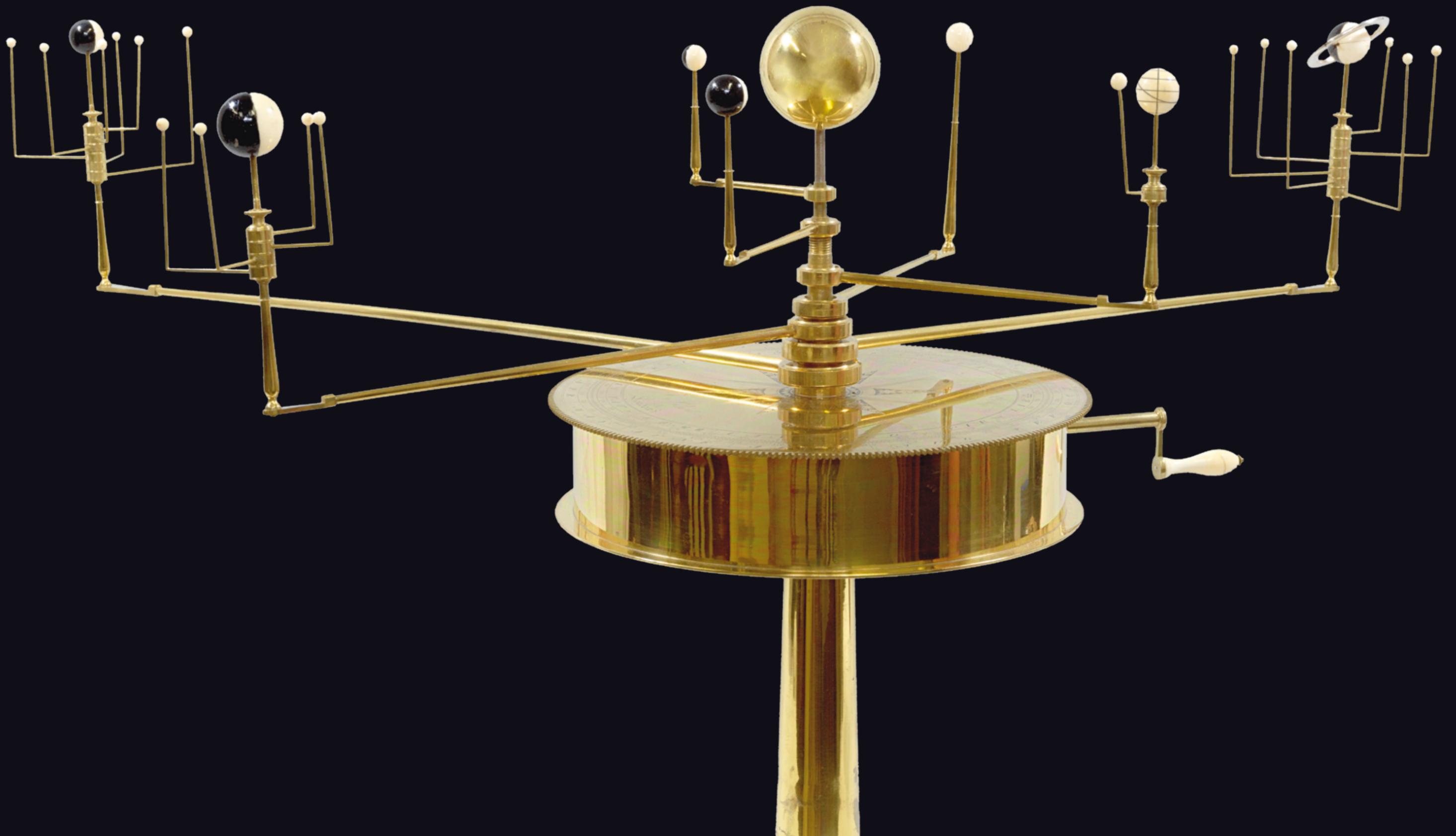
1. Planetarium, with arms for each planet, to display the scale and movements of celestial bodies in the Solar System.
2. Tellurian, carrying the larger Earth-globe, to show the Earth's movement and its relationship with the Sun, therefore explaining the progression of day and night, the change of seasons and eclipses.
3. Lunarium, with the Earth and Moon spheres, to show the Moon's rotation and its relationship with the Earth and the Sun.

Brass orreries of any type rarely to appear on the market.

Provenance:

1. From the Collection of Rachel Lambert Mellon (1910-2014), American horticulturalist, philanthropist and art collector.





## An early identification of the Mackenzie River

31 NEWTON, J[ohn]

*A New Terrestrial Globe by  
J. Newton 1800.*

Publication  
[London], J. Newton, 1800.

Description  
Globe, 12 hand-coloured engraved paper gores, clipped at 65 degrees latitude, with two polar calottes, over a papier mâché and plaster sphere, varnished, housed in original shagreen over paste-board clamshell case, rim painted red, with hooks and eyes, lined with two sets of 12 hand-coloured engraved celestial gores, varnished. A few areas of abrasion to the surface of the globe, celestial globe gores buckling in one or two places.

Dimensions  
Diameter: 70mm (2.75 inches).

The cartography reflects an updated version of Newton's first pocket globe of 1783, which, in turn, was an update of Nathaniel Hill's 1754 pocket globe (see item 15).

### Biography

For a biography of the Newton family see item 26.

### Geography

The coastline of the Pacific northwest of America has been updated to show "Nootka", following the Nootka Crisis of 1790; in Canada what was formerly referred to as "Unknown Parts" now shows the "Mackenzie River", named after the Scottish explorer Alexander Mackenzie. The fur trapper had followed the river up in 1789 to try and reach the Pacific Ocean; finding the Arctic Ocean instead, he had named the river "The River of Disappointment" in frustration before it was renamed after him. The Cary brothers were the first to publish a pocket globe with the discovery in 1798, but Newton's globe of 1800 also predates Mackenzie's own maps of his findings in 1801.

### Astronomy

The celestial cartography lining the inside of the case follows Hill's globe of 1754 with astronomical details shown on a geocentric projection. Stars are represented by symbols, but a magnitude table is lacking. The Milky Way is labelled. The 48 Ptolemaic constellations and four of the non-Ptolemaic constellations are drawn. There are four of the southern constellations as well as those of Plancius and all those of Hevelius.



## Beware of the “Ice Sea”

### 32 ADAMS, Dudley

*A New Globe of the Earth.*

Publication  
[London], Dudley Adams, 1808.

Description  
Globe, 12 hand-coloured engraved paper gores, over a papier mâché and plaster sphere, housed in a shagreen case, rim painted red, with hooks and eyes, linked with 12 hand-coloured engraved celestial gores. Terrestrial globe a bit scuffed, case lacking one brass hook.

Dimensions  
Diameter: 70mm (3 inches).

References  
Dekker GLB0200.

### Biography

Dudley Adams (1762-1830) was the son of George Adams (c1704-1773) (see item 18). Dudley Adams' brother, George Adams, (1750-1795) took over the family business after the death of their father, and Dudley Adams worked independently at 53 Charing Cross, where he published new editions of his father's 305 and 460mm (12 and 18 inch) globes. In 1796, Dudley returned to Fleet Street and continued to operate there before becoming bankrupt in 1817.

The Adams firm does not appear to have ever designed a pocket globe of its own, but rather acquire the copper plates of John Senex, and thereafter produced versions of his pocket globe to be used in their tellurium. Dudley also acquired the copper plates for a pocket globe of James Ferguson, dating to 1756, which he updated and replaced Ferguson's name with his own.

### Geography

The cartography is based on Ferguson's 1756 globe, which Adams updated in a globe of his own published in 1795.

The present globe dated 1808 and item 30 also include the identification of “English colonies” in North America. This globe has detailed cartographic information given in the northern polar region, including a label for the “Ice Sea”.

### Astronomy

The celestial cartography is the same as the globe produced by James Ferguson in 1756 (see item 16). The celestial cartography displays the houses of the Zodiac with their sigils and the constellations, depicted by mythical beasts. The 48 Ptolemaic constellations and four of the non-Ptolemaic constellations are drawn. Four of the southern constellations are drawn with those of Plancius and Hevelius. The celestial cartography contains certain flaws, such as erroneous star names (“Archarus” for Arcturus and “Pomahant” for Fomahant) and misplacement of the solstitial colure.



## “Cook’s going out 1776”

33 ADAMS, Dudley

*A New Globe of the Earth by  
Dudley Adams.*

Publication  
[London] Dudley Adams, J. Mynde Sc.  
[engraver], [c1795-1808, date removed in  
the plate].

Description  
Globe, 12 hand-coloured engraved paper  
gores, clipped at 70 degrees, with two polar  
calottes, over a heavy metal sphere, housed  
in shagreen over paste-board clamshell  
case, rim painted red, with hook and eye,  
lined with 12 hand-coloured engraved  
celestial gores. The north and south poles  
with recent repairs and manuscript facsimile.

Dimensions  
Diameter: 70mm (3 inches).

References  
Dekker GLB0042 (terrestrial), GLB0051  
(celestial).

This globe is a later issue of Dudley’s 1808 globe (see item 32), with the date removed in the plate.

### Biography

For a biography of Dudley Adams see item 32.

### Geography

The cartography is based on Ferguson’s 1756 globe. There have also been several additions, including the tracks of “Cook’s going out 1776” with the “Endeavour” and “C.n King’s return 1780”, and improvements to the coastlines of Australia and New Zealand according to Cook’s discoveries. “New South Wales”, “Botany Bay” and “Hawaii” are now labelled. The west coast of America has been filled in above California to include “Alaska” and “Behring” and “English Colonies” are identified.

All of the above additions appear in an Adams globe dated 1795. The present globe also includes the identification of “English colonies” in North America, suggesting it is a suggesting it is a later version, although it is undated. It features the same cartography as a globe by Ferguson dated 1808, with the exception of the unmarked facsimile polar calotte on the present globe.

### Astronomy

The celestial gores, pasted on the inside of the case, are the same as Adams’s 1808 globe (see item 32), which in turned followed the cartography of Ferguson’s 1756 globe.



## Bauer's miniature nesting globes

### 34 BAUER, J[ohann] B[ernard]

*Die Erde wie sie jezt bekant J.B.B.*

Publication  
Nuremberg, J.B. Bauer, [c1810].

Description  
Terrestrial and celestial nesting globes, the terrestrial globe with 12 hand-coloured engraved paper gores, over a wooden sphere, housed within the celestial globe made of two wooden hemispheres, each covered with 12 hand-coloured engraved paper half-gores, varnished, housed within original cylindrical case covered with gray paper with red wax seal on top with crown above the letters "Hv K". Short split in southern hemisphere of celestial globe, some loss to paper on case.

Dimensions  
Diameter: 58mm and 64mm (2.25 inches and 2.5 inches) respectively.

References  
Dekker GLB0048; van der Krogt Bau 2 (terrestrial), Bau 3 (celestial).

### Biography

Johann Bernard Bauer (1752-1839) was a scientific instrument and globemaker working in Nuremberg, along with his sons Carl Johann Sigmund (1780-1857) and Peter Bauer (1783-1847). Johann is recorded as the engraver of a celestial globe by Georg Klinger in 1790; he also published some late editions of the Doppelmayr globes. His sons are best known for their miniature globes published for the educational market.

### Geography

Bauer's globe follows German cartography. The prime meridian has a latitude scale and runs through the Canary Islands, and the equator is graduated and labelled "Aequator oder die Linie". The ecliptic is not drawn. There are labels for the Nord Pol, Nordlicher P. Zirk, Wendezirkel des Krebs, Wendezirkel des Steinboks, Sudlicher Poalrzirkel and Sud Pol. There is a simple outline of the continents. The Antipoten of Nuremberg are marked. At the north-west coast of America there is a notation "Vancovens In.". Tasmania is labelled "Van Diemen Id.", and it is drawn as an island, suggesting a date of construction after 1805.

### Astronomy

The celestial globe follows Latin and German cartography. The stars are represented by different symbols but a magnitude table is lacking. The 48 Ptolemaic constellations and three non-Ptolemaic constellations are shown: Antinous (drawn but not labelled), Coma Berenice and Columba. Also depicted are the 12 southern constellations of Plancius (Volans and Musca are drawn but not labelled), Giraffe, Unicornis, Robur Car (drawn but not labelled), Sceuptrum, a few of those of Hevelius (Canes, Lacerta, Leo Min, Linx, Vulpes, Anser, Mons, Menalus, and Musca - drawn but not labelled); six of Lacaille (Fornax, Antlia, Norma, Regula, Apparatus Sculp, and Pyxis - drawn but not labelled), Gloria Fried., Tubus, Custos Mes., Psalterium.



## Ist spelled wrong

### 35 MCB [BAUER, Carl Johann Sigmund]

*The World with ist Inhabitants.*

Publication  
[Nuremberg, Carl Johann Sigmund Bauer, 1815].

Description  
Globe, 12 hand-coloured engraved paper gores, on a wooden sphere, with folding engraved panorama (1260 by 55mm) of the peoples of the world in native costume, with contemporary hand-colour in full; housed in original marbled paper over paste-board box.

Dimensions  
Diameter: 43mm (1.75 inches).

References  
Van der Krogt Bau 1 (variant); National Library of Australia 6617564.

The globe has the initials “MCB” in the north Pacific, standing for Carl Bauer.

#### Biography

Carl Johann Sigmund Bauer (1780-1857) was the son of Johann Bernard Bauer (for a biography of Johann Bernard Bauer see item 34). Like his father, Carl Bauer made scientific instrument and globes from his workshop in Nuremberg. Along with his brother Peter, Carl Bauer is best known for his miniature globes published for the educational market.

#### Geography

The globe offers only minimal information with the names of the continents and a few countries provided, all written in English. Tierra del Fuego is marked as “Fireland”.

The box lid has a label with the word “its” misspelled. The concertina-folding panorama shows a single figure on each panel in traditional clothing of a different nationality or ethnic group. They include, in addition to many Europeans, people from Turkey and Arabia, Persia, China, Russia, Africa, Canada, the Caribbean, Mexico, Tasmania, Tonga, and Australia.

#### Provenance:

1. Inscribed on the verso of the panorama “Given to Miss Snickett, with a “roundabout” of wishes for her happiness on this globe & a hope that as she is an inhabitant of that little spot called England...”



## Mounted in a graduated brass meridian ring

36 NEWTON, [John]

*Newton's New & Improved Terrestrial Pocket Globe.*

Publication  
London, No. 66 Chancery Lane, Jan. 1 1817.

Description  
Globe, 12 hand-coloured engraved paper gores, over a papier mâché and plaster sphere, varnished, brass meridian ring, which sits in an engraved hand-coloured and varnished horizon ring, housed within original shagreen over paste-board clamshell case, with hooks and eyes, lid lined with 12 hand-coloured engraved celestial gores, calotte, varnished. Varnish a little worn in a few places, celestial gores a bit scuffed at edges, case lacking one of the three hooks.

Dimensions  
Diameter: 76mm (3 inches).

References  
A later variant of Dekker GLB0058; van der Krogt New 1; for reference see Worms and Baynton- Williams, pp.487-490.

A fine pocket globe showing the latest European discoveries, serving as a memento of the exploration race between British and French sailors.

### Biography

For a biography of the Newton family see item 26.

### Geography

In a departure from pocket globes produced in the eighteenth century, Newton has mounted the present globe in a graduated brass meridian ring. The ring fits into two slots in the paper horizon ring which is pasted on to the lower part of the case. This enables the globe to be positioned at an angle, mimicking the earth's axial tilt. In Australia, the southeastern coast of the bite is labelled "French disc.", after the scientific expedition led by Nicolas Baudin (1800-1803). This is a contentious choice on Newton's part. The British explorer Captain Matthew Flinders was exploring the area at the same time, and the expeditions met each other in the consequently named "Encounter Bay". Although Flinders completed the task before Baudin, he was captured and imprisoned for six years at Mauritius on his voyage home, along with his charts and manuscripts. This allowed the French explorers to print their account of the new discoveries before Flinders, and for Freycinet to produce the first complete chart of the Australian continent. The maps and charts prepared by Freycinet ignored the discoveries of Grant and Flinders and depict the whole of the newly discovered coast of Melbourne to the border of Western Australia as the "Terre Napoleon". In North America, the northwest coast is labelled "Vancouver's disc.", after George Vancouver's 1791-95 expedition. Further north, Alaska is marked "Russian Settlements". The Russian-American Company was formed in 1799, and set up a trading post in Alaska for the purpose of hunting sea otters for their fur. The United States would later acquire Alaska from the Russian Empire in 1867. To the west of Alaska the Bering Straits are shown but not named. To the southern Pacific is "An Improved Analemma shewing the sun's declination & place in the zodiac for each day of inspection". In the South Pacific Ocean additional information is provided - "NB. This improved Analemma is intended to supercede the necessity of the Ecliptic Line hitherto unnecessarily drawn upon the Terrestrial Globe" - although Newton has failed to remove the line of the ecliptic that still surrounds the globe.

### Astronomy

Only the upper hemisphere is printed to the inside lining of the case with designs depicting astronomical phenomena. To the rim is a zodiacal scale, with symbols of the signs of the zodiac. The rest of the hemisphere depicts the solar system, with the new planet Uranus named after its discoverer William Herschel, who had found the planet on 13th March, 1781. It was the first new planet to be discovered since antiquity.



## Lane adds the zodiac

37 [LANE, Nicholas after ADAMS, Dudley and FERGUSON, James]

[*Celestial globe*].

Publication  
[after 1817].

Description  
Globe, 12 hand-coloured engraved paper gores, with two polar calottes, over a papier mâché and plaster sphere, housed in wooden lidded box.

Dimensions  
Diameter: 76mm (3 inches).

References  
For reference see Dekker GLB0012 (Lane), GLB0040 (Adams), GLB0063 (Ferguson).

A fine globe showing the development of celestial cartography by three successive globemakers.

### Biography

For a biography of Nicholas Lane see item 24.

### Astronomy

This celestial globe follows the cartography of the celestial gores lining the case for the pocket globe subsequently issued by the Lane firm (see item 39), and are taken from the Adams-Ferguson plates. Lane has added hour angles along the equator in the southern hemisphere and a zodiacal belt along the ecliptic.



## Newton's smallest globe

38 NEWTON, [John]

*Newton's New Terrestrial Globe.*

Publication  
[London, J. & W. Newton, 66 Chancery Lane], 1818.

Description  
Globe, 12 hand-coloured engraved paper gores, over a papier mâché and plaster sphere, with metal pivots, housed in shagreen over paste-board clamshell case, rim painted red, with hooks and eyes, lined with two sets of 12 hand-coloured engraved celestial half-gores. A few areas on the globe with varnish chipped.

Dimensions  
Diameter: 51mm (2 inches).

References  
National Trust Collections 1338180.

A fine example of Newton's tiny 51mm (2 inch) pocket globe.

### Biography

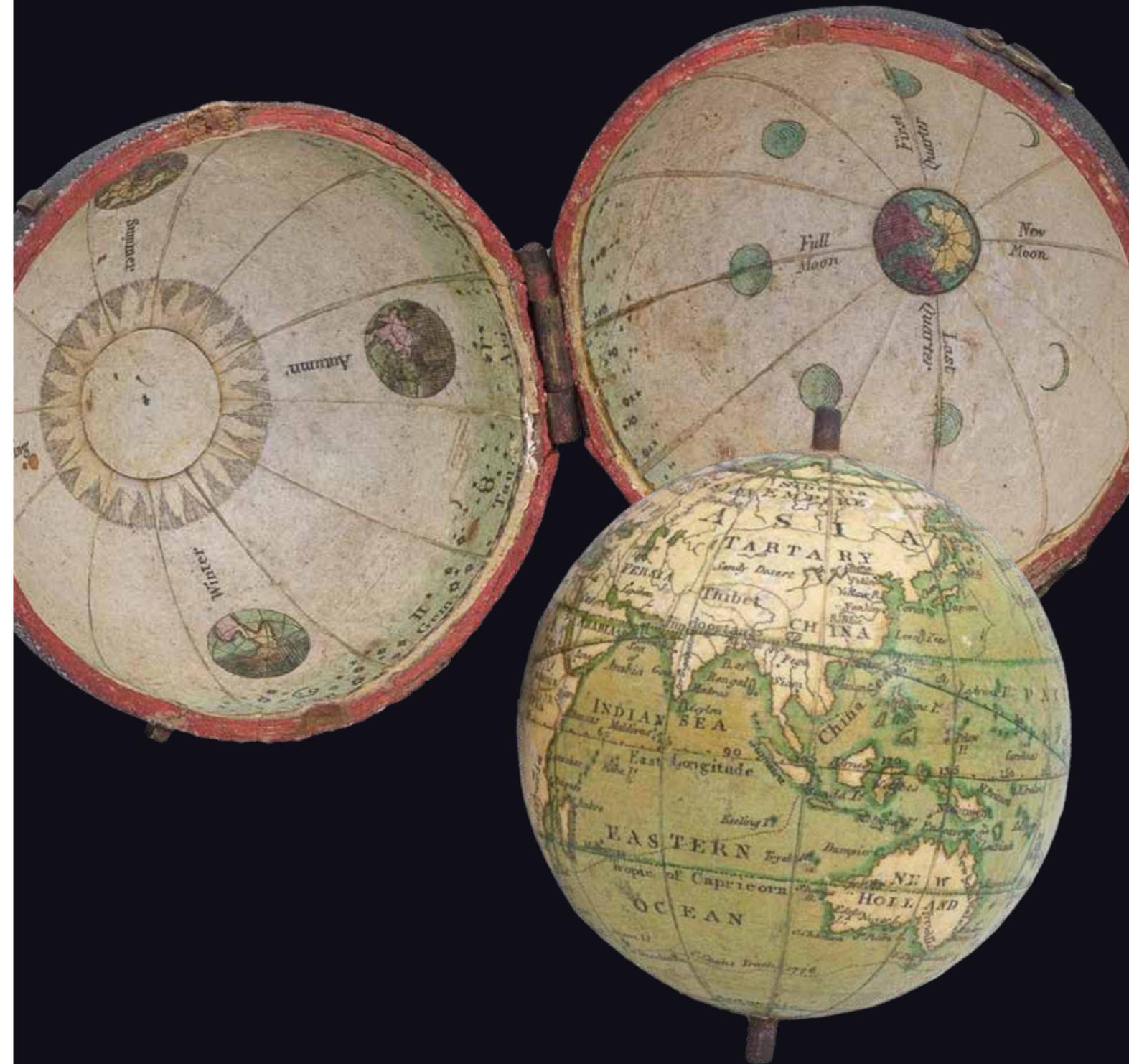
For a biography of the Newton family see item 26.

### Geography

This globe is one of the smallest produced by the Newton firm measuring just 51mm (2 inches) - this particular example does not include his Chancery Lane address. The ecliptic is graduated in days and shows the symbols of the houses of the zodiac. The meridian is labelled "Meridian of London", and the oceans show the tracks of Captain Cook's three voyages. The discoveries of Matthew Flinders, before he was captured by the French in 1806, are apparent in the coastline of Australia. Van Diemen's Land is separate from New Holland, and "Port Jackson" and "Botany Bay" are both marked, along with "French Dis." along the South Australian coastline.

### Astronomy

The sphere lines the inside of the case and shows the signs of the zodiac and the phases of the moon, as well as the position of the earth relative to the sun at each season.



## Updating a classic

39 LANE, [Thomas after ADAMS, Dudley and FERGUSON, James]

*Lane's Improved Globe, London.*

Publication  
London, [Thomas Lane, after 1830].

Description  
Globe, 12 copper-plate hand-coloured paper gores, over a papier mâché and plaster sphere, housed within shagreen over paste-board clamshell case with red painted rim, with hooks and eyes, lined with two sets of 12 finely engraved and hand-coloured celestial gores. A few areas of abrasion to the surface of the globe.

Dimensions  
Diameter: 76mm (3 inches).

References  
Dekker, fig. 9.103, see GLB0012 for a version after 1833; for reference see Sumira 35 and 45; Worms and Baynton-Williams, p.387.

### Biography

The present globe is the work of Thomas Lane (fl1801-1829), son of Nicholas Lane (for a biography of Nicholas Lane see item 24), whose business was particularly associated with pocket globes. When Dudley Adams went bankrupt in 1817, the copper plates appear to have come into the hands of the Lane firm. Adams had in turn purchased these plates from James Ferguson.

Lane updated the old cartouche to include his name. However, the name of the engraver, J. Mynde, was kept just below the cartouche. Later on, Lane would erase Mynde's name from the plates.

### Geography

There have been several additions to this "improved" globe: compass points to the west of Cape Horn, monsoons in the Indian Ocean and the Great Wall of China. Both the Antarctic and Arctic Ocean are marked "Frozen Ocean", since the globe was issued just before news reached Britain of the sighting of "Enderby's Land" (part of Antarctica) by the explorer John Briscoe.

The tracks of Captain James Cook's voyages are shown and the coastline of Australia drawn according to his reports. The most notable addition is the marking on the west coast of Australia of the "Swan R. Settlement".

The Swan River Colony was the brainchild of Captain James Stirling who in 1827, aboard HMS Success, had explored the Swan River. On his return to London he petitioned Parliament to grant land for a settlement along the river. A consortium was set up by the MP Potter McQueen, but was disbanded after the Colonial Office refused to give them preference over independent settlers. One of the members of the consortium, Thomas Peel, did, however, accept the terms set down by Colonial Office. In late 1829, Peel arrived with 300 settlers and was granted 250,000 acres. The first reports of the new colony arrived back in England in late January 1830. They described the poor conditions and the land as being totally unfit for agriculture. They went on to say that the settlers were in a state of "near starvation" and (incorrectly) said that the colony had been abandoned. As a result of these reports, many people cancelled their migration plans or diverted to Cape Town or New South Wales.

### Astronomy

The celestial gores are taken from the Adams-Ferguson plates, but Lane has added hour angles along the equator in the southern hemisphere and a zodiacal belt along the ecliptic.



## Discoveries at the North Pole

40 NEWTON, [John], NEWTON, [William], and BERRY, [Miles]

*Newton's New & Improved Terrestrial Globe.*

Publication  
London, Newton Son & Berry, [c1830].

Description  
Globe, 12 hand-coloured engraved paper gores, over a papier mâché and plaster sphere, housed within original shagreen over paste-board clamshell case, lined with hooks and eyes, lined with two sets of 12 hand-coloured engraved celestial gores, varnished.

Dimensions  
Diameter: 70mm (2.75 inches).

References  
Dekker GLB0054 (terrestrial), GLB0060 (celestial); Sumira 48 (terrestrial); for reference see Worms and Baynton-Williams, pp.487-490.

A fine example of Newton's pocket globe with the imprint "Newton Son & Berry".

### Biography

For a biography of the Newton firm see item 26.

### Geography

In North America, Alaska is marked "Russian Territ.y", denoting the success of the Russian-American Company's colony, which was set up in 1799, to hunt sea otters for their fur. To the west of Alaska the Bering Straits are now named.

The results of the multiple voyages of the British explorer William Parry in the Arctic throughout the 1820s are shown. He explored throughout the area and wintered on the ice on two separate occasions, avoiding scurvy among his crew by growing mustard and cress in his cabin. In 1827 Parry broke the record for the furthest exploration north - a higher latitude would not be reached for 49 years. The tentative coastlines shown were named by him "North Georgia" and "Melville Land" for George III and Robert Dundas, 2nd Viscount Melville and First Lord of the Admiralty.

Interestingly, in Australia, Newton has named the continent both "New Holland" and "Australia". New South Wales and Sydney are marked. Geographical features include the Swan River, the Gulf of St. Vincent as named by Matthew Flinders, and Halifax Bay. Further south in the Antarctic Circle are Alexander Island "Alexander 1st I." and Peter 1st Island "Peter 1st I.". The islands were discovered in 1821 by a Russian expedition under Fabian Gottlieb von Bellingshausen, who named them for the reigning Tsar of Russia and Peter the Great. Von Bellingshausen was the second person to circumnavigate Antarctica, disproving James Cook's theory that there was no land at the south pole, and the first Russian to circumnavigate the world.

### Astronomy

The celestial gores pasted to the inside of the case show the constellations in pictorial form. Those include all 48 Ptolemaic constellations, all 12 of Plancius' southern constellations, all those of Hevelius, except "Mons Maenalus" and all the Enlightenment constellations of Lacaille, except "Reticulum". The stars are marked with their Bayer notations.



## Following the footsteps of Captain Biscoe

41 NEWTON, [John], NEWTON, [William] and BERRY, [Miles]

*Newton's New & Improved Terrestrial Globe.*

Publication  
London, Newton Son & Berry, 66 Chancery Lane, [after 1833].

Description  
Globe, 12 hand-coloured engraved paper gores, over a papier mâché and plaster sphere, varnished, with brass hour circle on north pole, brass meridian ring, housed within wooden clamshell case painted green, rims painted red, with hooks and eyes, upper hemisphere lined with 12 celestial half-gores, varnished. Slight loss to celestial gore, one hook missing, case fixed to later wooden table stand by brass screw-in base of lower hemisphere.

Dimensions  
Diameter: 77mm (3 inches).

References  
Dekker GLB0015; van der Krogt New 1; Victoria & Albert Museum W.34:1-1974 (celestial); for reference see Worms & Baynton-Williams pp.488-489.

The present globe is an updated version of Newton's 1830 pocket globe (see item 40).

### Biography

For a biography of the Newton firm see item 26.

### Geography

The cartography is the same as Newton's 1830 pocket globe (item 40), but updated with the tracks of Captain Biscoe. From 1830-1833, Captain John Biscoe undertook a voyage of exploration to the Antarctic, for which he was awarded the Gold Medal by the Royal Geographical Society upon his return.

### Astronomy

The cartography lining the inside of the case is the same as Newton's pocket globe of 1817 entitled 'New & Improved Terrestrial Pocket Globe'.



“All discoveries to Feb. 1 1839”

42 COX, [James]

*Cox's Terrestrial Globe. All Discoveries to Feb. 1 1839.*

Publication  
[London], James Cox, 1839.

Description  
Globe, 12 hand-coloured engraved paper gores, clipped at 70 degrees, with two polar calottes, over a papier mâché and plaster sphere, with metal pivots, housed in wooden lidded box. South polar calotte with manuscript facsimile, a few pale stains.

Dimensions  
Diameter: 76mm (3 inches).

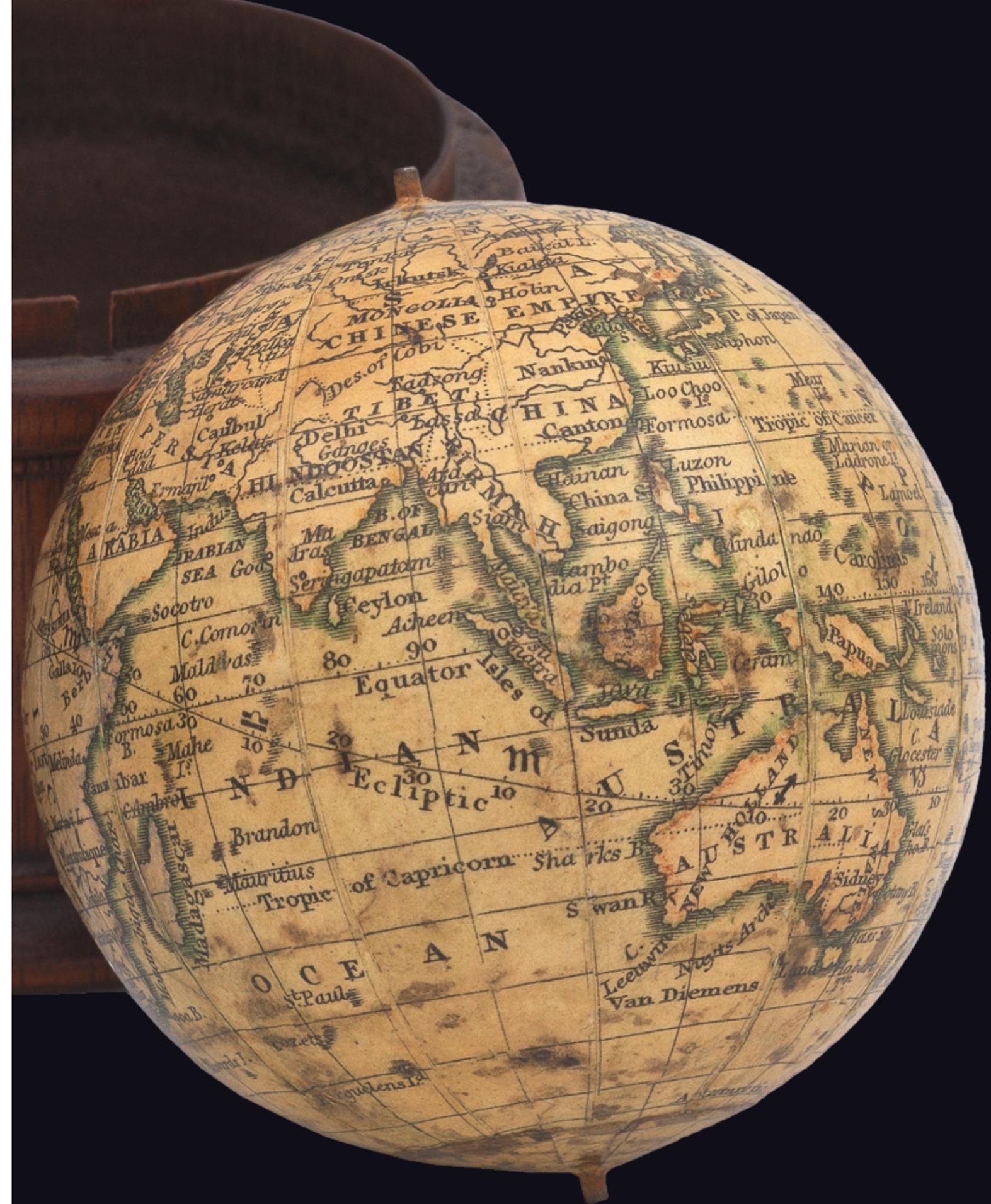
References  
The London Post Office Directory (1843).

Biography

James Cox (1811-1857) was a maker of mathematical, optical and philosophical instruments. He came from a family of opticians, with his father also producing a range of optical instruments. He is recorded to have had premises at both 5 Barbican and 51 Banner Street, London.

Geography

The equatorial is graduated in degrees, with the prime meridian and antipodes of Greenwich labelled. The ecliptic is also graduated for each house of the zodiac, shown with sigils. Most country borders are shown, along with city names and rivers. There are two small islands in the Antarctic circle labelled “Peter” and “Alexander”, as named by earlier Russian explorers. California is presented as a peninsula and “Bherings” is identified between Alaska and Russia. Australia labelled as both “Australia” and “New Holland”, with the Swan River and Sharks Bay noted in Western Australia. For a history of the Swan River colony see item 39.



## Made in the U.S.A.

43 MURDOCK, D[avid] C[lark] and  
MURDOCK A[lbert]

*[Untitled terrestrial globe].  
Made by D.C. & A. Murdock West  
Boylston Mass.*

Publication  
Massachusetts, Murdock & Co., [c1840].

Description  
Globe, 12 hand-coloured, engraved paper  
gores, clipped at 70 degrees latitude, with  
polar calottes, over a papier mâché and  
plaster sphere, varnished, mounted on  
wood three-legged stand. Quite toned, with  
a few pale stains.

Dimensions  
Diameter: 76mm (3 inches).

References  
Deborah Jean Warner, 'The Geography of  
Heaven and Earth', *Rittenhouse Journal  
of the American Scientific Instrument  
Enterprise*, Vol. 2, No. 3, (1987): 116-117.

### Biography

David C. Murdock (1815-1886) owned a shop in West Boylston, Massachusetts, where he produced and sold several globes for use in schools nationwide. Murdock also created an orrery planetarium to display his globe as part of the solar system, being one of the first American cartographers to mass-produce these globes and planetariums for education use. He later worked with his son, Albert, who he made a partner in his business in 1835.

### Geography

The globe is primitive in its cartography, especially when compared to European globe-makers of the same period. There are very few geographical names or boundaries, but "Oasis at Taudeny" is shown in West Africa, as is "Great Desert". Australia is labelled "New Holland".



## The stars, simplified

44 NEWTON, [William], NEWTON, [William Edward], and NEWTON [Alfred Vincent]

*Newton's Improved Pocket Celestial Globe.*

Publication  
[London, No. 66 Chancery Lane, c1840].

Description  
Globe, 12 hand-coloured engraved paper gores, over a papier mâché and plaster sphere, varnished, brass hour ring affixed to brass meridian ring, which sits in an engraved hand-coloured and varnished horizon ring, housed within original shagreen over paste-board clamshell case with extended base, with hooks and eyes, upper lid lined with 12 hand-coloured engraved celestial gores, solar calotte, four small engraved images of the earth pasted over gores, varnished.

Dimensions  
Diameter: 76mm (3 inches).

References  
For reference see Worms and Baynton-Williams, pp.487-490.

An example of Newton's celestial pocket globe held within a brass meridian ring.

### Biography

For a biography of the Newton firm see item 26.

### Astronomy

The globe identifies the stars, the signs of the zodiac and the 48 Ptolemaic constellations, along with several non-Ptolemaic constellations. These are not illustrated with figures, however, but simply labelled with their name. The solstices and equinoxes are marked, and other important astronomical bodies are also labelled, including the Milky Way "Via Lactea".

The globe itself is held within a bronze meridian ring. This allows the globe to be positioned at an angle, mimicking the earth's axial tilt and giving the viewer a better understanding of the position of the constellations from a terrestrial viewpoint.

The lid of the globe contains an astronomical calendar around the rim, with the signs of the zodiac represented in constellation form over the appropriate months. The gores on the lid have been cleverly engraved with rays so that the calotte pasted to the centre looks like the sun. Four small pictures of the earth have been pasted in around the lid to show how shadow passes across the planet during its daily rotation.



“Capt. Weddell reached this point in 1823”

45 NEWTON, [John] and NEWTON, [William]

*Newton's New & Improved Terrestrial Globe Containing the latest Discoveries [and] Newton's New & Improved Celestial Globe.*

Publication  
London, 66 Chancery Lane, [c1845-1846].

Description  
A pair of terrestrial and celestial globes, each with 12 hand-coloured engraved paper gores, clipped at 70 degrees latitude, with two polar calottes, over a papier mâché and plaster sphere, varnished, mounted in a brass meridian half-circle supported by turned wooden pedestal stand.

Dimensions  
Diameter: 150mm (6 inches) each.

A fine example of Newton's updated terrestrial and celestial globes supported on wooden stands.

#### Biography

For a biography of the Newton firm see item 26.

#### Geography

The cartography, given in English, is based on that of Newton's previous terrestrial globes. The “Antipodes of London” is shown, and the South Polar Region is empty except for a notation that reads “Capt. Weddell reached this point in 1823”. To the west of America, there is a solar declination scale in the shape of an “8” to replace the ecliptic which is labelled. Eight oceans are named, and there is additional information provided in the South Pacific Ocean.

#### Astronomy

The cartography, given in English and Latin, is based on that of Newton's previous celestial globes. There is a labelled magnitude table above a cartouche. For some variable stars the range in magnitudes is also given. A total of 42 stars and three star groups are named. The 48 Ptolemaic constellations and four of the non-Ptolemaic constellations are drawn. Eight of the southern constellations are drawn as well as those of Plancius, those of Hevelius, except Triangulum Minus, and those of Lacaille. However, not all the constellations are labelled.





## Looking up

46 [DES-ROIS, Ginot], as "Mlle. Ginot DesRoy"

*Planisphere Mobile. au moyen duquel on peut apprendre l'Astronomie seul et sans le secours des Mathemetiques.*

Publication  
Paris, chez Bachelier, 1847.

Description  
Revolving planisphere, essentially a large volvelle, four moveable discs of engraved paper over pastboard, edges painted green, held together by a brass screw, paste-board pointer. A little toned.

Dimensions  
355mm (14 inches)

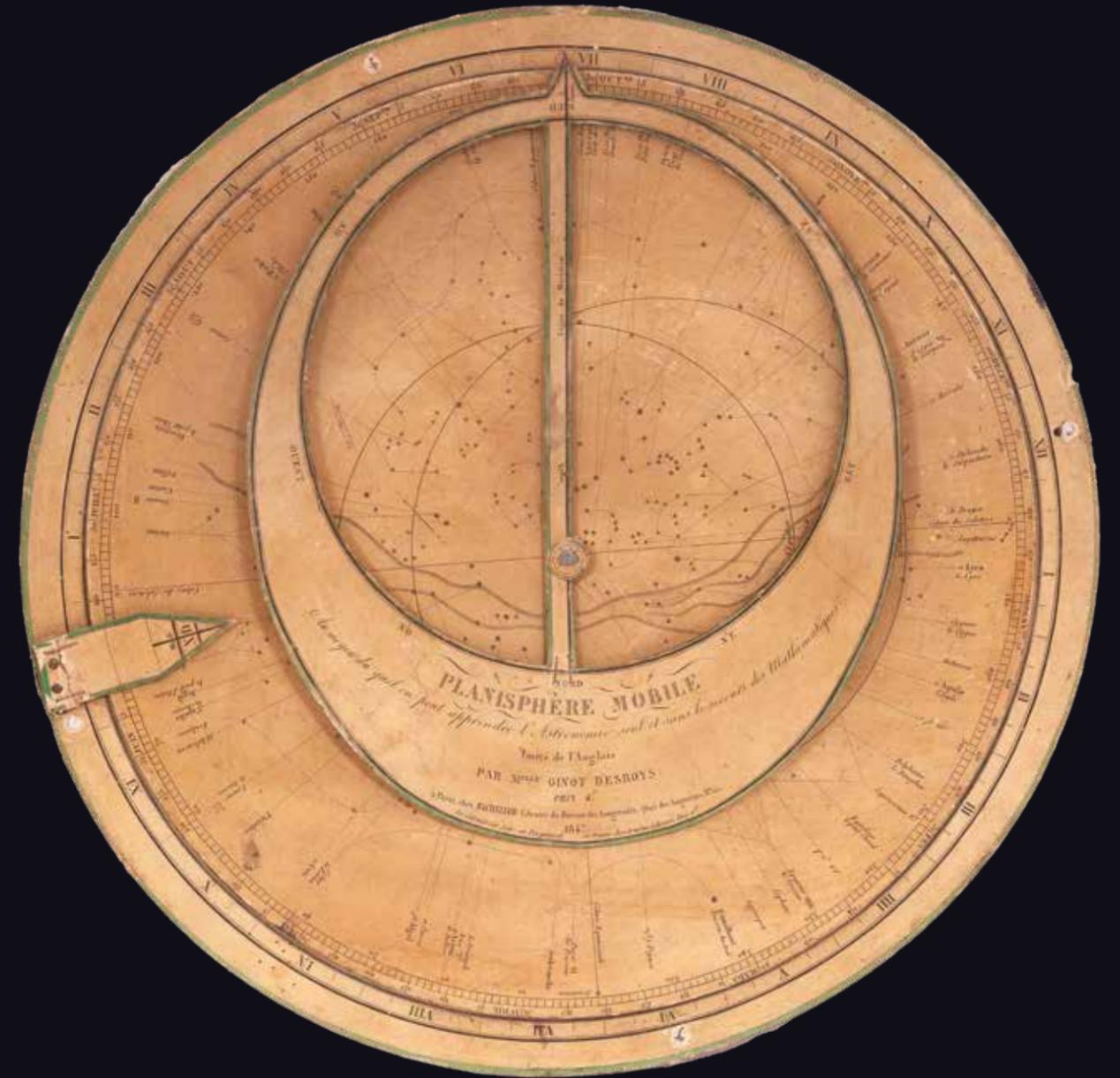
### Biography

In addition to this educational planisphere, a 'Tableau Uranographique', 'Planetaires Heliocentriques et Geocentriques', Ginot Desroys, or Des-Rois, was the authoress of 'Jeu des petits voyageurs aux cinq parties du monde, ou Enseignement mutuel de geographie descriptive et historique', Paris, d'Auty et Desmaisons, Giroux, Bachelier, 1828.

### Geography

The cartography is based on the planisphere made by the astronomer Alexis Jarrin, the Chief Geometer of the Department of Ain, France. The stars and constellations are given both their Latin and French name. The instrument is comprised of four pieces. At the top and centre is the smallest disc, the "Etoile Solaire", or North Star; then an elliptical compass window and pointer; which moves across the third disc to reveal the constellations of the night sky at any given date; which in turn can be aligned with the last and largest disc which is marked by the hours of the day or night. Instructions, for this seventh edition of Des-Rois' planisphere appear on the verso.

Rare: the BnF holds three examples of Des-Rois' planispheres, dating from 1824.



## It's all German to me

### 47 KLINGER, Johann Geor

*Die Erde nach den neuest  
Entdeck.*

Publication  
Nuremberg, J.G. Klinger Kunsthandlg, [c1850].

Description  
Globe, 12 hand-coloured engraved paper  
gores, on a wooden sphere, varnished,  
metal pivots, horizon ring with hand-  
coloured astronomical details and  
calendar, within cylindrical green  
patterned paper over paste-board box,  
with engraved vignette of tutor and  
children at their geographical studies  
hand-coloured in full on the lid. Horizon  
ring chipped with loss.

Dimensions  
Diameter: 64mm (2.5 inches).

References  
University of Adelaide 910 K657e.

### Biography

Johann Georg Klinger (1764-1806) was the most prominent globe-maker of his time. An art dealer and publisher, he founded his workshop in the 1790s and worked in collaboration with the engraver Johann Bernhard Bauer (1752-1839). The globes they offered were available in different languages and sizes. At first, Klinger improved the globes of an earlier manufacturer, Johann Philipp Andreae (c1700-after 1759), and later, between 1790 and 1792, he produced his own pair of globes with the latest discoveries of Cook and the astronomer Charles Messier. After Klinger's death, the firm was continued by his widow under the name 'J. Klinger's Kunsthandlung'. In 1831 it was bought by Johann Paul Dreykorn (1805-75), who kept the same name, whilst when the merchant Carl Abel bought it in 1852, the name was changed to 'C. Abel Klinger'.

### Geography

The cartography, given in German, features more details than Klinger's earlier pocket globes and would have been an educational tool for children, as indicated as indicated by the illustration on the box. The Great Wall of China is shown, and the south polar region has the label "Wilk Ld", dating this globe after its discovery in 1840-1842, and therefore after Klinger's death. "Texas" is identified as a separate entity, although it was admitted to the Union in 1846. The equator and ecliptic are both labelled.



## A memento of the Klinger globe dynasty

48 KLINGER, J[ohann] G[eorg]

*The Earth, published by J.G. Klinger in Nuremberg.*

Publication  
Nuremberg, J.G. Klinger Kunsthandlg.  
[?1850].

Description  
Globe, 12 hand-coloured engraved paper  
gores, over a wooden sphere, housed in a  
domed wooden case.

Dimensions  
Diameter: 57mm (2.25 inches).

References  
Dekker GLB0201.

An English-language edition of Klinger's small terrestrial globe.

### Biography

For a biography of the Johann Georg Klinger see item 47.

### Geography

The cartography is given in English, and like his pocket globe in German (see item 47), the south polar region is labelled "Wilk Ld", dating this globe after its discovery in 1840-1842, and therefore after Klinger's death. "Texas" is identified as a separate entity. Western Australia retains an early Dutch name "Nuits Ld", once "Nuyts Land".



## Sign on the meridian line

49 [Anonymous]

*[Globe form inkwell].*

Publication  
[c1850].

Description  
Globe, hand-coloured engraved gores on two concave brass hemispheres, hinged, containing internal glass inkwell, spring mounted seal, gilt finish to interior, flattened base. With old paper label to base. One or two inkstains.

Dimensions  
Diameter: 51mm (2 inches).

Prior to the widespread use of fountain pens in the late nineteenth century, it was common to carry ink while travelling. Portable inkwells, also known as travel wells or travellers, were devised for this purpose. It was of the utmost importance for the design to prevent the ink inside the travel wells from leaking, and the well itself was usually made from glass and concealed within a case. These cases took on many decorative forms, including the present example designed as a globe.

### Geography

The cartography is typical of Victorian maps, but simplified, with no relief shown on the land. The continents and many of the countries are identified by name, along with some major rivers.



## Newton's 25-inch globes

50 NEWTON, [John] and NEWTON, [William]

*Newton's New Terrestrial Globe... [and] Newton's New Celestial Globe...*

Publication

London, Manufactured by Newton and Son, 66 Chancery Lane, March, 25th, 1852 [celestial globe dated 1860].

Description

Terrestrial and celestial globes, each with 24 hand-coloured engraved split-half gores and with engraved brass hour dial to poles and meridian, paper horizon ring, on an earlier mahogany tripod of c1820 with cabriole legs, joined by three stretchers centred by a compass.

Dimensions

Diameter: 635mm (25 inches).

Height: approx. 1250mm (49.5 inches).

An impressive pair of Newton and Son's 635mm (25 inch) globes, the largest globes the firm advertised.

**Biography**

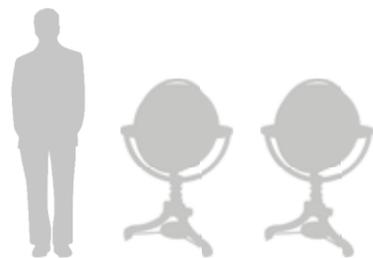
For a biography of the Newton firm see item 26.

**Geography**

The globes feature cartography updated in 1852 as described in a printed label. This is the same year when the Newton firm opened new premises on Fleet Street.

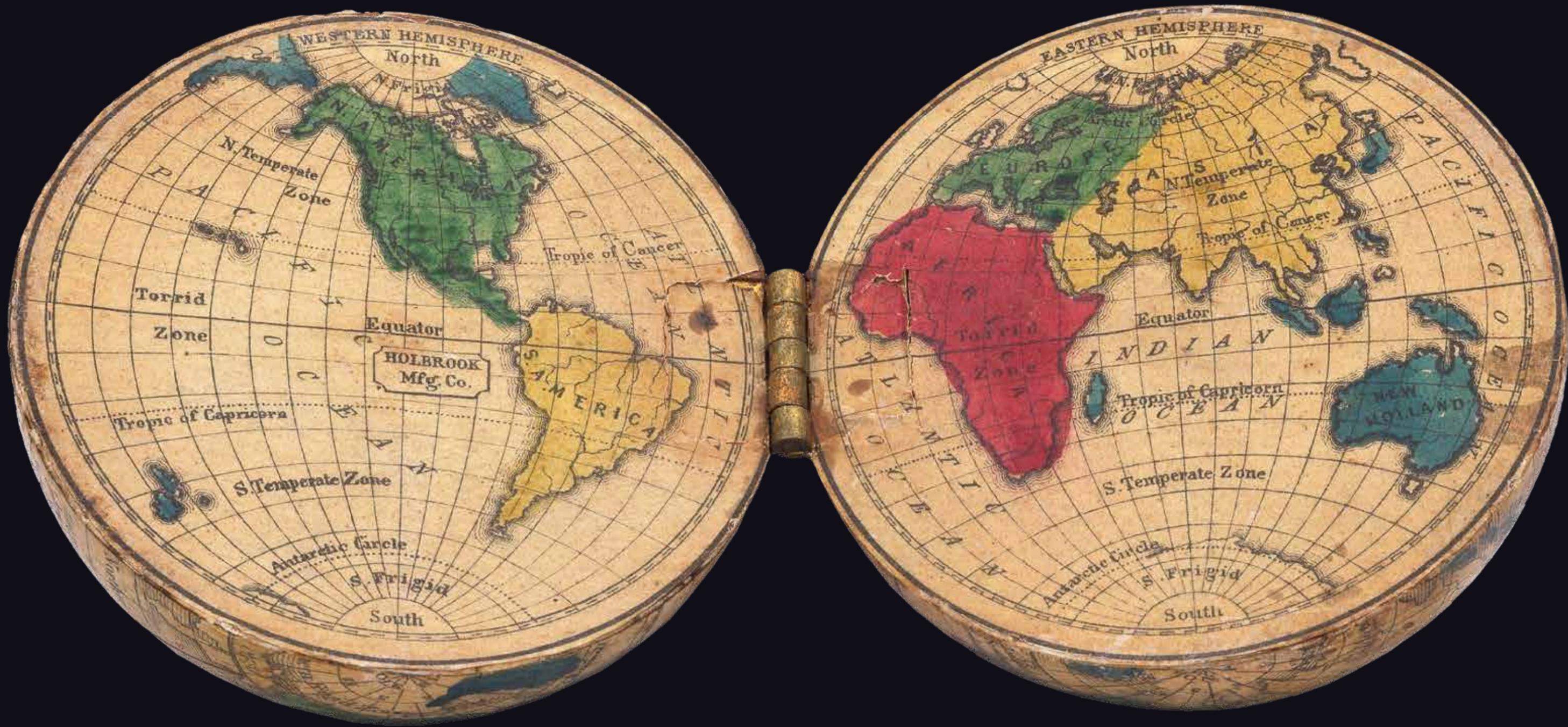
**Astronomy**

The globe features cartography updated in 1860 as described as featuring "all the Fixed Stars, Nebulae and Clusters contained in the catalogues of Flamstead, Dayer, Lacaille, Piazzzi, Hevelius, Mayer, Sits YV J Herschel, Dunlop and Messier as laid down together with the additional Stars noticed in the recent Catalogue of the British Association, the positions of the whole having been recalculated for the Year 1860 by Mr W. Newton, London".









WESTERN HEMISPHERE  
North

EASTERN HEMISPHERE  
North

N. Temperate  
Zone

N. Temperate  
Zone

Torrid  
Zone

Torrid  
Zone

Equator

Equator

HOLBROOK  
Mfg. Co.

Tropic of Capricorn

Tropic of Capricorn

S. Temperate  
Zone

S. Temperate  
Zone

Antarctic Circle

Antarctic Circle

S. Frigid

S. Frigid

South

South

AMERICA  
NORTH  
SOUTH

EUROPE  
AFRICA  
ASIA  
INDIA  
NEW ZEALAND

PACIFIC OCEAN

ATLANTIC OCEAN

INDIAN OCEAN

PACIFIC OCEAN

## Honouring Queensland

### 52 FLETCHER, [Peter]

*Fletcher's Miniature Globe.*

Publication  
Edinburgh, [Peter] Fletcher, [c1860].

Description  
Globe, 12 hand-coloured engraved paper gores, over a wooden sphere, varnished, mounted in a brass demi-meridian supported by a turned wood pedestal stand.

Dimensions  
Diameter: 43mm (1.75 inches).

References  
National Museums, Scotland T.1961.33.

### Biography

Peter Fletcher (fl1850-1874) is listed by Dekker as a British globe maker who operated during the mid-nineteenth century. He is recorded to have worked in Edinburgh, with premises on Andrew Street. He was one of the very few Scottish craftsmen who exhibited at the Great Exhibition of 1851, presenting a pair of terrestrial and celestial globes. He also produced a terrestrial globe in 1874, working alongside prominent Edinburgh publishers W. and A.K. Johnston, who exported globes to the United States.

### Geography

We have been unable to trace any record or other examples of the present globe, but its cartography allows it to be dated post-1859. The state of "Queensland" marked on the globe was named in honour of Queen Victoria after she officiated its separation from New South Wales in 1859. The globe shows other features typical of the Victorian cartography, such as the islands in the western Pacific Ocean, for example, are labelled "Micronesia", a term first used in 1831.



## Shape-shifting cartography

53 BETTS, John

*Betts's New Portable Terrestrial Globe. Compiled from the latest and best authorities.*

### Publication

London, George Philip & Son Ltd., 32 Fleet Street. Liverpool: Philip Son & Nephew. 45 & 51 South Castle Street, [c1860].

### Description

Collapsible globe, eight linen gores clipped at a latitude of 80 degrees, printed by colour lithography, sewn together with metal guides at edges, extendable into the sphere by means of umbrella mechanism, housed in wooden box with original labels.

### Dimensions

Diameter: 250mm (9.75 inches) across; 500mm (19.5 inches) long. Box dimensions: 750mm x 8mm x 8mm (30 x 3 x 3 inches).

### References

For reference to other versions of Betts' portable globe, see Dekker GLB0232.

“The idea of an inexpensive, portable globe for teaching had been suggested in the late 18th century. Richard and Maria Edgeworth, a father-daughter pair of educationalists, asked in their 1798 publication *Practical Education*: ‘Might not a cheap, portable, and convenient globe be made of oiled silk, to be inflated by a common pair of bellows?’ It was another forty years, however, until such a globe was first produced. Their request was answered in around 1830 with the invention of the balloon globe, an object made of fabric gores stitched together, which was inflated with an air pump. However, in 1850, John Betts designed an attractive alternative that did not require being inflated with a pump. Betts’ “New Portable Globe”, used an umbrella mechanism to support the gores in a spherical shape” (Katie Taylor, Whipple Museum).

### Biography

John Betts (fl1844-1875) published maps and globes from his shop at 115 The Strand during the late nineteenth century. He specialized in inexpensive education products and his collapsible globe of 1850 was one of his most popular pieces. At that time he also published a guide for it, entitled ‘A companion to Betts’s portable globe and diagrams’. It is not clear what happened to his globes after 1875, with one record suggesting that production was taken over by George Philip & Son around 1880. However, a catalogue produced by Edward Stanford in 1890 also advertises Betts’ portable 380mm (15 inch) globes. It is certain, however, that George Philip & Son eventually published Betts’ work around 1920.

### Geography

The cartography is detailed, with national and sometimes state boundaries shown. Likewise, major rivers and mountain ranges are depicted. The location of the Antipodes of Greenwich is marked. In the south polar region there are labels for “Enderby Land”, “Peter I.”, “Alexander I” and “La Terre Adelie”. The globe can be dated based on the inclusion of “Charlotte Waters” in Australia’s Northern Territory, discovered in 1871, and Bolivia retains a Pacific coast, which it loses to Chile in 1883.





## “Circle of Perpetual Occultation”

54 NEWTON, [William], NEWTON, [William Edward], and NEWTON [Alfred Vincent]

*Newton's Improved Pocket Celestial Globe.*

Publication  
[London, No. 66 Chancery Lane, c1860].

Description  
Globe, 12 hand-coloured engraved paper gores, over a papier mâché and plaster sphere, varnished, housed in a modern wooden case.

Dimensions:  
Diameter: 76mm (3 inches).

References  
Dekker GLB0060.

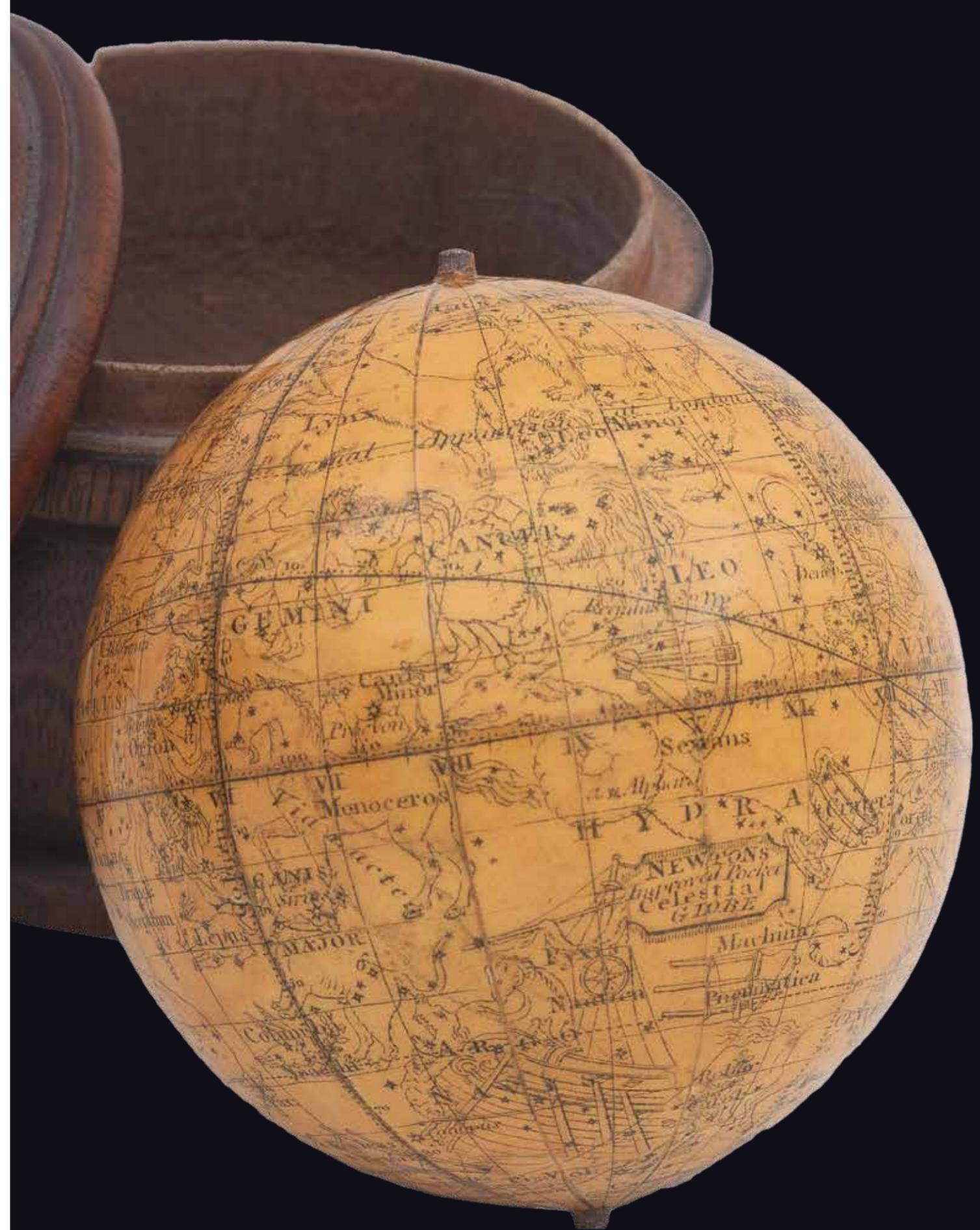
A fine example of Newton's celestial globe from the middle of the nineteenth century.

### Biography

For a biography of the Newton firm see item 26.

### Astronomy

The celestial cartography labels the constellations, which are depicted as mythological figures. The stars are represented by different symbols according to orders of magnitude and marked by the Bayer notation. A number of astronomical coordinates are labelled, including the ecliptic, north and south declinations, and the “Circle of Perpetual Apparition at London” and the “Circle of Perpetual Occultation”.



## A puzzling globe

55 [GIROUX, Alphonse]

*Jeu de la sphère terrestre.*

Publication  
[Paris, Duvinage and Harinkouck, c1867].

Description  
Globe, hand-coloured lithographed paper laid on wood, dissected into 34 pieces, with wooden finial, mounted on turned wooden table stand. Slightly browned, with some small areas where the paper is chipping at the edges of the puzzle pieces.

Dimensions  
Diameter: 170mm (6.75 inches).

References  
Sumira 56; for reference see Daniëlle Kisluk-Grosheide, 'Maison Giroux and Its 'Oriental' Marquetry Technique' Furniture History Society, Vol. 35 (1999), pp.147-172.

### Biography

Alphonse Giroux (1776-1848) trained as an artist under Jacques-Louis David, and later established a shop for paints and varnishes in the late eighteenth century at 7 rue du Coq-Saint-Honoré in Paris. In 1822 Giroux's shop was listed as 'Papeterie, Couleurs, et Galerie de tableaux' and was said to supply 'tous les articles nécessaires au dessin, au lavis des plans, à l'aquarelle, à la gouache, à la peinture sur porcelaine, à la miniature et à l'huile, comme aussi à la fourniture des bureaux. On y fabrique les cadres dorés pour encadrement d'estampes et de tableaux.'

Giroux's sons, André and Alphonse-Gustave joined the business in 1833, with the latter taking the helm as the business grew. In 1867 the business passed on to Duvinage and Harinkouck, who traded under the name "Maison Alphonse Giroux".

### Geography

The cartography dates back to the 1830s, but at that date the model was sold with a domed wooden box by Maison Alphonse Giroux. The dissected globe is cut into eight cross-sections, which show continental maps on the upper side and provide illustrated information on the reverse. Each cross-section is itself divided into four or six pieces, which can be assembled divided up in four or six sectors, which are assembled to form the globe. The design is very similar to an English puzzle globe produced by Abraham Nathan Myers in 1866, but the cartography is less detailed, particularly on the globe. On the interior maps, however, national boundaries, major rivers and relief are depicted, all labelled in French.





## The Mars Globe - “Free land. Free trade. Free men.”

56 BRUN, Emmy

*Ingeborg Mars after Lowell's  
Globe 1894-1914.*

Publication  
Denmark, 1909.

Description  
Globe, papier mâché with original ink and  
body hand-colouring, plaster coating,  
varnished, bronze stem and base.

Dimensions  
Diameter: 210mm (8.25 inches).  
Overall height: 420mm (16.5 inches).

References  
George Basalla, *Civilized Life in the  
Universe: Scientists on Intelligent  
Extraterrestrials* (Oxford: Oxford University  
Press, 2006).

A rare and fascinating manuscript globe of Mars made during a period of renewed interest in the red planet, suggesting of the possibility of Martian civilisation.

### Biography

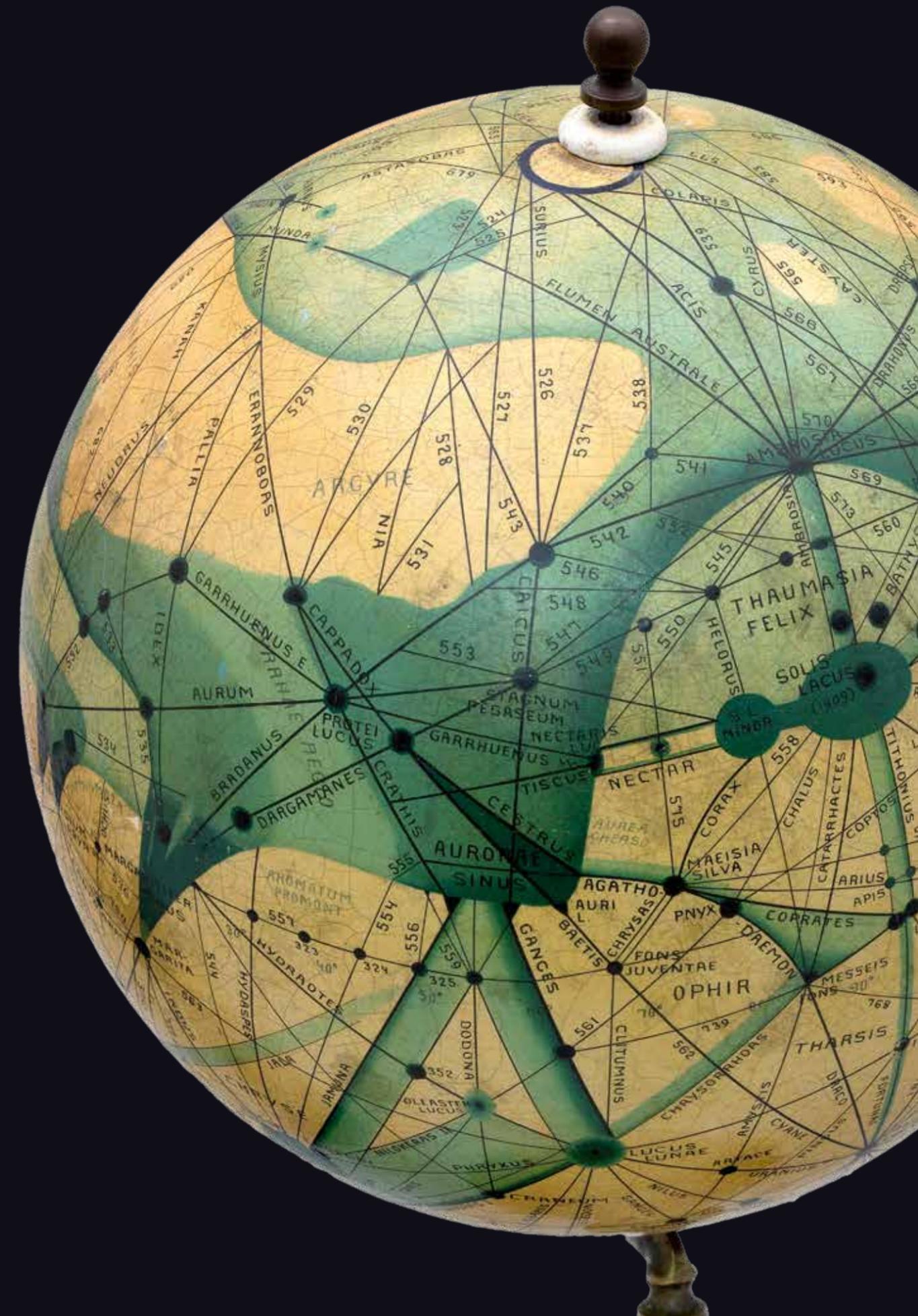
Emmy Ingeborg Brun (1872-1929) was a Danish writer, socialist and astronomer. She had no formal training - her father did not allow her to go to university - and spent long periods of her life bedridden, but was fascinated by the theories of contemporary astronomers Percival Lowell and Giovanni Schiaparelli, and the political scientist Henry George.

### Mars in the Twentieth Century

Improving contemporary scientific observation of Mars was accompanied by a corresponding interest in socio-political thought in the planet as a potential site for socialism or communism. This took the form of fiction, like Alexander Bogdanov's 1908 novel "Red Star", and was also addressed in scientific theories. In 1855 Schiaparelli observed a network of dark lines on the Martian surface. When he published his findings, along with the first detailed modern map of Mars, he named them "canali", and suggested that they were built by a socialist regime, as a planet-wide system suggested a lack of national boundaries (Basalla).

Lowell popularised these theories by publishing three books on the subject, claiming these lines were indeed a canal network and raising the possibility of a Martian civilisation, although he opted for a "benevolent oligarchy" (Basalla). Brun was intrigued by these canals, which she saw as evidence of a different, more co-operative form of society. Mars was the potential site for a socialist utopia - and in particular, a potential field for an implementation of Henry George's theories of a land-tax, as proposed in his 1879 work 'Progress and Poverty', in which he argued against a system of profit from renting land or property without contribution.

Brun adapted Lowell's maps into manuscript globes, painting her interpretations on top of existing printed globes, a short-cut that was remarkably effective as the axial tilt of Mars is 25 degrees, just a shade over that of earth's, which varies between 22.1 and 24.5 degrees. After showing them to experts in the field, she donated them to various astronomical observatories and institutions. She sent one to Lowell himself in 1915, who replied warmly that it was "a capital piece of work", although it was initially arraigned at customs because the officers thought it was a bomb.



### Geography

The globe uses Lowell's territorial observations and Schiaparelli's nomenclature for the features, most of which is no longer used. The North Pole is inscribed "Nix 1909", and the bronze base carries the inscription "Free Land. Free Trade. Free Men", a slogan inspired by the work of the political economist Henry George, and a line from the Lord's Prayer: "Thy will be done on earth as it is in heaven".

We have traced seven institutional examples: the National Maritime Museum, Greenwich; National Museum of Scotland, Edinburgh; Whipple Museum of the History of Science, Cambridge; Museo Specula Vaticana, the Vatican; Museum Observatoire Camille Flammarion, Juvisy-sur-Orge; Ole Rømer Museet, Taastrup; Randy and Yulia Liebermann Lunar and Planetary Exploration Collection. One example appeared at auction at Bonham's New York on 5th December 2012, selling for \$50,000 (Lot 129).



## Life on Mars - on globe and in book

### 57 BRUN, Emmy

*Ingeborg Mars after Lowell's  
Globe 1894-1914.*

Publication  
Denmark, [1918?].

Description  
Globe, papier mâché with original ink and  
body hand-colouring, plaster coating,  
small area of loss, varnished, brass horizon  
ring, black painted wooden base [with]  
brown paper booklet, stab bound, seven  
photographs, protected by tissue paper,  
handwritten paper label pasted to inside  
cover, manuscript notes [and] brown paper  
booklet, stab bound, photograph protected  
by tissue paper, manuscript notes.

Dimensions  
Diameter: 140mm (5.5 inches).  
Overhall height: 290mm (11.5 inches).

References  
George Basalla, *Civilized Life in the  
Universe: Scientists on Intelligent  
Extraterrestrials* (Oxford: Oxford University  
Press, 2006), pp.86-87; Poultney Bigelow,  
'The German Emperor: William II and Henry  
George', *The Single Tax Review*, March-April  
1912, pp.16-19.

A rare and fascinating manuscript globe of Mars, two small handmade booklets, of particular interest because they contain contemporary photographic pictures of the creation of Brun's globes. The globe and booklets together suggest the social and political impact of contemporary scientific discoveries, and the politicization of inquiries into space.

#### Biography

For a biography of Emmy Ingeborg Brun see item 56.

#### Geography

She adapted Lowell's maps into manuscript globes, painting her interpretations on top of existing printed globes. After showing them to experts in the field, she donated them to various astronomical observatories and institutions. She sent one to Lowell himself in 1915, who replied warmly that it was "a capital piece of work", although it was initially arraigned at customs because the officers thought it was a bomb. The globe uses Lowell's territorial observations and Schiaparelli's nomenclature for the features, most of which is no longer used.



#### The booklets

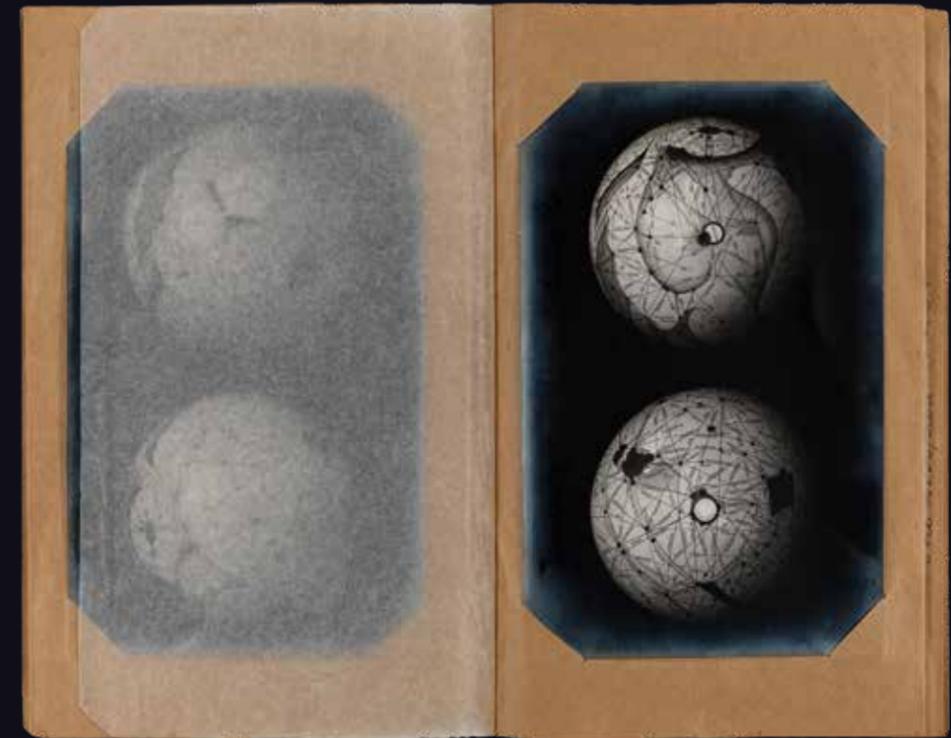
The first booklet contains a manuscript label on the inside cover, reading “Generala Globo di la Planeto Marso/ facita segun la yarala globi da Percival Lowell, de 1894 til 1914”; an inscription at the lower edge reads “Ingeborg Brun disegno. 1918”. It contains seven photographs protected by tissue paper. Five of the photographs show two views of the globe side by side. The penultimate photo shows the completed globe mounted on a stand. The final photo, however, is the most interesting.

The photograph shows a terrestrial globe, with the landmasses shown in white. A canal network, represented by black lines, is drawn over Europe and the Middle East and labeled “Kaiser Wilhelm’s Kanal”. The captions on the photograph itself read “Willy’s Dream/ will you better fulfill – Allies!” and “Free Land... Free Trade... Free Men”. The caption underneath the photograph reads “The Raw Product”.

Some of these canals are real, and some are imaginary. The Suez Canal links the Mediterranean and the Red Sea, and the Volga Don canal connects the Caspian and Black Seas. The canal between the Caspian and the Persian Gulf, however, did not exist. A project to connect the two had indeed been developed by Russian engineers in 1889, but was resisted by the other European powers, and was permanently put on hold by the First World War. Likewise, the canal stretching across eastern Europe and Asia, linking the Caspian Sea to the Sea of Japan and East China Sea, is a fictional expansion on the existing canal network in Russia.

The writer implies that Kaiser Wilhelm, the ruler of the German empire, would like to extend his reach. The Kaiser had a war hungry reputation in Europe, and was particularly unpopular in Denmark and Norway. Prussia, and later the German Empire, had gained Schleswig-Holstein from Denmark-Norway after the Second Schleswig War in 1864, and Wilhelm expanded on the existing Eider Canal between the Baltic and North Seas to create the Kiel Canal. The canal eliminated the need for German military vessels to sail around the Danish peninsula, and was part of Wilhelm’s wider drive to establish Germany as a dominant naval power.

An American journalist, Poultney Bigelow, published an essay in ‘The Single Tax Review’ in 1912, claiming that Wilhelm had “read and pondered Henry George’s monumental ‘Progress and Povert’, and it is no small credit to him and to the administration of which he is the head, that the first practical application of Single Tax principles should have been made in the Province of Confucius when Germany organized Kiao-Chow in 1897”: he also called him, apparently without irony, “the greatest socialist on earth” (Bigelow). In the same issue, Dr Ludwig Wilhelm Schrameier, who was the German imperial commissioner in Jiaozhou, the German concession in China mentioned by Bigelow, described his implementation of a land-tax there.



It is certain that Sophus Berthelsen, to whom this globe belonged, would have been aware of Bigelow's claim and Schrameier's analysis. He was the co-founder and president of the Danish Henry George Society, and the editor of the Georgist journal 'Ret'. He is mentioned as a correspondent and colleague repeatedly by Joseph Dana Miller, the editor of 'The Single Tax Review': in volume 10 of the journal Miller calls 'Ret' "the most valuable organ for social questions in the Scandinavian region" and again encourages readers to subscribe in volume 16. Brun, who was similarly involved in Georgist activities in Denmark, would presumably have been aware as well.

The inscription and the globe in the photo therefore appear to be a joke between the creator(s) and receiver(s) of the booklet: possibly Brun and Berthelsen. It is possible that the globe in the photograph is the present example before it was painted over to produce the globe of Mars. The canal network is undoubtedly a reference to the Martian canals discussed in Percival Lowell's works - it is drawn in the same style as his and Ingeborg Brun's works. The fictional canals are also a reference to Germany's colonial drive. The trans-Russian canal ends in the Yellow Sea, presumably meant to be Jiaozhou. It appears to imply sarcastically that "Willy's Dream" is the same as Brun and Berthelsen's - a socialist world, built around canals in the same way that their Martian utopia would be. "Free Land, Free Trade, Free Men" was a slogan of Henry George's, and Brun had it engraved on the base of one of her globes.

The second booklet is smaller. The inscription to the inside cover is exactly the same as in the pasted label in the first booklet, without the date. There is an empty page that previously held a photograph. The caption reads "Den færdig forarbejdede Vare", or "The finished processed item", presumably a similar photograph to the one of the completed globe in the first booklet. The second photograph is of the same globe painted with "Kaiser Wilhelm's Kanal".

We have traced seven institutional examples of Brun's globes: the National Maritime Museum, Greenwich; National Museum of Scotland, Edinburgh; Whipple Museum of the History of Science, Cambridge; Museo Specula Vaticana, the Vatican; Museum Observatoire Camille Flammarion, Juvisy-sur-Orge; Ole Rømer Museet, Taastrup; and a possible example in the Randy and Yulia Liebermann Lunar and Planetary Exploration Collection. One example appeared at auction at Bonham's New York on 5th December 2012, selling for \$50,000 (Lot 129).

Provenance:

1. Sophus Berthelsen (1864-1930), Danish lawyer and intellectual, and thence by descent.



## A starry night

### 58 PHILIP AND SON

*Philip's Popular Celestial Globe.*

Publication  
London, G. Philip & Son, 32 Fleet St, [c1920].

Description  
Globe, 12 paper gores printed in yellow on a black background, clipped at 70 degrees, with polar calottes, over a papier mâché and plaster sphere, with brass half meridian ring, mounted on brass and turned wood table stand. The surface marked with occasional pinpricks.

Dimensions  
Diameter: 152mm (6 inches).

#### Biography

George Philip (1800–1882) was a cartographer and map publisher. Born in Huntly, Aberdeenshire, he trained under the Liverpool bookseller, William Grapel, from 1819. He went on to found George Philip & Sons in 1834 in Liverpool primarily as a bookseller and stationer, but rapidly expanding to become a publisher of maps, atlases and educational works. His only son, also George (1823–1902), was admitted to the business in 1848. The firm used a number of cartographers including John Bartholomew the elder, August Petermann and William Hughes to produce maps on copper plates, which were then printed and hand-coloured.

The business expanded rapidly and by the time he published his county maps of 1862 he was using machine-coloured maps produced on power-driven lithographic presses. By 1902 the firm established itself in London at the London Geographical Institute.

#### Astronomy

In the 1920s, the International Astronomical Union (IAU) established an official set of boundaries for 88 constellations to aid in the naming of new variable stars and other celestial discoveries occurring rapidly with new technology and scientific developments. These boundaries are made up of straight lines at right angles, and the IAU system is still in use today. Consequently, many twentieth century globemakers switched to depicting their celestial globes in this new fashion. However, the present globe includes a series of curved dotted lines to indicate these boundaries in tones of yellow and white, which are apparently free-form rather than following the IAU system. The constellations within these boundaries are shown with a series of straight lines.

A key in the cartouche indicates the five degrees of magnitude and correspond to the depiction of the stars throughout. Some stars are named and most are labelled with Greek letters, and the Milky Way is indicated with a series of pale yellow dots.



## A masonic memento

### 59 PHILIP, George & Son

*Terrestrial globe [and celestial globe].*

Publication  
London, George Philip & Son Ltd., 32 Fleet Street EC4, [c1922-1949].

Description  
Terrestrial and celestial globes, each with 12 lithographed paper gores, over a wooden sphere, varnished, with metal pivot at both poles, in a domed wooden case.

Dimensions  
Diameter: 51mm (2 inches).

In the twentieth century George Philip & Son became associated with the Masons, publishing 'Masonic Emblems and Jewels: Treasures at Freemasons' Hall, London' in 1917 from its Fleet Street premises in London. The firm is also recorded as supplying globes for the Masons, who decorated their lodges with the twin columns of King Solomon's Temple, which supported a terrestrial and celestial globe. The full-size columns of six to eight-feet in height would support globes of 230 to 350mm (9 to 12 inch) diameters, however the lodges also often had miniature versions with columns that would support globes of this smaller 50mm (2 inch) size.

#### Biography

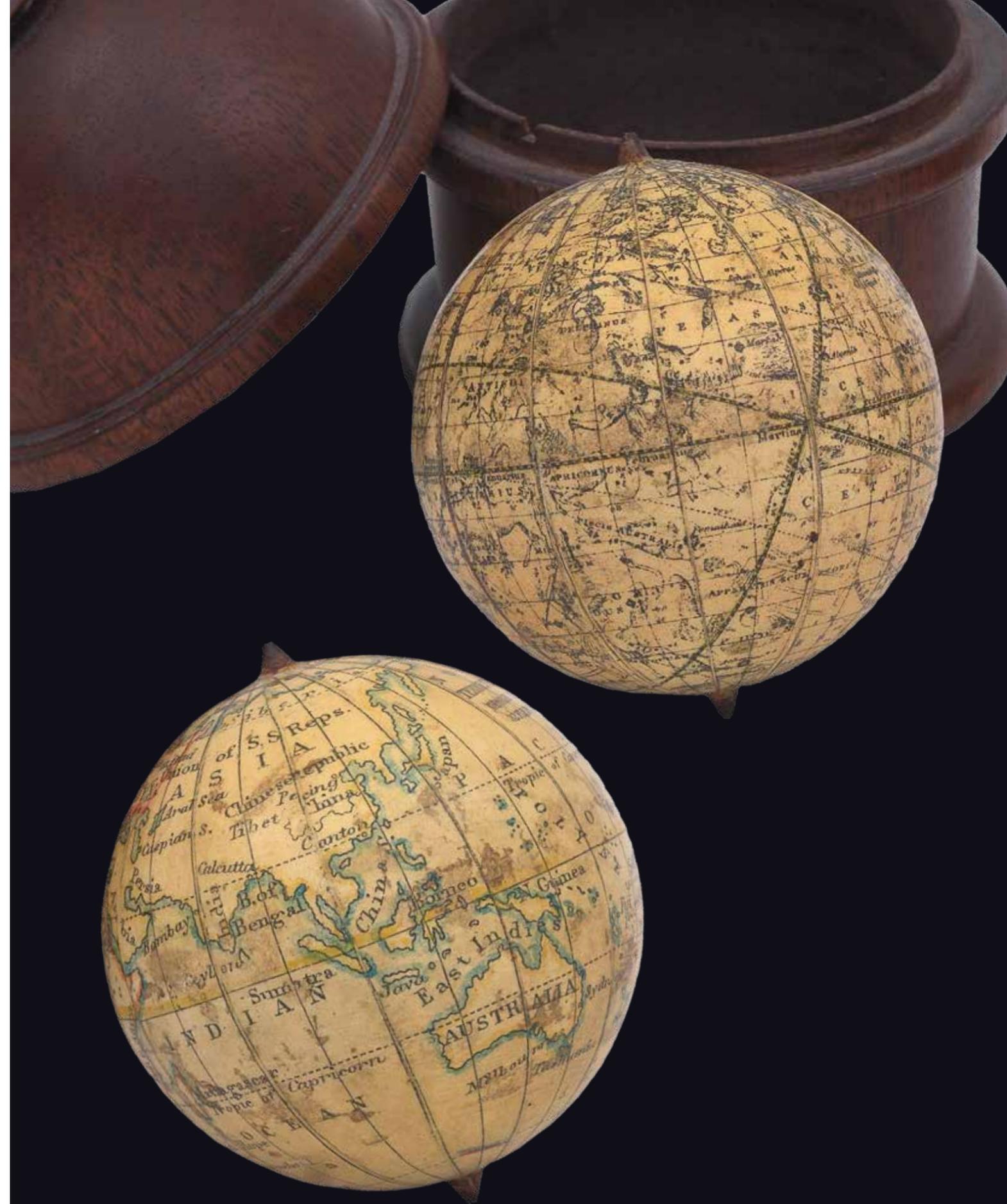
For a biography of George Philip & Son see item 58.

#### Geography

The continents are outlined in green, red and orange with no national boundaries. Several cities are named, along with countries and rivers. The "Chinese Republic" and "Union of S.S. Reps." in Asia dates the globe between 1922 and 1949.

#### Astronomy

The cartography features a graduated equatorial, ecliptic and colures. The constellations are depicted as mythical beasts and figures, and the stars are shown to five orders of magnitude.



## Nine-Star Ki

60 [Anonymous]

[*Kyūseikigaku*].

Publication  
[Japan, c1950].

Description  
Four small globes on turned stands, surrounding a red sphere with a directional wind tail attached to a demi-meridian ring, all mounted on a central metal pole, fitted on a circular wooden base. Two manuscript paper disks overlapping on the wooden base with the top one movable and the bottom attached to the base. Four other manuscripts are attached to the base in between the stems.

Dimensions  
280 by 230mm (11 by 9 inches).

A unique fortune-telling astronomical instrument made in Edo, Japan., based on the “Nine-star Ki” (*kyūseikigaku* 九星気学) form of divination, adapted and refined from traditional Chinese methods by Shinjiro Sonoda (1876-1961) in 1924.

“Nine-star Ki” refers to nine-year and nine-month cycles of the Ki/Qi element on Earth, which relate to the solar and seasonal cycles. These cycles are believed to have common effects across the planet on mental and physical development, and life experiences. The ‘stars’ of “Nine-Star Ki” are numbers representing those cycles, which can be calculated for anyone using their birthdates. This instrument was specifically designed to calculate the numbers of “Nine-Star Ki”.

Constructed on a circular wooden plate are four small terrestrial globes on turned stands, which surround a red sphere mounted on a metal pole at the centre. A bronze signpost attached to the sphere is engraved with three characters “寒”, “暖”, “暑” (“cold”, “warm” and “hot” respectively) referring to the seasons .

Directly beneath the sphere, are two circular manuscript charts. The smaller, uppermost chart is rotatable, bearing the title “本命的殺九曜星旋盤” (“Fortune-telling Nine astronomical bodies rotating chart”). It shows three concentric rings radially divided into sixty sections. The first ring shows a cycle from “一” (one) to “六十” (sixty) in anti-clockwise order, and there are two characters “今年” (“this year”) marked in red above the former, indicating the beginning of the cycle. In the second ring, every consecutive nine characters represent the Navagraha, or “nine celestial bodies of universe” in Hindu astrology. They represent different elements of nature, as well as season, personality, family and direction. These are “日” (the Sun), “月” (the Moon), “火” (Mars), “水” (Mercury), “木” (Jupiter), “金” (Venus), “土” (Saturn), “羅” (Solar Eclipse), and “計” (Lunar Eclipse). The third ring shows the names of Bagua 八卦, the eight symbols of Taoist cosmology, which are “乾” (Heaven), “坤” (Earth), “震” (Thunder), “坎” (Water), “艮” (Mountain), “巽” (Wind), “離” (Flame), “兌” (Lake).

The larger chart beneath is attached to the plate, showing two more rings. The first ring is an extension on the Bagua ring it encircles. It shows the sexagenary cycle, which is a cycle of sixty terms, each corresponding to one year, used for reckoning time in China and other parts of East Asia. The outermost ring has thirty divisions, each containing a character that represents one of the “Five Phases” (“五行”): “木” (Wood), “火” (Fire), “土” (Earth), “金” (Metal), and “水” (Water). The system of five phases was used for describing interactions and relationships between phenomena, including geomancy and astrology. Rotating the top chart to align the



divisions on the five rings would give a combination of numbers and signs. Hence, using one's date of birth, one could rotate the chart to reveal a set of numbers and figures that signifies one's fortune, according to the divination of the "Nine-Star Ki".

Surrounding the main chart are four sheets of manuscript text. The top right sheet bears the date "文政十一年戊子歷五月上旬九日" ("May 9th, Eleventh year of Bunsei era - 1828"), yet this does not appear to be the year of publication, since Korea is labelled as "大韓民国" ("Republic of Korea") and China "中華民國" ("Republic of China") on the terrestrial globes. Given the establishment of the Republic of Korea in 1948, and the Republic of China in 1949, the instrument can be dated to roughly the following decade.

This instrument is extremely rare, and perhaps unique. We are unable to trace any other examples.



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