Circles, Spheres and Globes: *Models of the Universe as Depicted in Art*

Abstract

Classical and scriptural ideas of the shape of the world and the concept of a circular cosmology were traditionally reflected in art and architecture. Such views appear to have laid the foundation for the development of spherical terrestrial and astronomical images and the globe itself, from the late fifteenth century. The subsequent depiction of globes in famous paintings demonstrates the significance of globes in the promotion of the 'new learning' and world view – whether cosmological, geographical, political or educational. As early as the 1530s, globes (as opposed to images of the sphere of the earth or universe) started to figure prominently in painting. Sixteenth-century paintings (such as Holbein's Ambassadors, 1533 and the Armada Portraits of Elizabeth I, from 1588) demonstrate the significance of globes. Like the globes themselves, artworks depicting them (up to our own times) reflect their importance in the context of the age and culture in which each was produced.

The idea of the earth and/or universe as a sphere appears to have first emerged in Greece in the sixth century BC. The idea is often attributed to Pythagoras and it became more widely accepted as other Greek philosophers, including Plato and Aristotle, came to support the idea. The first indication of the construction of an actual globe was by the poet Aratus of Soli, who referred to a celestial sphere of the stars made by the Greek astronomer Eudoxus of Cnidus (ca. 408-355 BC). The oldest surviving globe (a celestial globe held on Atlas's shoulders) dates from the second century AD, but globes were not made again in the Western World until the Renaissance, with the oldest surviving terrestrial globe by the German geographer Martin Behaim.[1]

The perception of the known world/universe, from ancient to modern times, varied considerably and was sometimes perceived as flat, as a square or rectangle. Yet, even when considered to be flat – ranging from the Hindu perception of 'turtles, all the way down' to medieval world maps (known as 'T-and-O' maps), the earth or known world itself was often seen as circular. In three-dimensional models, it could similarly be perceived as cuboid or a sphere, derived from circular cosmology (Pythagoras, Plato, Aristotle). A circular flat earth could be contained in a three- dimensional 'sphere of the heavens'.

Defining a globe as a three-dimensional model of the Earth or other celestial body or sphere, consideration of such images in art and architecture demonstrate the approaches, meanings, usage and perceptions of the cosmos in which we live. From the earliest images of the world/universe to present-day interpretations, art works depicting the earth and universe, as well as actual globes, reflect the erudition, extravagance, economic, exploratory and educational value of their makers and patrons.[2]

The ancient Greek concept of the earth/universe as sphere became well-known. The *Mosaic of the Philosophers*, from Pompeii shows Plato's Academy with the central figure of Plato pointing to a globe (100BC – 100 AD, National Archaeological Museum Naples). This extended to the Renaissance period when the Renaissance. Plato's writings were well-known, including his assertion in the *Timaeus* that '… seeing that the whole is spherical, the assertion that it has one region 'above' and one region 'below' does not become a man of sense'. *Timaeus* 63A (c. 360 BCE). Raphael, in his *School of Athens,* 1509-11 depicts not only Plato himself but also shows a detail of Ptolemy and Strabo, holding symbols of the terrestrial and celestial spheres of the universe.

Descriptions of Phidias's Statue of Zeus at Olympia, holding a type of globe, c 435 BC have survived, although the pagan statue itself no longer exists (melted down by the Emperor

[1] Sumira (2014).
[2] The present paper is not specifically concerned with the globes themselves, but as they are depicted in art (painting and sculpture).

Constantine in the fourth century). In the second century AD, Pausanius,[3] wrote of the giant seated figure of gold and ivory at Olympia and its appearance has been reconstructed through artists' impressions, such as the engraving of 1572 by Phillipe Galle after the imagined drawing by Martin van Heemskerk. The use of the orb (together with sceptre) became established as a symbol of emperor or monarch (eventually Christianised with a cross on top).

Turning to Rome, we find the oldest surviving example of a 'globe' depicted in art, namely a celestial globe held up by Atlas (Fig 1, *The Farnese Atlas, Naples*, 150 AD). It is curious to consider whether this is an actual 'globe' (ie a depiction of the universe), or a depiction in art of an existing celestial globe? Nevertheless, it confirms the modelling of the spherical universe, focussed on the rotation of stars.

However, even if the cosmos was regarded as circular (as in the Bronze age Nebra disc c 1600BC, the oldest depiction of the cosmos), the perception of the earth as flat persisted amongst sections of the population until the Renaissance. The Egyptians saw the earth as having 'corners' as also in the Book of *Revelation* 7:1, but the earth was perceived by many as flat but still circular, rather than square. Images of a circular flat earth are shown by examples ranging from the *Bible Moralisée* (Bodleian 1v, c 1230-1240), to the current logo of the Flat Earth Society.[4]

An alternative approach was the actual image of the Byzantine view of the three-dimensional universe as presented by the sixth-century monk Cosmas Indicopleustes in his *Christian Topography* (Fig 2). Based on the reference in 1 Kings 6:1 that the Temple at Jerusalem was built in the same proportions as the universe, Cosmas's drawing shows the universe as rectangular in shape, covered by the 'barrel vault' of the heavens, and shaped altogether rather like an old-fashioned travelling trunk.[5] So convinced was Cosmas of his three-dimensional model of the universe that, in the same manuscript he conclusively, as he thought, disproved the sphericity of the earth: *'...it is impossible,' he wrote, 'to explain how rain should fall, how the earth could have become covered by 'the flood', or how there could be 'ascent to heaven'* (Fig 3). Although this view may well have been adhered to by many people, Italo-Byzantine examples such as *Christ Enthroned on the Sphere of the Universe* at S. Vitale in Ravenna, Italy, 547, and the mosaic in Cathedral of Monreale, Sicily, *God Creating the Universe*, 1175, do demonstrate the idea of the 'sphere of the universe', although neither a celestial not terrestrial 'globe' per se. Nor must we forget the idea of domed architecture as imitative of natural eye observation of the dome of heaven covering the flat earth, of which examples are numerous.[6]

As mentioned, medieval T-and-O maps also maintained a circular approach, but these were largely devotional objects, rather than early cartography and map-making. The determination of the centre was also significant, normally at this time taken to be Jerusalem, in accordance with Ezekiel 5:5.[7]

Hugely influential at this time, was the *De Sphaera Mundi* (*On the Sphere of the World*) by Johannes Sacrobosco, (c 1195-1256). Based on Ptolemy's *Almagest* and one of the most influential works of its time, the 'spheres' referred to those of the Heavens (the primum mobile, fixed stars and planets) that surrounded the earth, but the earth is also described as spherical, within a geocentric system.[8]

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[3] Pausanius (Second Century AD, 5.11.1ff) https://www.theoi.com/Text/Pausanias5A.html . There was also an image of Atlas holding up the heavens (*ibid* 5.11.5), cf Apollodorus 2.5.11. http://www.perseus.tufts.edu/hopper/text?doc=Apollod.+2.5.11&fromdoc=Perseus%3Atext%3A1999.01.0022

[4] Some key images are reproduced here but, owing to the limitations of space, it is not possible to replicate all those mentioned. Images are readily found on the internet and/or Wikimedia Commons.

[5] The Temple was sixty cubits long, twenty cubits wide, and thirty cubits high. The Sistine chapel was constructed to exactly the same proportions.

[6] For example the dome of the Mausoleum of Galla Placidia, Ravenna, 425 AD, or in the *Creation* Dome of St Mark's Venice (13th century).

[7] Examples of so-called 'T-and-O' maps include several at the British Library and the *Mappa Mundi* at Hereford, c 1300. As the idea of the spherical earth (known to the ancients) became accepted, then Jerusalem became replaced as centre in successive geocentric, heliocentric, galacto-centric and a-centric systems.

[8] Johannes de Sacrobosco (c 1230). The text is available at: http://www.esotericarchives.com/solomon/sphere.htm .

The geocentric view of the universe was also clearly delineated by Peter Apian in his *Cosmographia* (published 1524) which combined work on both astronomy and navigation. The circular or even spherical approach taken in classical and medieval depictions of the earth/universe thus appear to have led to the depiction of the spherical earth in art – and the eventual development of the globe (celestial or terrestrial) during the Renaissance.

The painting by Piero del Pollaiuolo of *Justice* (1470, Uffizi) demonstrates the growing interest in secular themes and the State. Commissioned by Florence's *Tribunale della Mercanzia* (the body responsible for overseeing all the city's guilds) Justice holds a representation of the world to indicate the desire for justice to be ubiquitous. This seems to be an image of the world, rather than the depiction of a 'man-made' globe *per se*, but it was not long until globes themselves were developed.

The year 1492 marks not only Christopher Columbus's expedition to the 'New World' but also the date of the earliest surviving globe, the '*Erdapfel'* ('Earth Apple') of Martin Behaim (Fig 4), who had studied cosmography as a pupil of Johannes Muller (known as Regiomontanus, a forerunner of Copernicus).[9] By the later middle ages, the knowledge that the world was round was commonly accepted by educated people so Columbus set off as he did because he knew the earth was round, rather than in order to prove it was so. In fact he went out by sailing west and returned by sailing east which did not really prove the hypothesis (except for the assumption that he had reached the Far East) – but it was the beginning of the total acceptance of the concept, as well as the beginning of the modern age of exploration. Early globes were made when much of the world was unexplored but came to be developed into the huge, decorative examples made for the princely courts of Renaissance Europe, as well as having scientific, astronomical, political and geographical meaning. They were no longer devotional objects related to the Christianised Aristotelian view of the cosmos as in early Christian, Byzantine and medieval depictions of the universe.

Images of the earth and its place in the cosmos continued to be many and varied. The curious painting on the outer panels of Hieronymous Bosch's *Garden of Earthly Delights* (1490-1510, Prado) appears to signify a flat earth in spherical universe, while Sandro Botticelli's fresco of *St Augustine in his Study*, of similar date (1480, Ognissanti Church, Florence) includes the depiction of an armillary sphere and other items, as does a similar version by Carpaccio (1502). The depiction of a study naturally provides an opportunity to show scientific instruments.

After the establishment of spherical terrestrial and astronomical structures from the sixteenth century, the depiction of globes in famous paintings demonstrates their importance as navigational tools and scientific instruments as well as powerful status symbols with social, economic and political overtones – in the same way as the globes themselves. The promotion and acceptance of the new Renaissance learning and world view is indicated, whether scientific, geographical or political. But cosmological views are also indicated. The recently 'rediscovered' *Salvator Mundi*, attributed to Leonardo da Vinci (c 1500) includes the depiction of the sphere of the universe, which strangely does not distort the fabric behind, indicating perhaps that the sphere is hollow rather than solid and thus an image of the universe not a crystal ball. Several of Leonardo's drawings also depict what appears to be a representation of an actual globe, for example in his perspective study in the *Codex Atlanticus* (1478-1519, Milan) or the curious *Allegory with a Wolf and an Eagle* (Fig 5, c 1508-10, Windsor). In the latter, the Eagle (identified either as a French or Imperial symbol) bestrides the globe. Michelangelo's *Dream of Human Life*, c 1532-33 also suggests a globe, around which the universe circulates, symbolised by characters representing the *Seven Deadly Sins*. The contemporary understanding of this unusual drawing is indicated by the copy by an unknown artist 'after Michelangelo', in the Courtauld Institute London (dated as 'after 1533'). Here, the image is definitely of a globe.

These early examples demonstrate the interest shown by the greatest artists of the time, as actual globes (as opposed to images of the sphere of the earth or universe) started to figure prominently in paintings. As the Renaissance progressed, the purpose, function and influence of globes was

[9] A later portrait of Behaim by an unknown artist shows him in contemplation of his globe/invention.

heightened; supported by the cartographers, printers and manufacturers who created them, as well as the artists who depicted them. Although still relatively new (or perhaps because of that), actual globes were significantly included in artworks from this time, as part of the 'New Learning' and new world view. Globes now come into their own and their depiction in artworks, as mentioned, reflect the areas in which the globes themselves were seen as crucial. They could be viewed as extravagant special treasures conferring status on their owner; an aid to exploration and geographical discoveries; economic and political symbols; and indicative of the erudition of the cognoscenti, scholars and scientists who owned them (before becoming a tool for education more widely).

Much has been written about Holbein's mysterious painting of the *Ambassadors* (1533) and the inclusion of the large number of scientific instruments and artefacts that are included (see detail, Fig 6).[10] The celestial and terrestrial globes displayed on the shelves indicate the status and extravagance of the owners of these treasures – the Renaissance equivalent, perhaps, of owning a Ferrari. But the presence of these decorative globes made for the princely courts of Renaissance Europe also show the erudition and knowledgeability of their owners who were learned as well as rich.[11]

The analogy was taken further in Parmigianino's portrait of the *Emperor Charles V* (1530), of which a copy was later made by Rubens in c 1604 (now in the Residenzgalerie, Salzburg, Austria). In both Parmigianino's version, and the later version by Rubens, the globe is evidently included to indicate Charles V's status as ruler of the whole world, including by now the New World of the Americas in a striking political and geographical allegory. The figure of 'Winged Fame' holds laurel branches aloft while the Earthly Orb is presented to the Emperor. Charles V's dominion included not only Austria, Spain, Burgundy and the Netherlands in Europe but also stretched from the Philippines in the Orient to Mexico and Peru. The later copy by Rubens provides less detail on the globe, but the message is the same. Influenced also by Titian's portraits of the Emperor, Rubens depicts Charles V complete with imperial attributes including the globe as symbolic of his extensive domains.

A similar approach can be observed in a series of portraits of England's Queen Elizabeth I, between 1583-1592, which do, however, change in their emphasis and 'message' over time. The so-called '*Sieve Portrait'* of Elizabeth I, c 1583 by Quentin Mestys the Younger focusses on Elizabeth holding a sieve (as symbol of her virginity[12]), while a globe is shown in the background. The globe is nevertheless accurately and clearly depicted, showing the monarch's ships sailing west towards the New World of the Americas. The theme here is clearly aspirational.

Later examples, however, make the theme of Elizabeth's power and her Princely domain far more forcefully. The *Armada Portrait of Queen Elizabeth I,* c 1588 (Fig 7, the 'Drake' version, Queen's House, Royal Museums Greenwich) is more than a portrait with various attributes and accessories, but a whole new idea of secular, monarchical and political symbolism is conveyed, as the geography shows the new world order and the Queen's 'Imperial pretensions'. The globe is foremost, with the Queen's hand resting upon it, not just featured in the dark background, as in the 'Sieve' portrait. Not only is it a sign of the monarch's princely status, her erudition as a member of the cognoscenti and a superb luxury item but it outlines the aspirations for 'world domination.' The orb had long been used as a symbol of kingship, but this is definitely a globe here, demonstrating its geographical and political significance.

Other examples of the 'Armada Portrait' (versions of which are to be found in the Queen's House Greenwich) seem to focus on the inclusion of the globe as a status symbol and luxury item, as well as a political or economic statement. The Armada portraits are indicative of the monarch's erudition as part of the circle of cognoscenti and can be understood as a navigational tool and scientific

[10] Foister (1997); North (2004).
[11] At about the same time, Jan Gossart's *Portrait of a Young Princess*, c 1530 shows her holding an armillary sphere indicating the movement of heavenly bodies.
[12] The sieve as a symbol of virginity was derived from the legend of vestal virgin Tuccia who, falsely accused of not being as virtuous as deemed necessary, proved her innocence by being able to carry water in a sieve.

instrument in a practical way, as well as a symbol of domination and exploration. Finally, the portrait by Marcus Gheeraerts, *Elizabeth I,* known as 'The Ditchley Portrait' (c 1592, NPG) shows an even later development where Elizabeth I is actually standing on top of the globe of the world.

Other late sixteenth-century examples also include reference to celestial and terrestrial globes. For example, in Antonis Mor's *Portrait of Sir Henry Lee*, the sitter's shirt is decorated with armillary spheres indicating the interest in beautiful expensive objects and their scientific use. Nicholas Hilliard's *Portrait of Henry Percy, 9th Earl of Northumberland* (1590-95, Rijkmuseum) shows a globe balanced on scales against a feather, possibly indicating the light-weight and transitory nature of life on earth. The number of examples would be greatly increased if emblems and emblem books were to be included, but the emphasis here is on actual paintings.[13]

During the 'Age of Enlightenment' from the early seventeenth century, interest in globes increased further, with not only an increase in manufacture and widespread usage, but also depiction in painting. The large work by an 'Unknown artist' (probably Flemish), of *Cognoscenti in a Room hung with Pictures* (1620, National Gallery, Fig 8) demonstrates the prestigious nature of the possession and display of a globe, as does Thomas de Keyser's portrait of the astronomer*, Constantin Huygens and his Clerk* (1627 also National Gallery) demonstrating the erudition and scholarship of its owner. As a symbol of essential learning and understanding of the cosmos, Pietro da Cortona's, *Apollo Room*, in the Pitti Palace, 1647-61, is situated in the antechamber for those waiting to be received by the Grand Duke. It indicates the educational needs of the nobility in understanding the cosmos as indicated by celestial globe supported by Hercules.

Globes also, however, feature in more simple works, not only in the schemes of grand palaces. Examples of inclusion in still-life compositions are to be found such as *A Table of Desserts*, 1640 by Jan Davidz de Heem (Louvre) where a globe is arranged amongst the various possessions being displayed, comparable to musical instruments, and exotic and expensive silver, gilt and glass ware.

The possession of rare and expensive luxury goods could be problematic, however, as shown in the series of paintings by Antonio de Pereda on *Vanitas* (c 1670, Uffizi, Fig 9), emphasizing the Spanish, Catholic approach. Valuable goods such as money, jewellery, weapons, clocks and a globe are presented as luxury items, possibly representing the 'whole world' or the Spanish Empire. Yet the inclusion of fading flowers, skulls (as a 'memento mori') and a miniature of the *Last Judgment* shows that such riches are to no avail, for all will die and be judged. The angel invites the spectator to renounce such worldly goods as part of the religious message, a strong theme that was repeated by Pereda in other similar versions from the 1530s and 40s (Kunsthistorisches Museum, Vienna and the Academy of Fine Arts of San Fernando, Madrid).

In northern Europe, by contrast, more secular aspects are prominent as the inclusion of a globe is used to emphasise knowledge and scholarship, such as in the etching by Rembrandt, *A Scholar in his Study*, 1642 and *Philosopher in his Study Meditating a Globe*, 1640.[14] At about the same time, works by Ferdinand Bol, *Old Man with a Globe* (c 1650, Hermitage, St. Petersburg) and *An Astronomer,* (1652) include globes as an indication of knowledge and the serious contemplation of the world by the sitter. The *Old Man* with hand on cheek seems to be vaguely thinking, whereas in the work known as *An Astronomer* two globes are actually included, celestial and terrestrial, and the sitter adopts the more serious pose of a thinker with hand on chin, gazing into the distance.

Deep thought is also conveyed in portraits by Johannes Vermeer: *The Astronomer*, (c 1668, Louvre, Paris) who holds a celestial globe (Fig 10) and the slightly later *The Geographer* (after 1668, Frankfurt). The astronomer's profession is shown by the celestial globe (with the constellations) and the book by astronomer Adriaan Metius on the table. The geographer's profession is shown by the terrestrial globe turned to the Indian Ocean. The subject of these portraits is possibly the same

[13] Hofmann (2002, pp. 81–120). JSTOR, www.jstor.org/stable/23993549. Accessed 1 May 2020
[14]Rembrandt's etching, *A Scholar in his Study*, 1642 is in the Metropolitan Museum, New York; his drawing *Philosopher in his Study Meditating a Globe*, is in the Albertina, Vienna.

person, especially since recent research shows the canvases were from the same material. The sitter could well be Antonie van Leeuwenhoek a prominent figure at the time, who was also Vermeer's executor, and a portrait of Leeuwenhoek by Jan Verkolje (1680, Rijksmuseum) is a good example of the interest in the portrayal of scientists in seventeenth-century Dutch painting.

A similar focus on the inclusion of globes in portraits in order to depict knowledgeability and erudition was also demonstrated in England and France, such as the portrait by Godfrey Kneller of, *A Scholar in His Study* (c 1668, Leiden), who seems poised and readying himself to write about the globe on his desk; or the National Gallery*, Portrait of an Astronomer by Gabriel Revel*, c 1670. The portrait could well be of the French philosopher and scientist René Descartes (1596–1650), whose name is written on the folded piece of paper to the right.

Moving away from the use of globes by famous astronomers, philosophers and geographers, by the late seventeenth century, globes are also to be found in paintings that indicate a more widespread approach to globes as an instrument of education more generally – including for women (Gabriel Metsu, *A Young Woman Seated, Drawing*, 1655), apprenticeships and training (as in Olivier van Duren, *A Young Astronomer*, c 1685, National Gallery) and even in 'still life' studies that depict the 'tools' of education more widely (David Teniers, *Still-life with Books and Globe,* 1650s Museum of Fine Arts Belgium). By the eighteenth century, the family portrait by David Allen, *Children of Henry Dundas*, 1785 (Fig 11) shows the use of the globe in the education of children (as opposed to scholars and cognoscenti), albeit clearly of the upper classes.

By contrast, in the Catholic regions of Italy and Spain, religious themes seem to prevail in the depiction of globes, as they are used to indicate wisdom of a theological type. Luca Giordano's *Allegory of Divine Wisdom* 1682-85 (an oil study for the ceiling frescoes in the Palazzo Medici Riccardi in Florence, Fig 12) and Giovanni Battista Pittoni, *The Nativity with God the Father and the Holy Ghost*, 1740, both depict enormous spheres watched over by God the Father, and convey religious themes of the power of the Lord rather than any earthly ruler, as in the earlier examples cited above. Appearing to conflate the sphere of universe with the depiction of an actual globe, such examples continued into the eighteenth century and beyond – a nineteenth-century example being by Jose Gallegas y Arnosa, *Monks Studying a Globe* c 1900 which indicates a religious combined with a more geographical or scientific approach, as the Church (especially the Jesuits) had tried to proselytize the earth.

Another example of the portrayal of women together with globes is Pietro Longhi's The *Geography Lesson*, (1752, Venice, Fondazione Querini Stampalia). While this clearly shows a globe being used as part of the process of education of women, the portrait by Maurice-Quentin de la Tour, of The *Marquise de Pompadour* of about the same time (commissioned 1749-55) reverts to the idea of globe as status symbol and indication of status. Madame de Pompadour, mistress of Louis XV, is shown as a protector of the arts, surrounded by attributes symbolizing literature, music, astronomy and engraving. She is depicted as a part of the great intellectual, moral and philosophical developments of mid eighteenth-century Paris, which is also demonstrated by Henri-Horace Roland De La Porte, *Still Life With A Vase Of Lapis, A Globe And Bagpipes,* 1763. This still life depicts items that are not only precious and valuable, but also linked to learning and erudition.

In late eighteenth-century England, again the globe is used as a sign of science and learning. The Octagonal *Tower of the Winds*, at the Radcliffe Observatory, Oxford was begun in 1773 and completed 1794.[15] It was based on the archaeological remains of the smaller *Tower of the Winds* built in Athens, Greece, c 100-50 BC. The Oxford example is decorated with signs of the zodiac on the lower windows, with relief panels showing the mythical wind gods on each of the eight sides of the tower. Most dramatic, however, is the globe at the very top of the tower, supported by statues of Atlas and Hercules. The design by the sculptor John Bacon (1740-99) makes it clear that the Observatory is a focus for learning about the celestial and terrestrial worlds.

[15] Now part of Green Templeton College, 43 Woodstock Road, Oxford.

The popularity and availability of globes increased massively in the nineteenth century, with the advent of mass production, made possible by evolving materials and methods. The work of James Wilson in particular, a commercial globe maker in the USA, assisted in bringing globes into the reach of the masses, and this too is reflected in surviving art and artefacts. The photograph of a Victorian classroom shows the increasing presence of globes in school rooms where desktop models became standard classroom accessories (Fig 13). What might the Byzantine monk Cosmas Indicopleustes (mentioned above) have thought of this, as he made diagrams of the universe in the sixth century? Examples soon extended, in the twentieth century to pocket examples, toys and even inflatable globes. But art works continued to include the depiction of globes as a motif. In George Frederick Watts, *Hope* (1886, Tate) a solitary blindfolded female figure is seated on a globe, playing a lyre that symbolically has only a single string remaining. Only a single star is visible in the background.

In our own age, the depiction of globes still figures in artworks. In 1964, at the New York World's Fair in Flushing Meadows Park, the *Unisphere* (Fig 14), a giant sculpture of a terrestrial globe made of stainless steel (140 feet/43m high) became a lasting symbol of the Fair's theme of 'Peace through Understanding'. Based on the concept of global interdependence it was the quintessential symbol of the event itself. The *Unisphere* remains the world's largest global structure, but the sculptor José María Barahona Villaseñor, built the immense *Monumento al Divino Salvador del Mundo*, in San Salvador (1942, restored 1986 and 2010). On a tall pedestal, it shows Christ standing on top of the globe of planet Earth.[16]

The image of the globe of the earth being squeezed like a lemon, by Alberto Ruggieri (b 1963) succinctly symbolises current concern for the state of our planet. A similar theme is re-echoed by the more recent sculpture by Mark Wallinger, *The World Turned Upside Down* (2019, Campus of the London School of Economics, Fig 15 and 15A). Apart from the highlighting of environmental issues and threat to the planet (or, rather to our lifestyle on it),[17] the work also reverts to the 'political' role of globes (as in former centuries). It has been controversial in the way, for example, that Taiwan is shown as a sovereign state and Palestine is omitted.

The wider, classroom and educational setting for globes is also changing, An experiment with the use of 'virtual globes' in the classroom (https://www.viar360.com/education-schools-using-virtual-reality/) would no doubt have amazed the forerunners in the Victorian classroom, where the supply of an individual globe for each child was clearly a most spectacular innovation. And it hardly seems coincidence that Wikipedia, the immense, world-wide free knowledge encyclopaedia has a globe motif as its logo. The initial design of the Wikipedia puzzle-globe logo (indicating variety of sources and information, with sections always remaining to be completed) was by Paul Stansifer in 2003. A seventeen-year-old Wikipedia user, Stansifer was the winner of a design competition run by the site in 2003. Even the movie industry has utilised the 'globe' idea, in the motifs for RKO and Universal[18] and, again, featuring women, with *Wonderwoman* supporting the world.

The depiction of the shape of the universe in art thus spans from ancient times, to Byzantine three-dimensional drawings, to the heyday of globes from the sixteenth century, and to modern times.[19] The specific depiction of globes themselves can be found in paintings since the early sixteenth century, and ending with twenty-first century versions. Like the globes themselves, such artworks

[16] Known in English as: *Jesus Christ on the Globe Sphere of Planet Earth*. Including the pedestal, the work is 18 Metres (59 feet high). Restoration was necessary due to earthquake damage. It is particularly dramatic when pictured on a night of the full moon.
https://en.wikipedia.org/wiki/Monumento_al_Divino_Salvador_del_Mundo#/media/File:SalvadorDelMundo.jpg
[17] The planet itself is scarcely at risk, it will likely continue until the sun becomes a red giant and burns it up (in approximately 5 billion years). It is the natural world, as affected by the lifestyle and resources used by some (but not all) sectors of the human race, that is currently so much at risk, not the planet itself.
[18] Universal logo at: https://www.youtube.com/watch?v=XGkUa0BEk6c. It is questionable whether the logo is to be categorised as 'art.' It does have an aesthetic quality as well as technical expertise.
[19] The British Library project to make 30 historical globes available via interactive, digital experiences (launched March 2020) https://www.bl.uk/press-releases/2020/march/digital-globes.

demonstrate the significance of the depiction of globes in art in the context of the age and culture in which they were produced. Their importance and symbolism reflect (in the same way as the globes themselves), various types and approaches: Extravagant symbols of aristocratic status; economic and political powers; exploration and geographical instruments; erudition, science, scholarship and astronomy; education more generally (including women and children); and the modern concern for the environment/planet that they represent.

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8. Unknown Artist, *Cognoscenti in a Room Hung with Pictures*, 1620. Wikimedia Commons/National Gallery.
9. Antonio de Pereda, *Vanitas*, c 1670. Wikimedia Commons/Uffizi.
10. Johannes Vermeer, *The Astronomer*, 1668. Wikimedia Commons/Louvre.
11. David Allen, *Children of Henry Dundas*, 1785. Wikimedia Commons/Private Collection.
12. Luca Giordano, *Allegory of Divine Wisdom*, 1682-85 (detail of ceiling fresco). Wikimedia Commons/Biblioteca Riccardiana, in the Palazzo Medici, Florence.
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