

The *Mappa Mundi* in Oxford, New College, MS 274
and the Aristotelian Theory of Elements



New College Library, Oxford, MS 274, f. 3v
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One of several intriguing features of Oxford, New College, MS 274 is the map of the world that appears prior to the manuscript's copy of the first nineteen books of Pliny the Elder's *Natural History*. The map has been noted for some time,¹ but does not feature in standard histories of medieval mapmaking, and has escaped detailed discussion.² That relative neglect is probably due to its lack of detail and its relatively low level of artistic accomplishment, in comparison to other

¹ Henry O. Coxe, *Catalogus codicum MSS. qui in collegiis anisque Oxoniensibus hodie adveniuntur*, 2 vols (Oxford: University Press, 1852), I, 97; R. M. Thomson, *Manuscripts from St Albans Abbey, 1066–1235*, 2 vols (Woodbridge: Boydell and Brewer, 1982), I, 112; J. J. G. Alexander and Elżbieta Temple, *Illuminated Manuscripts in Oxford College Libraries, the University Archives and the Taylor Institution* (Oxford: Clarendon Press, 1985), p. 17; Jenny Adams, 'A Book with a Price in the World: New College MS 274', *New College Notes* 11 (2019), no. 2.

² The New College map is not mentioned in *The History of Cartography, Vol. 1: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, ed. J. B. Harley and David Woodward (Chicago: Chicago University Press, 1987); Evelyn Edson, *Mapping Time and Space: How Medieval Mapmakers Viewed their World* (London: British Library, 1997); Catherine Delano-Smith and Roger J. P. Kain, *English Maps: A History* (London: British Library, 1999).

contemporaneous *mappae mundi*. Nevertheless, the map is unusual and merits further examination. As an inscription above it makes clear, it was clearly designed to express the Aristotelian theory that only the known world, comprising Asia, Europe, and Africa, protruded above the ocean, in opposition to theories that proposed the possibility of antipodal lands beyond and beneath the known world. While some other late medieval maps and globes can be presumed to represent the same theory, none does so as explicitly as the New College map.

Before outlining the function of the map in greater detail, it is important to consider its relationship to the contents of MS 274. New College MS 274 contains books 1 to 19 of Pliny's *Natural History*, preceded by Suetonius's life of Pliny, and Pliny's own prefatory letter to the Emperor Titus. This material occupies folios 1–196 of the manuscript. The *mappa mundi* appears on what is now folio iii verso, immediately prior to the beginning of Suetonius's life on folio 1r. The *Natural History* is written in a single hand, which has been identified with the scribe of the *Historia scholastica* in BL MS Royal 4 D.VII, an early thirteenth-century manuscript with a well-established St Albans provenance.³ The *mappa mundi* and inscription above it appear in a different hand and ink to the copy of Pliny, and were not part of the original design of the manuscript. Instead, whoever inserted them took advantage of the blank folio opposite the start of Suetonius's life of Pliny to add the map, a decision that seems to have been prompted by the geographical content of the *Natural History*.

Various inscriptions on the manuscript's flyleaves have allowed scholars to reconstruct something of its history up to the end of the fifteenth century. New College MS 274 seems to have remained at St Albans during the thirteenth century, but an inscription (now erased but legible) on fol. iii recto states that the manuscript was given to St Albans by Richard of Bury, Bishop of Durham.⁴ From this statement it has been surmised that the manuscript was one of 32 books that Richard (1287–1345) is recorded as having bought from St Albans, and that he subsequently returned it to the Abbey when he became bishop of Durham in 1333.⁵ New College MS 274 next left St Albans—never to return—in the fifteenth century. It was jointly pledged in Oxford in 1453 for the sum of 33s. 4d. by John Warder, a man who the previous year had served as subcellarer of St Albans, and by a Carmelite friar named Johannes Consobrinus.⁶ The pledge was renewed on five subsequent occasions, the last, in 1467, by Robert Woodstock, suggesting it had been unredeemed, put up for sale, bought by Woodstock, and then pledged once more.⁷ Finally an inscription on fol. i verso states that in 1471/2 the book was purchased by John Russell, a future bishop of Lincoln, and alumnus of New College, who donated the book to the college in 1482.⁸ The text of Pliny in the manuscript contains spare marginal glosses and the occasional note. A thirteenth-century hand has consistently noted the contents of the text in the margin; other notes are in early humanist hands, including several in the hand of Robert Sherborne, fellow of New College from 1474 to 1486.⁹

The hand of the map and inscription immediately above it has been dated to both the thirteenth and fourteenth centuries.¹⁰ One possibility can be easily eliminated: it is not the hand of the well-known St Albans historian and map-maker Matthew Paris (*d.* 1259). In fact the map in

³ Thomson, *Manuscripts from St Albans Abbey*, I, 72–3.

⁴ [Neil Ker], 'Richard de Bury's Books from the Abbey of St Albans', *Bodleian Library Record* 3 (1950–51), 177–9.

⁵ 'Richard de Bury's Books', 177–8; Thomson, *Manuscripts from St Albans Abbey*, I, 112; CBMLC 4: *English Benedictine Libraries: The Shorter Catalogues*, ed. R. Sharpe et al. (London: British Library, 1996), 541–2 notes that New College MS 274 'appear[s] not to have been recovered' from Richard. This statement seems to be at variance with the erased inscription in the manuscript and John Warder's connection with St Albans.

⁶ See Adams, 'A Book with a Price in the World' for discussion; cf. James G. Clark, *A Monastic Renaissance at St Albans: Thomas Walsingham and his Circle c. 1350–1440* (Oxford: Clarendon Press, 2004), pp. 96–7.

⁷ 'Richard de Bury's Books', 178.

⁸ Alexander and Temple, *Illuminated Manuscripts*, p. 17.

⁹ Information from the forthcoming catalogue of New College manuscripts.

¹⁰ Thomson, *Manuscripts from St Albans Abbey*, I, 112 ('a rough thirteenth-century hand'); Alexander and Temple, *Illuminated Manuscripts*, p. 17 ('saec. xiv').

New College MS 274 diverges in significant ways from Matthew's maps. Its depiction of the known world differs in outline and detail from Matthew's so-called 'mappa mundi'—actually a much reduced portion of a world image. It also expresses an entirely different cosmographical conception to a mid-thirteenth-century map produced at St Albans by Matthew's confrere, John of Wallingford. John's map divides the known world into eight climes in the northern hemisphere, and in the southern articulates theoretical statements that support the notion that human habitation of the world could be found in antipodal regions.¹¹ The hand and the nature of the image in New College MS 274 suggest instead a date in the first three decades of the fourteenth century, even if the possibility that the map and inscription were added while the manuscript was (briefly) in possession of Richard de Bury in the early 1330s, or after it returned to St Albans, cannot be completely ruled out.¹²

The New College map presents what in many ways was a conventional image of the world. The known world is oriented to the east and divided into three *partes*: Asia, Europa, and Africa. A handful of toponyms represents each *pars*: India, the Red Sea (*rubrum mare*), Arabia, Egyptus, Jerusalem and Troia in Asia; Ethiopia, Carthago, and Mauretania in Africa; and Grecia, Roma, Germania, Francia, and Hispania in Europe. The earthly paradise ('Paradisus') is represented as an island to the far east, while the British Isles appear in the far west. The more unusual features of the map are the amount of space devoted to the sea; the large number of islands that appear in the sea, three of which are marked 'insula'; as well as the abundance of marine life that populates the expanse of ocean. Those features can be explained by reference to the inscription that appears above the map (the same inscription appears to have been initially written underneath the present inscription, then erased and re-written, presumably to create more space for the map). The inscription reads:

Hec est vera proporcio geometrica tocius terre habitabilis ad quantitatem Occiani maris quod totam terram cooperit preter quartam eius partem que sola inhabitatur et per ingressum eiusdem maris in arridam a parte occidentis et a septentrione dividitur in asiam, Europam et Affricam, sicud infra patet libro tercio¹³

This is the true geometric proportion of the entire inhabited earth with regard to the quantity of the Ocean sea, which covers the entire earth, apart from the quarter that alone is inhabited. By the entrance of the same sea into the dry [land] from the west and from the north, it is divided into Asia, Europe and Africa, as book three below makes clear.

This remark responds to a fundamental question for the representation of the world image: were there habitable lands beyond the known world, perhaps on the other side of a spherical earth, or did the known world in fact constitute the entirety of human habitation on the earth? Different responses to those questions were available throughout the Middle Ages, but up to the end of the twelfth century the theory of the division of the world into five zones, with the possibility of antipodal land in the southern hemisphere, and in a 'western' hemisphere beneath the known world, was broadly accepted. This theory, which had been given influential expression in the neoplatonist Macrobius's fifth-century commentary on Cicero's *Somnium Scipionis*,¹⁴ along with

¹¹ Matthew's 'mappa mundi' appears in a manuscript of his *Chronica majora*: Cambridge, Corpus Christi College MS 26, fol. vii verso; the map of John of Wallingford appears in British Library, Cotton MS Julius D.VII, fol. 46r.

¹² A somewhat negative witness of Richard's geographical interests comes from Petrarch's remark that the English bishop and ambassador to the pope in Avignon was unable to furnish him any information about the location of ultima Thule: *Le Familiari*, ed. Vittorio Rossi, 4 vols (Florence: Sansoni, 1933–42) 3.1.3–6 (p. 106).

¹³ Oxford, New College MS 274, fol. iii verso. 'Occiani' may have been mistakenly written 'Octiani'.

¹⁴ Macrobius, *Commentarii in Somnium Scipionis*, ed. James A. Willis (Leipzig: Teubner, 1963), 2.5–8 (pp. 110–22).

Martianus Capella's roughly contemporaneous *De nuptiis Philologiae et Mercurii*,¹⁵ was briefly reprised at the start of the thirteenth century in John of Sacrobosco's *De sphaera*, and in other textbooks of natural science.¹⁶ However, during the thirteenth century, readings of Aristotle's *De caelo* and his *De generatione et corruptione* prompted university-educated scholars to question the argument that the known world was but one of four 'quarters' of the earth, with the equatorial 'torrid zone' and the extent of ocean preventing contact with the other three.¹⁷ The Aristotelian theory of elements posited that earth, as the heavier element, should be completely covered by water, which was lighter. Consequently, only a limited amount of land could protrude above the seas—perhaps because it was effectively high, mountainous land; or because the sphere of earth and the sphere of water had different centres, with the result that part of the earth was revealed; or because divine will required habitable land to support animal life.¹⁸ Whatever the explanation, though, natural scientists of the thirteenth and fourteenth centuries favoured the view that the known part of the world constituted the limits of habitability: everywhere else, water covered land. By the early fourteenth century, such theorising was entrenched within the university curriculum and within wider scholarly discourse: the *Quaestiones* of the Parisian master John Buridan includes discussion of the topic, as does a treatise attributed to Dante.¹⁹

The inscription above the New College map resembles the statements of some thirteenth-century commentators on Sacrobosco's *De sphaera*. The commentary on Sacrobosco attributed to Michael Scot, for example, discusses the relationship of the four elements, concluding that while the nature of the elements meant that the earth should be completely covered by water, 'discooperta est quedam pars terre ab aqua, ut nobiliora animalia salventur ad perfectionem universi' (a certain part of the earth is uncovered above the water, so that the more noble living creatures might be saved to the perfection of the universe).²⁰ St Albans is not known to have possessed a copy of Michael's commentary, but at least two manuscripts associated with the Abbey attest to an interest in Aristotle's *libri naturales* and commentary thereon. Oxford, Bodleian Library, Selden Supra 24 is a composite manuscript that contains *inter alia* an early thirteenth-century copy of Aristotle's *De generatione et corruptione* (along with pseudo-Avicenna's *De caelo*); this part of the manuscript may not have been copied at St Albans, but an anathema clause identifying it as a 'liber Sancti Albani' shows it had entered the Abbey by the early fourteenth century at the latest.²¹ London, Lambeth Palace Library MS 111, meanwhile, is a late thirteenth-century manuscript containing copies of Giles of Rome's commentaries on *De generatione et corruptione* and *De anima* which appears to have entered St Albans during the abbacy of Michael de Mentmore (1335–49), in the possession of Henry Steukle (or Stukeley).²² Giles's commentary on *De generatione* does not

¹⁵ Martianus Cappella, *De nuptiis Philologiae et Mercurii*, ed. James A. Willis (Leipzig: Teubner, 1983), 6.602–608 (pp. 211–3).

¹⁶ Lynn Thorndike, *The Sphere of Sacrobosco and Its Commentators* (Chicago: University of Chicago Press, 1949), p. 94.

¹⁷ *De caelo*, ed. D. J. Allan (Oxford: Clarendon Press, 1936), 2.4 [287a 32–287b 21]; *On the Heavens*, trans. W. K. C. Guthrie (London: Heinemann, 1939); Aristoteles Latinus 9.1: *De generatione et corruptione*, ed. Joanna Judycka (Leiden: Brill, 1986), e.g. 2.1–8 (pp. 52–71).

¹⁸ See E. A. Moody, 'Buridan on the Habitability of the Earth', *Speculum* 16 (1941), 415–25.

¹⁹ John Buridan, *Expositio et quaestiones in Aristotelis De caelo*, ed. Benoît Patar (Louvain: Editions de l'Institut supérieure de philosophie, 1996), pp. 410–17; Albert of Saxony, *Quaestiones in Aristotelis De caelo*, ed. Benoît Patar (Louvain: Editions de l'Institut supérieure de philosophie, 2008), pp. 437–47; Dante, *De situ et forma aque et terre*, ed. Giorgio Padoan (Florence: Le Monnier, 1968).

²⁰ 'The Commentary Ascribed to Michael Scot', in Thorndike, *The Sphere of Sacrobosco*, 296 (lectio vi). Another work attributed to Michael Scot, the *Liber introductorius*, expresses a notably different understanding of the world, based on the theory of celestial and terrestrial zones.

²¹ F. Madan and H. H. E. Craster, *A Summary Catalogue of Western Manuscripts at the Bodleian Library at Oxford*, vol 2, part 1 (Oxford: Clarendon Press, 1922), 622–3; cf. Thomson, *Manuscripts from St Albans Abbey*, 1, 110–11, with different dating.

²² M. R. James, *A Descriptive Catalogue of the Manuscripts in the Library of Lambeth Palace: The Mediaeval Manuscripts* (Cambridge: Cambridge University Press, 1932), pp. 186–7; this volume too was later pledged by a St Albans student at Oxford.

discuss the shape of the world, but it does expand at length on the theory of the elements. Without being able to specify the author of the map, or the precise moment at which it was inserted into New College MS 274, then, it may be concluded that it belongs to a phase of learning at St Albans during which the interests in natural science and geography shown by Matthew Paris and John of Wallingford were carried on and modified by successors under the influence of Aristotelian learning, whether acquired at St Albans itself or further afield.

The *mappa mundi* in New College Library's MS 274 therefore seeks to represent a theory that, by the second half of the thirteenth century, was widely prevalent. In certain ways it directly responds to the maps of the world that frequently illustrated manuscripts of Macrobius's *Commentary*. These familiar images



World map in a twelfth-century English manuscript of Macrobius's *Commentary on the Dream of Scipio*
Trinity College Library, Cambridge, MS R.9.23, f. 60v © The Master and Fellows of Trinity College, Cambridge

showed the known world and its major seas in the northern 'habitable zone', either side of the frigid zone of the far north, and the torrid zone of the equator, which acted as a barrier to the habitable antipodal zone of the southern hemisphere.²³ By contrast the New College map shows a schematic map of the known world above a pointedly vast expanse of sea, sea-creatures, and islands, and with no hint of antipodal peoples. The location of the earthly Paradise, in the east but on the equator, is another sign of later medieval adaptation of the traditional practice of placing Paradise at the far east of the known world but aligned with the centre of the northern hemisphere. The location of Paradise was much debated, and a number of theories were in play, including the possibility of an equatorial Paradise, with the Muslim scholar Avicenna (Ibn Sinā) often cited as an authority for the temperate nature of equatorial regions.²⁴

The connection with Pliny's *Natural History* seems at first glance rather tangential, and perhaps somewhat opportunistic on the part of the map's author.²⁵ Clearly the geographical

²³ Alfred Hiatt, 'The Map of Macrobius before 1100', *Imago Mundi* 59 (2007), 149–76.

²⁴ See Alessandro Scafi, *Mapping Paradise: A History of Heaven on Earth* (London: British Library, 2006), pp. 173–82.

²⁵ *Mappae mundi* do not usually appear in manuscripts of the *Natural History*. See Birger Munk Olsen, *L'Étude des auteurs classiques latins aux XIe et XIIe siècles*, 4 vols (Paris: Éditions du Centre National de la Recherche Scientifique, 1985), II, 243–73, where most illustrated Pliny manuscripts contain extracts only from the *Natural History*, and diagrams derived from texts such as Macrobius's *Commentaries* and Martianus Capella's *De nuptiis*. The claim of Lilian Armstrong, 'The Illustration of Pliny's *Historia naturalis*: Manuscripts before 1430', *Journal of the Warburg and Courtauld Institutes* 46 (1983), 19–39 (at p. 33) that 'nearly all subsequent [to the Venetian Pliny, now BnF MS lat. 6801] fifteenth-century Italian manuscripts include landscapes or maps to illustrate the geographical books' is questionable.

contents of books 2–6 of the *Natural History* made it an appealing target for the mapmaker, but the map in New College MS 274 may be seen as both an affirmation of some of the theories expressed in the *Natural History*, and a corrective of others. Pliny did not himself articulate the notion that the known world constituted the extent of the inhabited earth, and the inscription's reference to book 3 of the *Natural History* is simply given to support the division of the *partes* into three, since book 3 begins with re-iteration of that division.²⁶ In book 2 of the *Natural History*, Pliny outlined zonal theory, allowing for a temperate zone in the southern hemisphere, as well as the temperate zone of the northern hemisphere that includes the known world.²⁷ In a famous expression of *contemptus mundi*, he went on to emphasise the small size of the earth, reduced as it was by the constant incursions of ocean.²⁸ Yet in essence Pliny's geography is incomplete: towards the end of book 2 he drew attention to lands to the north from which 'countless peoples' are migrating, as well as news of islands lying beyond Germania,²⁹ suggesting the greater extent of both habitable and uninhabitable land than previously realised. In short, then, only on a limited reading of Pliny's *Natural History* can the map in New College MS 274 be seen as an illustration of its theories; as in other instances of the use of maps in medieval books, it complements rather than confirms the text to which it was added.

Few other medieval world images are as explicit in their rejection of the possibility of lands beyond the known world. *Mappae mundi* typically showed the known world surrounded by a fairly narrow band of ocean. As mentioned, maps such as those that illustrated Macrobius's *Commentary* or, from the twelfth century, the *Philosophia* and *Dragmaticon* of William of Conches, demonstrated the relationship between the known world and the surrounding ocean and seas, but they allowed for the possibility of habitable land beyond Asia, Europe, and Africa.³⁰ In the fourteenth and fifteenth centuries, mapmakers expanded the amount of information about Asia and Africa on world maps, gradually incorporating details from texts such as Marco Polo's *Divisement dou monde*, with the result that the known world came to extend well beyond the equator.³¹ Martin Behaim's globe of 1492 was perhaps the ultimate expression of the theory that the three *partes* alone constituted the habitable earth, with the remainder of his 'Erdapfel' taken up with ocean and islands.³² Yet no other surviving medieval world image quite resembles the New College map in its combination of a rather schematic representation of the known world, Paradise at the equator, and a considerable expanse of ocean covering much of the northern and all of the southern hemisphere. That makes the map more significant than its rather home-spun appearance may imply.

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²⁶ Pliny the Elder, *Naturalis Historiae Libri XXXVII*, ed. C. Mayhoff, 6 vols (Leipzig: Teubner, 1892–1906), I, 230 (3.3): 'Terrarum orbis universus in tres dividitur partes, Europam, Asiam, Africam.'

²⁷ *Naturalis Historia*, I, 192–3 (2.172).

²⁸ *ibid.*, I, 193–4 (2.173–75).

²⁹ *ibid.*, I, 227–8 (2.246): 'innumerabiles gentes'.

³⁰ William of Conches, *Philosophia*, ed. and trans. Gregor Maurach (Pretoria: University of South Africa, 1980), 4.2.10–11 (pp. 91–2); William of Conches, *Dragmaticon philosophiae*, ed. Italo Ronca (Turnhout: Brepols, 1997), 6.4.7–6.5.2 (pp. 192–4).

³¹ The Catalan 'atlas', an elaborate world map on wooden panels prepared by the Jewish chartmaker Cresques Abraham for Charles V, King of France, in 1375 (now Paris, BnF MS espagnol 30) is usually reckoned the first map to incorporate elements of Marco Polo's *Divisement*; Fra Mauro's mid-fifteenth-century *mappa mundi* adds far more information derived from Polo and other sources in Asia: *Fra Mauro's World Map*, ed. and trans. Piero Falchetta (Turnhout: Brepols, 2006).

³² For discussion see *Anzeiger des Germanischen Nationalmuseums: Focus Behaim Globus*, ed. Gerhard Bott, 2 vols (Nuremberg: Verlag des Germanischen Nationalmuseums, 1991).

APPENDIX: TOPONYMS ON THE MAP IN NEW COLLEGE MS 274

Outside world image: *mappa mundi*

Inside world image (east to west): *india; Asia; arabia; rubrum mare; egyptus; Jerusalem; Troia; grecia; roma; germania; Europa; francia; hispania; ethiopia; cartago; Affrica; mauritania*

Islands: *paradisus; scocia Anglia Wallia; hibernia; insula* (x 3)