Maps and Material Culture

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Section II

CONTEXTS AND CATEGORIES
John Dee’s often-quoted observation from 1570, that ‘some, for one purpose: and some, for an other, liketh, loueth, getteth, and vseth, Mappes, Chartes, & Geographicall Globes’ (Dee 1570, sig. A4r), suggests not only the popularity and sheer sensual excitement of maps but also the widespread ownership of cartographic products in early modern England. That latter impression is almost certainly misleading; while maps and globes were undoubtedly prized possessions in the sixteenth century, they were also expensive items, and few contemporaries could actually afford them. One who had almost unlimited access to maps on account of his office was William Cecil, Elizabeth’s chief minister, who took cartography very seriously indeed and always asked to have the spatial context of any political issue explained to him in detail, often with the help of maps or rough sketches (Barber 1992; 2007, 1613). One particular map appears to have been a personal favourite: the small map of the British Isles which he had obtained in the 1560s from the antiquarian and Anglo-Saxon scholar Laurence Nowell was clearly such a useful acquisition that Cecil was later said to have ‘carried [it] always about him’ (written inscription, front cover of the map contained in the Nowell-Burghley atlas, British Library MS Add. 62540, ff. 3–4). The extant manuscript of Nowell’s map, now in the British Library, has its verso covered with extensive annotations in Cecil’s hand containing details of various itineraries to the northern counties and beyond to Scotland (Figure 3.1). It still shows the crease down the centre of the map where Cecil must have folded it so that it would fit more easily into his pocket on journeys round the country.

The example provides us with a rare sixteenth-century glimpse of a very modern use of a map: as a facilitator of travel. While maps had become everyday objects among certain sections of society, their function as way-finding tools was not yet widespread or common. Outside navigational contexts maps were mainly encountered in state rooms, libraries, or the homes of the wealthy: sovereigns across Europe were interested in representations of their own realm or in the strength of their military fortifications, which many had surveyed and mapped; scholars appreciated the historical content and educational value that maps provided; the gentry began to identify with the contours of the land they owned or the county in which they lived. A social group such as the merchants, however, whom one may have assumed to be particularly drawn to maps on account of their usefulness for travel and transport, made far less frequent use of them than one might expect; Lewes Roberts had to remind the trading
profession as late as 1638 that ‘the use of Mapps and Sea-Cards . . . [should be] neither neglected nor omitted’ (Roberts 1638, dedicatory epistle; Worms 2007, 1720).

If cartography attracted only a small market of potential buyers, printed maps were still readily available for purchase. The main European centres of map production were Italy, Germany, and the Low Countries, which together account for 80% of all the maps printed in Europe before 1600 (Karrow 2007, 620), but even in London, not a principal market for maps, they had become a staple of the book trade by the end of the sixteenth century (Worms 2007). Maps could be bought as single sheets, wall maps, or whole collections – soon to be known as ‘atlases’ – covering cities, regions, nations, or the world. Maps were also included in books, principally in genres like travel writing, technical manuals, or handbooks, as well as in historical and geographical works, where they served to illustrate the textual description. The convention of using maps alongside historical narratives is perhaps epitomised by Hartmann Schedel’s Liber chronicarum – known in English as the Nuremberg Chronicle – of 1493, which contained hundreds of (frequently generic) city views and was followed by many later geo- and cosmographical works, such as Sebastian Münster’s international bestseller Cosmography (in print from 1544 to 1618), which included maps of the old and new worlds. The Flemish cosmographer and mapmaker Abraham Ortelius explained the importance of this particular type of text-image relation in his 1570 world atlas Theatrum Orbis Terrarum by referring to geography as oculus historiae – ‘the eye of history’ (Ortelius 1606, dedicatory epistle). Unless historical understanding was grounded in spatial knowledge, Ortelius thought, the comprehension of past human action might be seriously flawed:

For thou shalt meet with many things in the reading of Histories . . . which, except thou haue the knowledge of the countreys and places mentioned in them, cannot onely not bee well conceiued and vnderstood, but also oft time they are cleane mistaken and otherwise vnderstood then they ought to be.

(Ortelius 1606, dedicatory epistle)

More and more often maps were also included in Bibles as illustrations of biblical history, though in the sixteenth century this occurs ‘almost exclusively in printed, vernacular, Protestant, bibles’ (Delano-Smith 1990, 66), not in Latin editions, and rarely or never in Bibles printed in Catholic countries, reflecting a new type of biblical scholarship driven by humanism and the Reformation.

The extent to which this widespread availability of maps was owed to advances in the use of applied geometry is apparent yet limited at the same time. Most maps of larger areas – such as countries or continents – were based on written information and the evidence of eyesight, not on innovative mathematics. It is true that the dissemination in western Europe of Ptolemy’s seminal work Geography (second century), first translated into Latin in 1406, renewed interest in the scientific principles of cartography and eventually led to a great number of land surveying and measuring manuals written in the sixteenth century in various languages (Lindgren 2007). Practically all of these manuals describe variations of the basic technique of triangulation, by which an area was measured in triangles connecting visible landmarks on the basis of only three known coordinates: the length of the base line and two angles of the triangle. This
particular method, ultimately derived from Euclid’s geometry and practiced in areas such as tunnel construction and river improvement since medieval times (Lindgren 2007, 508), allowed surprisingly large areas of land to be surveyed but not an area as large as a country (the possible exception here is Christopher Saxton’s (1579) series of county maps of England and Wales, which may have been based on triangular measurements).

Land measuring also required sophisticated instruments, of which a great many were devised and described by contemporary practitioners, among them instruments with classical roots, such as the quadrant, cross staff, or theodolite, or a popular device called the plane table, which allowed the angles measured to be transferred directly onto a piece of paper, even by surveyors with lower levels of numeracy. Many of these surveying instruments, which were developed and modernised throughout the century, are now prized objects displayed in museums, yet their survival is not necessarily an indication of their frequent use or even usefulness. While they stand as witnesses to the increasing theoretical sophistication of land surveying techniques and the mathematical underpinning of cartographic representation, many mapmakers made little use of them in practice.

The printing of many sixteenth-century European maps relied instead on processes that involved no necessary fieldwork and required little mathematical knowledge. Prints were made from drawings or sketches prepared on the basis of written instructions, travellers’ reports, and already existing maps. The two basic printing techniques were woodcut and copper engraving (Woodward 2007c). In the woodcut technique a piece of hardwood is engraved with a chisel or knife so that a mirror image of the map stands out in relief on the surface of the wood. This surface is then covered in ink and printed directly on paper without the need for a heavy rolling press. Copperplate printing relies on the intaglio rather than relief method. Using a burin or graver the metal surface is engraved with lines of varying width and length, which are then filled with ink before paper is rolled out across the plate under high pressure. The paper required for printing was one of the most expensive items in the process; it was available from factories in France, Italy, and southern Germany and varied greatly in size, thickness, and quality, all factors that determined its price. Colour, which brought up the price of maps or atlases by a third or more, was always added by hand (if it was added at all), sometimes routinely after the printing process, sometimes on demand. Historians of cartography usually distinguish between two usages for colour on maps, one for the decorative, aesthetic elements of the image, the other for the distinction of particular geographic features contained in the map (Woodward 2007c, 602–606).

Copper was considerably more expensive and less robust than wood but from the middle of the sixteenth century onwards became the favoured medium in all European mapmaking centres, despite its high production costs. The change seems to have been quite a radical shift: while three out of four maps printed in the 1550s were still woodcuts, the figure was exactly reversed in favour of copper engravings in the following decade (Karrow 2007, 613). An increasing number of manuals published in the sixteenth century and later described the engraving process, the different tools available, and the various additional techniques such as treating the copper surface with wax or oil. The main advantage the copper plate held over the woodcut block in the printing of maps was the amount of detailed geographical information that could be added, including the small lettering required for maps with a high density.
of place-names. Engraved copperplates were greatly valued by cartographic workshops and often reworked once the lines holding the ink had become too shallow. They were also sometimes traded between different workshops and generally remained in use for long periods, even when the geographical information they contained had ceased to be up to date. Saxton’s plates, for example, first engraved in the 1570s, were still in use almost 200 years later.

Maps like Saxton’s, which depicted the emerging nation through its separate counties, or the elaborate and highly detailed continental or world maps associated with the Dutch and Flemish mapmaking industries of the seventeenth century are among the best preserved of the period’s cartographic heritage. Because these maps were often decorative and representational rather than practical items, they survive in larger numbers than other types of maps, many of which never existed (or were meant to exist) in print. Manuscript maps usually served purposes quite different from those of printed maps. For example, some maps used for military or navigational purposes were considered so sensitive that their publication was banned. A 1504 charter by King Manuel of Portugal prohibited the making of maps showing the African coast beyond the Congo River, a crucial part of the Cape route to India ‘discovered’ by Vasco da Gama in 1497 (and the least known section of the passage in the rest of Europe), though Portugal probably never had an official ‘policy of silence’ intended to keep the geographical knowledge gained in the discoveries a secret, as has sometimes been assumed (Alegria et al. 2007, 1005–1007).

In England, maps commissioned by the crown were often administrative charts drawn up for taxation purposes or military surveys focused on fortifications, harbours, or other defence installations, which were never intended for wider circulation. Portolan charts (navigational maps of coastlines) had been in use since the thirteenth century, but hardly any nautical maps were printed in Europe until Lucas Jansz Wagheenaer published his sea atlas Spiegel der Zeevaert (The Mariners’ Mirror) in the 1580s. Another map type popular in England which rarely made it into print was the estate map. These were maps usually commissioned by individual landlords or corporate bodies such as guilds or colleges showing the extent of their holdings, which relied most directly on the new geometric surveying techniques mentioned earlier. The popularity of such maps among the gentry also accounts for the strikingly high percentage of local, large-scale mapping activity undertaken privately in England, a figure that rose to 40 per cent of all cartographic enterprises in the period after 1550 (Barber 2007, 1609).

The impact of maps on material culture is perhaps best illustrated through the ways in which they changed the perception and understanding of the spaces in which contemporaries lived, or thought they lived. Cartographic historians generally agree on a significant rise in ‘map consciousness’ in the period, the ability to conceive of one’s own place in the world in relation to the spaces surrounding it as visualised through cartographic representation. The explosive rise in the availability of maps and their increasing visual and technical sophistication in the early modern period could hardly be explained without an accompanying rise in the general ability to understand the kind of information maps were conveying. Importantly, though, in sixteenth-century English the term ‘map’ was not used exclusively with reference to a visual depiction of the earth’s surface. The term’s semantic range was broad and could take on temporal, narrative or various conceptual rather than exclusively spatial meanings. ‘I see, as in a map, the end of all’ (Shakespeare 1997, 547), says Elizabeth in Shakespeare’s Richard III, investing the idea of cartography with prophetic power. In 1638 Lewes Roberts called his
economic survey on world trade. In poetry, the term evoked ‘a visual image that encapsulated, in condensed form, emotional states, abstract qualities, or metaphysical ideas’ (Turner 2007, 412), as in Francis Sabie’s description of Eve as a ‘certaine type, true figure, perfect map / Of future euilles’ (Sabie 1596, sig. B2r; Turner 2007). Many more literary examples could be cited.

Given these multiple meanings, the definition of the term ‘map’ offered by the most important academic cartographic reference work, the multi-volume History of Cartography published by the University of Chicago Press since 1987, is perhaps particularly appropriate for the early modern period, since it focuses less on the material properties of the map than on its cognitive effect on the viewer: ‘Maps are graphic representations that facilitate a spatial understanding of things, concepts, conditions, processes, or events in the human world’ (Harley and Woodward 1987, xvi). Contemporaries praised maps most frequently for their ability to set human affairs in their spatial context and for allowing visual access to the entire world. Sir Thomas Elyot thought that maps, ‘where in all the worlde is paynted’, had a didactic advantage over written accounts, ‘whiche beinge replenished with the names of countrayes and townes vnknowen to the reder, do make the historie tedious’, and recommended maps in preparing ‘the childe to vnderstandynge of histories’ (Elyot 1531, f. 37r). He went on to revel in the delight caused by maps that allowed a man ‘to beholde in his owne house euery thynge that with in all the worlde is contained’ (f. 37v), formulating a type of praise in which he was joined by many others later in the century and the next, such as John Dee (in the passage cited at the beginning), or Thomas Blundeville, who advised his readers to ‘study well these moderne Maps, and with your eie you shall beholde, not onely the whole world at one view, but also euery particular place contained therein’ (Blundeville 1589, sig. C4r), or Robert Burton, for whom it was ‘an extraordinary delight to study, to looke vpon a Geographicall mappe, and to behold, as it were, all the remote Provinces, Townes, Citties of the world’ (Burton 1621, 351).

For Burton, as for most other contemporary commentators, maps brought the material world closer but kept it at bay at the same time. His pleasure in maps only increased because he ‘never [had] to goe forth of the limits of his study’ (Burton 1621, 351), a sentiment shared by William Harrison, who based his Description of England (1577) entirely on the study of source material: ‘I sayled about my country within the compasse of my study’ (Harrison 1577, 56r). That the real scene of cartography should be the domestic study rather than the spaces depicted on maps had a significant impact on the kind of spatial understanding they facilitated, which could extend far beyond the geographical data contained within them. For example, the map by Nowell that Cecil used in the 1560s, mentioned at the outset, is important for its role in conceptualising the British Isles as made up of two separate entities, Britain and Ireland, an idea not embraced in Saxton’s county maps of 1579, which only covered England and Wales, but revived again (in the markedly different spirit conveyed by its title) in John Speed’s 1611 atlas, Theatre of the Empire of Great Britain. Each of these maps or atlases made a very different political point about the ‘nation’ they helped to construct visually (Klein 2001, 97–111). Indeed, the maps of Saxton and Speed have been seen as implicated in the political schism of the mid-seventeenth century by suggesting that loyalty to the land and loyalty to the monarch could be thought of as two quite separate, perhaps even irreconcilable, issues (Helgerson 1992, 105–147).
The politics of maps, whether overt or hidden, demonstrates that the armchair geography practised by readers such as Harrison and Burton, who preferred contemplative study over active travel, was central to the cartographic project. Maps did not necessarily invite any direct physical engagement with the material world they represented but made specific statements about this world which changed people’s views about the local and global environments in which they lived. Maps of cities, for example, which were available in large folio atlases from the 1570s (Braun and Hogenberg 1572–1617), celebrated the civic pride of their inhabitants; world maps displayed a global accessibility and connectivity cherished by merchants, scholars, and, increasingly, imperialists. Maps of continents published mainly in the Low Countries from the end of the sixteenth century onwards appealed to scholars and the educated middle classes across Europe. Many of these maps, which were often published as a series combining all four known continents, featured portraits of cities and people wearing regional costume in their decorative margins, thus combining different cartographic scales and levels of representation in the same pictorial frame. Through the amalgamation of separate genres (atlas and costume manual) many such maps helped formulate influential cultural definitions of self and other, for instance by establishing hierarchies of race and ethnicity – in examples such as the colour coding on maps of Africa which placed clothed, white north Africans at the top and naked, black sub-Saharan Africans at the bottom (Klein forthcoming) – or by perpetuating normative gender roles – for example, through the application of a ‘specifically heterosexual idiom’ (Traub 2000, 71) that grouped these figures ‘naturally’ into male-female pairings.

English estate maps offer another example of cartography dabbling in politics. These maps served as symbols of power for landlords but also prepared the land they depicted for the emerging property market. The attendant commodification of social space could provoke bitter resentment, voiced most memorably by a fictional farmer in a popular English surveying manual, John Norden’s Surveyor’s Dialogue (three editions, 1607 to 1618):

[W]e poore Country-men doe not thinke it good to haue our Lands plotted out, and me thinks in deede it is to very small purpose: for is not the Field it selfe a goodly Map for the Lord to look vpon, better then a painted paper? And what is he the bet-ter to see if laid out in colours? He can adde nothing to his land, nor diminish ours. (Norden 1607, 15)

The farmer’s objection is a rhetorical ploy allowing Norden, himself a practising surveyor, to refute this anti-mapping stance summarily, but there is little doubt that similar sentiments were common in a countryside threatened with enclosure and eviction.

The farmer’s map-focused anger is a reminder that not all early modern English commentators were wholly enthusiastic about maps. One complaint by an MP in 1571 raised the issue of lived versus represented space:

How may her Majesty, or how may this Court know the estate of her Frontiers, or who shall make Report of the Ports, or how every Quarter, Shire or Country is in state? We who never have seen Berwick or St Michael’s Mount, can but blindly guess of them, albeit we look on the Maps, that came from thence, or see Letters of Instruction sent; some one whom Observation, Experience, and due Consideration of that
Country hath taught, can more perfectly open what shall in question thereof grow, and more effectually reason thereupon, than the skillfullest otherwise whatsoever.

(D’Ewes 1693, 169)

The view that maps might be wholly ineffective depictions of space because they lack the immediacy of direct physical experience was shared by the poet Samuel Daniel, who warned in 1603 that ‘[w]e must not . . . thinke, viewing the superficiall figure of a region in a Mappe that wee knowe straight the fashion and place as it is’ (Daniel 1603, sig. G4r). The potential pitfalls of a blind trust in maps were pointed out by the chorographer George Owen in 1603, who accused the English government of misunderstanding the concept of cartographic scale. His home county, Pembrokeshire, Owen argued, was taxed far more heavily than other Welsh counties only because in Saxton’s atlas it had ‘the rome and place of a whole sheete of paper allowed to it selve’ (Owen 1892, 2–3) and therefore appeared larger in size, and hence far wealthier, than it actually was. Some map readers also needed to be specially trained before they could be trusted with maps, especially navigators, as Edward Wright argued in his 1599 treatise Certaine Errors of Navigation, in which he explained (for the first time in print anywhere in Europe) the complicated mathematical principles behind the new projection technique used by Gerard Mercator on his world map of 1569. Mercator had introduced a carefully calculated ‘proportional misplacement’ (Howse and Sanderson 1973, 11) in the representation of the northern and southern latitudes on this map, which was intended to assist navigation of the deep sea but was not easily understood by common mariners used to ‘plain sailing’ in the Mediterranean.

The suspicion that maps may have a ‘darker purpose’ (Shakespeare 1997, 2321), as Lear prefaches the introduction of a map of the kingdom in Shakespeare’s play, is supported by the few English examples in which maps appear on stage as cartographic props. In Marlowe’s Tamburlaine, part 2 (1588), the title character poses in front of a world map and threatens to conquer all that is left of the globe. In the anonymous Woodstock (1594), as well as in Shakespeare’s Henry IV, part 2 (1598), and in King Lear (1607), the map of the kingdom serves only to divide this kingdom and set in motion ‘a programme of brutal partition’ (Hawkes 1992, 121). In all of these plays maps are emblems of greed and the sheer lust for power, wholly devoid of the mystique that surrounded the national maps of Saxton and Speed in the public realm (Gillies 2001, 110–114). Many more plays alluded to maps in image or metaphor, often registering a fascination with the exotic (Gillies 1994), but when a map is actually used as a stage prop its dramatic function is inevitably related to visions of ruin and decay. The larger frame in which the link between the map and the stage needs to be understood is the equation between the theatre and the atlas. Generically, map collections were theatres – viewing places – before Mercator used the name of a mythical king, Atlas of Mauretania, credited with the invention of the first globe, in the title of his 1595 Latin work Atlas sive cosmographicae meditationes de fabrica mundi et fabricati figura. Ortelius’s (1570) ‘atlas’ was still a theatrum or theatre, as was Speed’s (1611) ‘atlas’ of Britain.

The place of maps in material culture is determined by their existence as physical objects circulating in society but perhaps more importantly by their power to shape attitudes, knowledge, and thought patterns. Culturally, early modern European maps can perhaps be seen as one of the very successful classification systems created to order a diverse humanity along specific (in this instance spatial) categories. Seventeenth-century atlases contain growing
amounts of historical information supplied in textual form alongside items such as gazetteers or geographical directories with lists of alphabetically arranged place-names. They made the world available for its visual and conceptual possession in ways that traditional chronicles or cosmographies never did. Maps had of course existed a long time before the early modern period in almost every part of the world, but the role they took on in the European Renaissance is perhaps unprecedented in terms of the emerging map consciousness that accompanied their gradual absorption into everyday culture and that soon pervaded nearly every sphere of human thought and action. Their cultural power as images resides in the seemingly natural but actually wholly artificial way in which an abstract system of lines and symbols manages to imitate almost effortlessly a lived material world of matter, substance, and form.

Note

1 See the History of Cartography website: http://www.press.uchicago.edu/books/HOC/index.html.

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