

SANDARS LECTURES 2007: CONVERSATIONS WITH MAPS

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LECTURE 1: 'THEN AND NOW' - RECENT VIEWS OF MAPPING IN THE EARLY MODERN PERIOD

Introduction

I was somewhat surprised, but pleased, to be asked to give the Sandars Lectures as I had always understood them to be about bibliography and matters to do with the book 'and the arts relating thereto.' I checked to see if anyone had ever spoken about maps. Although I recognised some famous names that have been influential in the history of cartography, like Don McKenzie with his seminal work, *Bibliography and the Sociology of Texts* (London, c.1986), I could find nothing about maps themselves. I am therefore very grateful to the Electors of the Sandars Readership in Bibliography, for their confidence in asking a historian of maps to deliver the Sandars lectures for 2007. I hope I may fulfil their expectations. I should also say that my present research has been enhanced by the award of a Leverhulme Emeritus research fellowship for two years.

I have chosen as my theme an all encompassing title, 'Conversations with maps: world views in early modern Europe'. This enables me to range over modern debate and dispute about the period and its cartography, to consider maps as vehicles of communication of geographical and other knowledge transfer, and, of course, as objects of delight; I intend also to consider their production and dissemination and to consider their very different categories of users and wider audiences. The all-encompassing theme also allows me to fulfil one of the requirements made by the founder of the lectures, Samuel Sandars who wished the lectures to be based on the University's collections. Thus I have included some maps from Cambridge University Library to illustrate my themes. In the case of other Cambridge map collections, the one I know best is that in the library of Samuel Pepys (1633-1703) at Magdalene College. (Slide 3) As Antonio Verrio's oil painting at Christ's Hospital (finished 1684) to commemorate the foundation of the Mathematical School in 1673 demonstrates, Samuel Pepys and his fellow founders of the school had a lot to do with

the emerging world picture - at least that which was understood by the English - in the seventeenth century. I intend to examine this painting more fully, and the role of Pepys, secretary to the Navy Board and Master of Trinity House which controlled navigation in English waters, other patrons, clients and users elsewhere in Europe and their relationship to the map and chart makers of the day in my third lecture. Without the clients and customers there would, after all, have been no mapping.

Naming of parts

By 'cartography' I mean both the maps as 'artefacts' and the activities of 'mapping' which, as a shorthand, covers all types of mapping, and the constituent activities of making a map from sketch to survey to the various types of production and distribution and use, whether in respect of the land or the sea. In the early modern period the mapping of the world and the study of historical geography would have been called part of 'cosmography' and it is necessary to consider at least briefly the connection of cosmography with the various approaches to mapping at the time and thus to give a glimpse of contemporary textual thought.

I should also say what I am **not** talking about. I am not venturing into the realms of astronomy so that my 'cosmography' is terrestrial. I am not talking about world maps or globes *per se*, but about the mapping and charting of the world and about some of the issues which arise from such a critical examination. I am not majoring on land maps, but am considering the sea and the coasts, their cartography and representation. In the early modern period for maritime Europe, it was the sea and the water ways which predominated in terms of travelling, communication, discovery, trade, and often warfare, and thus it was the seas and the coastlines which helped to define how the world looked to contemporaries and how they sought to describe and draw it and its parts on paper.

In recent historical studies this concentration on seas and their peripheries has been depicted as a new way of considering the world as a whole and its parts over time. Some have named it the 'new thalassology.' Whilst the various forms of **this** particular genre of history all have their own specialities, from the study of specific seas like the Mediterranean, made famous by Fernand Braudel (*La Méditerranée et le Monde Méditerranéen à l'époque de Philippe II* 3 vols. (Originally appeared in 1949), to the new Atlantic studies, and to even more recent consideration of the

Indian and Pacific oceans: one characteristic they all share is that by considering the seas and communication by sea, they cut across the political divisions (in the case of land maps represented by boundaries) and constitute in the opinion of their promoters 'big picture' history.

They also usually explicitly avoid retelling the history of empires, or of European nation states and their rise and decline: both themes have fallen out of favour with this school of historians. This approach is not, of course, confined to seas and their peripheries: on land the study, for example, of the history of the Silk Road is similar in approach, passing as the Road did through many countries and peoples.

As recent commentators (Peregrine Horden and Nicholas Purcell in 'AHR Forum' (*American Historical Review*, June 2006) have remarked the history of the seas appeals because 'the layout of sea and land makes the oceans and their 'embayments'[they mean, I suppose, the coastlines including harbours and bays of the world] a way of approaching most parts of the world both in reality and metaphorically... and this [they postulate] might attain a global scale.'

Brave words, but in that optimistic frame of mind what I have to say may in some respects be analogous to this historical approach. This is not in order to illuminate the preoccupations of these historians with maps as illustrations of their themes, but to illuminate the history of cartography itself which is by its nature a history of the graphic description of the world and its people. The similarity, as I see it, between the history of cartography and their 'world' or global approach does not seem to have occurred to them as yet. This may be because like historians of empires before them, they are basically textual historians and so overlook maps and mapping in their expositions except perhaps as a means of illustrating their books. This tendency to overlook maps and mapping is particularly exemplified in the case of the 'Origins of Empire' volume 1 in the *Oxford History of the British Empire* (Oxford, 1998), where a chapter by David Armitage on 'Literature and Empire' was included, but nothing on the maps and their role which was in reality much more than mere illustration of the relevant geographical extent of expansion. Given the amount of mapping at the time, both printed and manuscript for promotional and other 'expansionist and colonial purposes, besides geographical description, this seems very strange. Furthermore, as we shall see the traditional European history of nation states, their empires, their phases of competition and often simultaneous collaboration encompass the history of mapping in the early modern period (and indeed later of course), as I conceive it.

Furthermore I am not only talking about printed and published maps, but about all maps and charts, particularly those produced manually and sold as such. The tradition of making and using manuscript maps and charts continued until at least the mid – eighteenth century (and even today for some purposes) in most of Western Europe and this fact has been marginalised in the ‘triumph of print’. The marginalisation of the manuscript map has probably been reinforced by the production of vast and very useful carto-bibliographies of **printed** and **published** atlases and, normally, of **land** maps of the various countries of the world. The objectives of the cartobibliographies sometimes owes a lot to the needs of antiquarian map collectors, and thus the manuscript story and also often the representations of the seas and their coasts are left out; the latter subject being left to naval historians, curators and a few specialists. These lectures are an attempt to redress the balance and re-insert the manuscript and the sea into the general story of maps and mapping.

The three lectures are thus thematic rather than chronological although, for comprehension’s sake, they will follow a rough chronology. They treat of the history of cartography itself and its pre-occupations and how it has approached the mapping and maps of the early modern period (Europe 1450-1700); and of how that twentieth century approach compares and contrasts with the views and practices in the early modern period, in so far as they discernible. The lectures reflect upon the drivers for cartographic activity both internal to the trade or to the professions concerned and external; that is the drivers of the cartographic enterprise - the patrons, the users and others involved in activities which needed mapping and charting - and, of course, those who bought the maps and atlases both printed and manuscript: all these players have contributed to the ‘conversation with maps’.

Twentieth century approaches

The first lecture deals with some twentieth century approaches to the history of cartography, not in a comprehensive way, which I leave to volume six of the *History of Cartography* project based at the University of Wisconsin at Madison and published by the Chicago University Press, but enough to allow us to grasp how the history of cartography has developed and why it exhibits the characteristics it does, when dealing with the early modern period.

First it is important here to emphasize that this examination is of the history of cartography as a subject, as distinct from its many guises as part of other disciplines or related activities like using old maps for evidence in border and other political disputes or considering it as part of historical geography, of which the ‘new thalassology’ may, perhaps, be said to be a novel version. It is, as Mathew Edney the director of the History of Cartography project, succinctly put it, ‘the interdisciplinary study of maps, their making and their use in the past.’

It has to be said that the subject is an ‘untidy subject’ and its practitioners are often from a variety of backgrounds e.g. collectors, modern cartographers, professional users like ships’ captains, and surveyors, human and physical geographers, historical geographers, historians of all sorts, such as historians of science or of exploration and settlement, or other academics from the art or literary worlds, as well as booksellers, librarians, archivists and other types of curators. Depending on the background, it is inevitable that we have approached the subject in different ways. It is perhaps reassuring to us, that other subjects, once perceived so homogeneous and, often consensual (even monolithic) in the telling of their own history have also fragmented into specialisms; we may, therefore, perhaps make a virtue of our diversity of approaches. The influence of this fragmented approach upon the subject, however, before the advent of the History of Cartography project in the 1970s was disabling. (David Woodward ‘The study of the history of cartography: a suggested framework’ *The American cartographer*, 1974). There was little reflection upon the subject itself and therefore no desire or capability to develop a platform of knowledge upon which the subject itself could develop greater self-awareness.

The 1960s and after

We need therefore to consider, however, at least some of the bases of the history of cartography, say, from the 1960s, which have affected, and continue to affect, the approach to early modern maps and mapping.

In the mid-sixties in terms of the scholarly work in the field, we have a summary of what had taken place and what needed to be done in the words of a recognised leader in, at least, the English-speaking world, R. A. Skelton, Superintendent of the Map Room in the British Museum. He gave the first Nebenzahl lectures in Chicago in the history of cartography in 1966 and, critically for the future; these were extensively revised and edited posthumously by David Woodward. Skelton was not, of course,

the only 'great' in Europe and America. Professor EGR Taylor (1879-1966) geographer and historian of science, Commander David Waters (1911-) and deputy director of the National Maritime Museum), were as much in evidence in the field in England, but from the perspectives of the history of geography and science and navigation. They treated charts and mapping as part of a wider story; for example, the seminal works by Taylor, the *Haven-Finding Art* (1956) and *Mathematical Practitioners of Tudor and Stuart England* (1954). At the same time, Waters published *The Art of Navigation in England* (1958), which remains the best comprehensive account of navigational practices in the period (although, as you will see in lecture II, I disagree with some of his conclusions). *The Art of Navigation* describes chart making in its navigational context. A similar foundation exercise was taking place in respect of land maps and these foundations were being laid through carto-bibliographies of varying sorts. Indeed the principles themselves of making lists and carto-bibliographies were being formulated. The same building of the corpus of knowledge of the map-making itself through describing surviving maps and charts, continues to be an objective of the subject, although some would dissent from regarding it as an essential component.

In mainland maritime Europe we might mention the Portuguese historians Amando Cortesão (1891-1977) and the naval officer Avelino Teixeira da Mota (1920-82) , the Italian geographer Roberto Almagia (1884-1962), in France, the merchant navy officer, collector and historian Marcel Destombes (1905-83) , in the Netherlands Cor Koeman (1928-96) Professor of Cartography at Utrecht University, and in Spain Carlos Sanz (d.1981). From present day perspectives these people were almost overwhelming in their comprehensive grasp and intellectual control of the subject as it manifested itself at the time, especially in two particular ways: the consideration of (and if curators - the collecting of) maps deemed to be important to the history of cartography usually along national lines, and the preparation of carto-bibliographies and the accompanying facsimile publications of the maps considered to be most important e.g. for the discovery of America. The two activities of collecting and describing fed each other and still do.

In line, as we might perceive it now, with the long-drawn out end of the European world Empires during the twentieth century, the various European maritime powers invested time and money, especially noticeable in the case of Portugal and Spain (and to some extent similarly privileged in the Netherlands, France, England and Italy), in

the celebration of the graphic record of their lost empires or of their 'golden ages' and, in so doing, gave us views of the world in the early modern period from their very nationalistic perspectives. This normally meant that contributions from other countries, or the possibility of other non-nationalistic modes of history, were discounted, ignored or even just absorbed into the writer's own country's history in some way; this could be done by regarding, for example, the cartography of one country as merely a source of whatever then became the dominant cartographic power, often the dominant military and economic power as well. Thus the history of Dutch cartography absorbed that of the Portuguese as a source. Conversely the histories of cartography as written by the respective countries' historians can seem to inhabit parallel universes. In part this outcome is the result of the language difficulties in assessing the literature of the various countries and also the sheer amount of cartographic output across the maritime countries in the early modern period. It seems to me that it is also, however, because the questions of the relationship between the various cartographic traditions have not been asked at a level more sophisticated than 'who was first to discover, map etc'. What we might call 'firstism' an obsession with the first or earliest map, derived from the general cultural view in western cultures at least that to be first is to be praised and of itself confers benefits, often material in one way or another.

An example of the nationalistic streak is given in the original introduction to *Portugaliae Monumenta Cartographica* (1960, English transl. p. xxxv) where Cortesão and da Mota described the publication, 'as a dream come true. We have both worked on [*sic*] the field, in geodetic and topographical surveying, and have studied the history of cartography for many years ...' They go on to explain that the proposal for such a publication was luckily integrated in the programme of the commemoration of the fifth centenary of the death of the infante D. Henrique - known to English speakers as Prince Henry the Navigator. Cortesão sought the co-operation of da Mota who was then involved in topographic and hydrographic surveying in Portuguese Guinea. The executive commission of the centenary celebrations gave them all the resources they could wish for and, as they said, 'we simply record the history of one of the greatest, if not the greatest of all ventures in the written history of cartography...' and further that it was their duty to express, ' in the first place our gratitude to professor Dr Antonio de Olivar Salazar, prime minister of Portugal whose foresight appreciated from the very first moment the national and international

importance of this publication in the cultural field and gave it the full and generous support without which it could not have been possible.’ They go on to thank the ministers for overseas and foreign affairs. The importance to the Portuguese nation of their cartography of the sea and what they discovered remains today, and one can understand why.

Did this attitude change at all during the late-twentieth century? In 1987 a reduced reissue was published with added material by Alfredo Pinheiro Marques. In the preface the claim that the volumes represent one of the greatest cartographic achievements to be recorded is reiterated, but instead of the glories of Portuguese exploration at the time of Prince Henry the Navigator, Marques has shifted the argument to the history of cartography itself. ‘We should not forget that it was a Portuguese who initiated the study of ancient cartography in the XIX century, who published the first atlases containing reproductions of old charts and who invented the term cartography [‘cartographia’] subsequently adopted for modern usage: he was the Viscount Santarem, exiled in Paris, whose publications were pioneering in the history of cartography and of the Portuguese discoveries’. Amongst his most famous works was the *Facsimile Atlas* of 1849, which was composed of world maps and charts from the sixteenth and seventeenth centuries.

If I have dwelt at length on this Portuguese example, it is because it demonstrates a number of aspects of the history of cartography in the mid- twentieth to late twentieth century (and this is not just a Portuguese phenomenon) which survive today: the alignment of the history of cartography with some form of perceived national greatness and/or power, nowadays more normally expressed, as in the later edition of *PMC* in cultural terms. In this respect it is interesting to note that the French Ministry of Culture supported the translation into English of Christian Jacob’s *L’empire des cartes* (1992) translated as *The Sovereign Map* (2006) and there are many other European examples of state interest and patronage in past culture, including maps, often called ‘heritage’ in the English speaking-world or ‘patrimoine’ in the French speaking-world. Indeed mapping intrinsically lends itself to cultural promotion and diplomacy on a global scale, being graphic and thus, apparently, immediately comprehensible, rather than being obscured by the use of a specific language as in other texts.

This nationalistic underlying assumption of the history of cartography was, as Denis Wood (review of the *History of cartography* vol.1 *Cartographica* 24,4, 1987, p.71)

put it caustically that even, if ‘not articulated (man ascends intellectually through Babylon, Egypt, Greece and Rome to sixteenth century Italy) and then onwards to the north European countries’, and then he might have said ‘to North America, specifically the United States of America’. He continues ‘that every writer of the history of cartography is preoccupied with conflicting national claims to particular innovations or discoveries’ or that the developments ‘are expressed in a vacuum unaware of what is going on in other cognate fields’ or even of the relevant ‘general history of the period concerned’. While it is hard not to agree in some respects with Wood’s criticisms of historians of cartography in general and even if he had reservations about volume I of the *History of Cartography* the Project sought to address some of these issues but at the end of the day could only be as good as the contributors.

There are of course reasons for this state of affairs certainly for the early modern or renaissance period. The European patrons of the mapmakers, usually in some way part of, or associated with, the ruling elite **were** often chauvinistic, and often at war or competing with each other commercially, so it is eminently reasonable to describe the cartography within that contemporary context: the cartography does reflect this aspect but the states involved were not necessarily nation states e.g. Italy was composed of city and other regional states. Further nationalism, in this case of nation states, was rampant in the first half of the twentieth century in Europe and wherever the European countries had power in the world. The twentieth century compilers of the facsimile material and of the carto-bibliographies were all part of that context and saw the earlier period through that construct; to expect a different approach from them is perhaps unrealistic.

At the same time as the routine production of national and regional carto-bibliographies and compilations of facsimiles, the collecting of ‘great’ maps was going on apace notably, but not exclusively, in the USA. Both the British Museum and the National Maritime Museum in the UK, for example, were buying maps and charts in the London sale rooms, normally of national significance and sometimes of international significance.

The ‘canon’ of great maps included all those associated with the discovery of the America or sometimes Australia or some other place deemed to be important, any map which showed something first, like the voyages of Columbus or of the Vikings,

or was perceived to be in some way a particular national icon or drawn or published by someone deemed to be significant for geographical or historical reasons; and, of course, the earliest example of a printed map took precedence over any later versions; even later states and versions could also be worthy of purchase if they added some element of significance to the collectors'/ carto-bibliographers' community. It was a market-led activity with scholarly and antiquarian aspects.

This is not the point to enter into a long discussion of the collecting policies and practices of European and North American institutions in terms of mapping, but to note the clear importance of this 'collecting and describing' exercise to the development of the subject. Without the maps there can be no subject. But the maps and charts often exhibit very problematic issues of definition as maps and charts in the first place; there are often issues over their content, their context and provenance. Provenance in particular is usually a very helpful method of determining the authenticity of the item. There are often issues over the method of production of the item concerned, including the actual date of production, and of their physical characteristics which will not yield to common-sense enquiry necessarily; these often require specific chemical, ultra-violet, x-ray or other microscopic examinations, including digital analysis, beyond the normal visual and physical observation of a curator. Maps have been and, no doubt, will continue to be produced by fraudsters and or otherwise altered in ways to enhance their value or to alter their information for some other reason, not necessarily to mislead deliberately. *Caveat emptor*.

In the case of early modern maps the basic issue was and is always about the map's authenticity, before anything can be said about the content in the map for any research

The most notorious of these iconic maps of the early modern period in the late-twentieth century (and probably even today) and one which has been shown, at least to my satisfaction, to have been drawn in the twentieth century is, of course, the Vinland Map about which I am **not** going to speak, although it plays a walk-on part. This map is not alone, however, in causing doubt as to its authenticity or dating and other early maps have been recently suggested for further examination. In 1987 Dr Helen Wallis suggested the famous Cantino world map of 1502 should be examined under ultra-violet light. In 2006 the authenticity of the 'Velasco map' of New England dated to 1610, said to have been sent to Philip II, by the Spanish Ambassador in

London, Antonio Velasco, which I saw myself in the Simancas Archives, has been called into question once again, because of the perceived over-accurate content of the map for its stated period. In this case the application of suitable chemical and other tests is probably the only real way to determine the issue of date and authenticity. A map of the Chesapeake area was indeed sent to Phillip II, which is clear from the correspondence existing in the Archives. It is not clear, however, whether this is the 'Velasco' map, or some other unidentified map of the Chesapeake area, now lost. Other maps from the period have dating problems, not necessarily owing to any fraudulent activity, like the one of South America by Gabriel Tatton drawn, in my view about 1613, but with the date altered to 1668; perhaps this alteration is related in some way to the negotiations for the Treaty of Breda 1667 when the English ceded part of Guiana to the Dutch or some later alteration even by a dealer? (Slides 4 and 5) The map shows two versions of the coastline, which were disputed in 1613, the inset one is the later and more correct version. The inset map was copied for Sir Walter Raleigh's last voyage to Guiana in 1616 to assist in meeting his French allies in discovering Guiana and the fabled gold of Eldorado, at three possible points along the coast. We know this because a pen and ink copy of this map was sent to Philip II and is now in the Simancas Archives with the meeting points annotated in French, presumably for the use of his allies. The pen and ink copy of the map was betrayed to the Spaniards and the correspondence tells us who did it- a Frenchman - Anthony Belle.

The whole map shows what we may call the 'Jodocus Hondius' shaped map of North America 1599, from the river Maroni to the Mouth of the Amazon stretching from 2 degrees N to 4 degrees 30'N. The inset, which is the corrected coastline, stretches the same area from 2 degrees N to 6 degrees N and probably derives from the surveys of Sir Thomas Roe in 1610.

More research still needs to be done on these map icons by using the physical and other tests available now to confirm or otherwise their dates and assist in obtaining more reliable information about the provenance of some of them. Given the problems as described briefly here about dealing with early maps, let's consider the actual history of acquiring one of these iconic maps in the mid-twentieth century as an example of additional problems which can arise in respect of these maps.

Buying old maps: the case of the Henricus Martellus 1960

While purchase negotiations were going on about the Vinland map, another equally important world map appeared on the scene and this is a brief history of that purchase which sheds light on the selling and collecting habits of the sellers and buyers and curators of the time. The events and people involved in one particular case: the purchase of the Henricus Martellus world map pre 1492 by Yale University Library may give a flavour of the practical issues and motivations relating to the subject of the history of cartography at that time. The story is told from my examination of the Skelton Archives in the Memorial University St John's New Foundland and from correspondence and files in the British Library Map Library. Not all Skelton's files are presently available; some are in Yale University which I have not seen. Nor have I seen any other relevant files which the other people mentioned in the story may have had and whose papers and accounts may well differ from what Skelton records.

The map is the large map of the world by Henricus Martellus Germanus (c.1445- before 1527) thought to have been drawn about 1489-92, that is up to three years before Columbus's voyage. (slide 6 of whole map). Almagia thought this was the map which was the principal basis of Columbus's 'project of navigation.' This map, which was then in Berne, Switzerland, was offered for sale in October 1959.

According to Skelton's archives, the map was originally offered to the James Ford Bell Librarian, John Parker for 100,000 US dollars. Then Paul Mellon (1907-1999) the University of Yale's benefactor and Alexander Vietor (1914-81) the librarian took an interest. The European booksellers involved were Franco Novacco, himself a collector, and Carla Marzoli in Italy and Van Devanter in Holland. In 1967 the Newberry Library acquired the collection of Franco Novacco, which includes 15 manuscript maps and atlases, among them a portolan atlas by Francesco Ghislolfo (c. 1580) and a map of the South Pacific by Queiros, dated 1598. The great strength of the Novacco collection is in its Italian printed maps.

Skelton was given to understand that the map had been in a Tuscan family for many years. Paul Mellon bought the map and it was presented to Yale, on 7 April 1961. Certain questions come to mind in rehearsing this story from the records.

What, for example, was the relationship between the world of the dealers and that of the curators and scholars? This seems to me to be important if we are to understand

the *modus operandi* of how the history of maps and mapping evolved in this period, based as it was on the maps themselves.

First any curator worth their salt at that time would have wished to be involved in an examination of such a map and to give some form of cautious opinion, but therein of course lay the problems. How far would they be allowed to examine the map, how far would they be able to know the provenance, which is in my opinion a *sine qua non* of an assurance of authenticity, and how far would they wish to be taken into the dealers' confidence, without compromising their own professional opinion on the map?

Skelton, who was first invited to examine the original and to write it up for Marzoli, corresponded with Roberto Almagia. Almagia had written about Francesco Rosselli's workshop in Florence at the end of the fifteenth century where Roselli printed and sold engravings including maps. Henricus Martellus was known to have worked with Rosselli in Florence.

On 17 Jan 1960 Skelton's report was ready for Marzoli. He regarded the map as the missing link in the cartography of the immediate pre-Columbian geography and was convinced this map was the ideological background to the discoveries of Columbus. He considered that the Martellus map (and Almagia agreed) was earlier in content than the globe by Martin Behaim of 1492.

If we look at the map, the salient features of content are its projection, which is known as pseudo-cordiform, or heart-shape, and is the same as that used by Martin Waldseemuller in his printed map of the world published in 1507; the prime meridian which goes through the Canary Islands - a common prime meridian at the time. (You can see the location of the prime meridian (slide 7) by the position of the 360 degrees of longitude on the longitude scale at the bottom of the map.) The map is notable for its extension beyond the borders of Asia as far as the island of Japan (called 'Cipangu') and places that island in 270 degrees (slide 8). Thus since the sphere of the world is divided into 360 degrees of longitude, it follows that the distance to the Far East and Japan, and thus to the riches of the East Indies, should be far shorter if one sailed west from the Iberian peninsula than east round Africa, Japan would be only 90 degrees away if you sailed west as against over 200 degrees if you sailed east. Hence Skelton's view that the map was part of the ideological background to the Columbus's discoveries. As we know. Columbus was convinced he had reached islands near Japan by sailing west. Martellus graphically showed this far shorter and safer way westwards, when compared with the route round the Cape of Good Hope. The map is

dated to 1489, because it includes the discoveries of Bartholomew Diaz of 1488 to the Cape of Good Hope and who returned to Lisbon in December 1488. There is no indication that the cartographer knew of Vasco da Gama's voyage of 1499.

In June 1960 Skelton and Almagia, together with Marzoli, then saw the map in Berne. Both of them thought the map was printed and could be identified as perhaps a large world map listed in Rosselli's inventory with painting done over it by a skilled illuminator, probably by Rosselli himself. Skelton then cleverly anticipated the disclosure of the existence of this large Martellus map in his *Cartography of Columbus's first voyage* in 1960, before it was acquired by Yale, where he talks about a lost map of Martellus, as postulated by Almagia in his article of 1940 on the world maps of Martellus and the geographical knowledge of Christopher Columbus. Skelton refers to the Martellus map in the 1960 publication as printed as he supposed from looking at it.

In terms of considering the relationship between the dealers and the curator, one motivation is clearly evident here and that is the scholarly desire to be the first to publish a new discovery of a map, one long suspected by other scholars - in this case Roberto Almagia - and one which could only be examined by co-operation with the dealers concerned, who had access to the map at the time. The dealers for their part wanted a scholarly report for their own purposes and preferably an authoritative one associated with an institution like the British Museum, which of course Skelton could unofficially provide.

The excitement was palpable elsewhere in cartographical circles. Professor E G R Taylor, by then 82, was very excited and sent Skelton a postcard from her home in Bracknell. She thought the map may be the one Hieronymus Münzer from St Die saw in 1494 at King John II of Portugal's castle in Lisbon. Münzer described it as being on 'a gilt table, a very large and well depicted cosmography (map of the earth) of which the diameter was 14 palms.' She was incorrect in this identification but the existence of the postcard shows the excitement about the map was very great and the hypotheses about it abounded.

Description of the map

It turned out at that time (although I do not know if this is the case in fact,) that the map was thought to be a manuscript with a woodcut border. Alexander Vietor had had it examined under infra red light and wrote to tell Skelton this.

If we look at the border of the map on this slide I think we can see that it is indeed woodcut pasted and sewn onto the fabric backing of the map (slide 9), while the rest appears to be painted. On the bottom of the map appears in Roman capitals 'Opus Henricus Martellus Germanus' telling us clearly who the cartographer was.

The map was composed of 6 sheets of paper each 590 x 450 mm and along the bottom three half sheets 590x210mm respectively. The woodcut border runs round the map and was put on before the map was painted but after it was placed on the fabric. This is revealed by the painting overlapping the border and the map itself (slide 10).

The excitement continued in respect of both this map and the equally secret Vinland map. In November 1960 Skelton writes to Marzoli that he is off to Yale to write about another important map. This is the Vinland map, although he does not say so, referring to it as the 'Witten' map. Laurence Witten was the New Haven book seller who was handling the sale of the Vinland map. In this extract of letter dated 8 March 1961 (slide 11 illustrated below), we see him writing to Skelton about the Vinland map and the accompanying MS text the 'Tartar Relation', and also referring to the secret Martellus map then in negotiation for purchase. He refers to the 'cloak and dagger' element in purchasing such maps which both clearly relished. We also see what was in Skelton's mind about continuing the idea of more facsimile atlases of the 'great' European early maps and Witten's assurance of assistance in that regard.

There are one or two things I'm afraid I must mention in connection with our recent discussions. In the first place, I would very much like you to believe that I am not at all interested in the quite private negotiations you, Vietor, Van Devanter, and of course Mr. Mellon are involved in with respect to some map about which I really don't know anything at all. This is clearly not my business, and I have no intention whatsoever of discussing it with anybody. Under the influence, possibly regrettable, of delicious cocktails I expressed the amusement which I confess I still feel over some of the cloak and dagger aspects of this thing. But I don't know anything about it, and I would like simply to repeat that I have no intention of compromising anyone who really is involved by being indiscreet about it.

I hope there will be enclosed with this letter a page I expect to dictate later today concerning what I have thought of in connection with the Vinland Map and the fact that some of the legends on it do not correspond with spelling found in the Tartar Relation Manuscript.

Skelton

responded on 3 May 1961.

It was a particular pleasure to see you and discuss matters of common interest in New Haven; and I was very glad to have the opportunity of meeting your wife.

Do not worry at all about the matter of the other map. I know that a bookseller understands the problems of secrecy involved in any such negotiations; in fact the Vinland map itself has involved a good deal of "cloak and dagger" business.

I am, of course, most interested in your very shrewd comments arising from the discrepancies in nomenclature between the map and Tartar Relation. As to your para. 1, you are certainly on the right track. We must, of course, allow for the competence or critical ability of the map-maker. Your para. 2 is extremely suggestive and helpful to me, as I imagine it will be to Tom Marston. I have done some other work on the map side, and hope to send some drafts to Yale before too long.

As to the publication of which you outlined the plan to me, I need hardly say that no project would interest me more deeply, and that it would in my own opinion serve a very useful purpose, as an accessible corpus of facsimiles. I am brooding over this problem and will write to you before long. My impression that it would be desirable to proceed in stages; the first stage might be world maps and topographical maps before 1500, the second nautical charts before 1500, the third, maps of the great discoveries (i.e. up to about 1550). These ideas are extremely tentative at present and must be subject to a more precise estimate of materials and kind of subjects.

Unfortunately nothing came of these publication plans as other matters like the publication of the Vinland map took precedence. When in Yale, Skelton together with Alexander Vietor gave a local radio interview of relevance to describing the heady atmosphere surrounding the two maps: it is clear they could hardly contain their excitement about the maps although they were as careful as they could be not to say too much until the time was ripe to make the purchases public:

Vietor, 'from time to time one of these things [that is precious documents from the fifteenth and sixteenth centuries and earlier centuries] will come to the surface and recently we found another one or two [i.e. the Martellus and the Vinland map] which may help to open up a window on a new facet of early map making and early graphic recording of man's explorations.'

Skelton added: 'In fact after the discoveries that I've heard of in the last two years it would take a great deal to surprise me'. (British Library, Map Library archives)

We can understand why.

Contrary to what Skelton had been told, the map was not then owned by an Italian family in Tuscany, but was apparently in the ownership of the 'Countess of Pace-Friedensberg a quite a well-known German family.' Skelton wrote to Marzoli on 14 June 1961: 'it was good of you to send me a copy of the ownership of the Martellus map. [The letter from Marzoli does not seem to be in the Skelton archives at Memorial University]. I thought however that Signor Novacco told me that the family which had owned the map for centuries was an Italian one of Tuscany....' Hence perhaps the association Skelton and Alamgia had made with Rosselli. The apparent German ownership and the woodcut border may indicate a different origin.

The map was subsequently described by Alexander Vietor, by Carlos Sanz, by Marcel Destombes in *Mappemondes 1200-1500* (1964) and by George Kish in respect of the island of Japan. Sanz makes no mention of provenance, but Destombes writes, 'On croit que la carte de Yale est restée dans une famille de Lucques jusqu'au XIX siècle, l'époque à laquelle elle est passée en Autriche'. The map and its provenance evidently warrant further examination. But for our purposes in illuminating the preoccupations of historians of cartography in the mid-twentieth century, the episode illustrates some of the characteristics at that time across Europe and North America, as well as the working environment of curators where private work was undertaken.

The history of cartography at this level of collecting and describing has continued in much the same vein since Skelton worked and wrote. His complaint in 1966, endorsed by David Woodward (1942-2004), was that although the 'activity of individual students has increased in both volume and variety this activity rests on no agreed methodology or standards. It is poorly sustained by catalogues of resources and other aids so that comparative studies run the hazard of incompleteness and it can be criticised by a geographer as being out of balance.' He went on, this present activity '

is not enough to raise the whole edifice of cartographic history, which would be built on intensive and extensive study of surviving examples, with analysis emerging in synthesis and leading to generalisation on the evolution of the form and content of early maps'. This quote may well owe more to David Woodward's posthumous editing of Skelton's lectures for publication than to Skelton. Certainly this stance was taken up by David Woodward, at that time Director of the Herman Dunlap Centre for the history of cartography at the Newberry Library in Chicago. The corpus-building activity continues, for example, with the standard-setting work of Günter Schilder in establishing a group in the Faculty of Geosciences, University of Utrecht, which has seen the publication of Schilder's own *Monumenta Cartographia Neerlandica* (eight volumes since 1986) and Peter van der Krogt's on-going revision of Cornelius Koeman's *Atlantes Neerlandici. Bibliography of Terrestrial, Maritime and Celestial Atlases and Pilot Books, Published in the Netherlands to 1880* (1967–1971) and the charting and publications of the Dutch East India Company (VOC).

The job is not, however, yet complete for a proper analysis of the form, content, and use of maps across even part of Europe 1500-1700 although it has made great strides in recent years, often within the context of what we may call the **new** history of cartography to which I now turn, since it has affected how we see early modern mapping.

Geography and Cartography and theory

The problem for at least some historians of cartography in the 1970s, lay in seeking to escape from that earlier set of assumptions and practices - of merely building cartobibliographies and collecting maps critical though they remain in some respects - if they were to address other issues and to satisfy the requirements of becoming an academic discipline.

From the Anglo-American perspective, discussion centred on what cartography itself was; this discussion informed the new approaches to the history of cartography. The objective became explicitly to study the development of cartographic techniques and the production of maps; this approach was promoted by Professor Arthur Robinson and then by David Woodward and it found expression in such volumes as *Five Hundred Years of the Printed Map* (1974), which was issued to commemorate the

fifth centenary of the first printed map in 1472, and, of course, an exhibition in the British Museum put on by Helen Wallis and myself (in my formative years as a map curator).

The emphasis was on the map as artefact and the history of its manufacture and production and distribution came to be considered as a legitimate area of research in contrast to the approach of historical geographers or historians who were concerned to **use** maps as evidence for their own enquiries into landscape, industrial developments, foreign discoveries, settlement or whatever. While this approach was indeed a breakthrough it was not at all alien to the practices of curators and conservators in the major museums and libraries, who were often knowledgeable, even expert, in the history of engraving or other techniques of reproduction. Their expertise was, however, normally used in the case of particular examples of maps or problems relating to the production of maps rather than in establishing a general over-view of the development of maps and their production or in reflecting upon a suitable intellectual structure for the subject. Robinson's work on early thematic mapping (1982), for example, which described the cartographic techniques necessary to portray concepts and distributions on a map was the result amongst other things of an exhibition in the British Museum in 1969 on Statistical Mapping mounted with the advice of himself and the Statistical Society of Great Britain.

So the reform, which Matthew Edney has recounted in his recent article on 'Putting cartography into the history of cartography ... the creation of a discipline' (*Cartographic perspectives*, 51, 2005, 14-22) was eagerly taken up by curators, collectors and other researchers like Professor Coolie Verner in the nascent discipline, whatever their original backgrounds.

The push towards cartography as a discipline in its own right was further reinforced by the establishment of such bodies in England as the British Cartographic Society in 1968 and of course the publication of the subject's flagship journal, *Imago Mundi* with its international board of directors. From 1994 the journal *Imago Mundi* has been subtitled *The International Journal for the History of Cartography* and is one of the major binding forces of the discipline, responsible for the international conferences held every two years.

The intellectual debates provoked further consideration of how the map conveyed information and how it was received and thus we find arguments about whether mapping is a form of language. Brian Harley thought it was a helpful analogy. Barbara Petchenik (1976) was resolute in her contrary views on this: ‘to be sure we use the word language to denote any method of communication; but to believe that language systems of maps and words are somehow equivalent and therefore convertible is as wrong as asserting that the ‘language of algebra could be used to communicate the meaning of a Rembrant.’ (p.43). Now the balance of opinion has come down squarely on the side of cartography as a representational system with its own rules and systems of symbols and as a communicative science but not, except as metaphor, a form of language. David Woodward (slide 13) in 1974 and thereafter, developed a table of the elements he saw as necessary for the subject of the history of cartography to proceed.

4. THEORY AND THE HISTORY OF CARTOGRAPHY

	Production			Product
	Personnel	Techniques	Tools	
Information gathering	Observer	Observation	Physical & mental faculties	Image
	Surveyor	Surveying, data gathering	Surveying instruments, questionnaires	Data
Information processing	Designer	Design	Design tools	Specifications
	Editor	Compilation	Compilation tools	Worksheet
	Draftsman	Drafting	Drafting tools	Manuscript
	Engraver	Engraving	Engraving tools	Plate
	Printer	Printing	Presses, etc.	Printed map
Document distribution	Publisher	Publishing	Publishing facilities	Published map
	Seller	Marketing	Marketing facilities	Marketed map
Document use	Librarian	Acquisition, storage, retrieval	Library facilities	Map
	User	Interpretation	Physical & mental faculties	Image

Fig. 2.1. Schema for the study of the history of cartography. Redrawn by the author from Woodward 1974, 103 (fig. 1).

Although it does not, as David Woodward knew, bring out all the aspect of the ‘document use’ and the social context of maps in terms of production, their uses and users, it does

explain simply what the various elements of the artefactual aspects of maps to be considered.

A good example of this approach is the volume, *The earliest printed maps 1478-1500* by Tony Campbell (1987) which discusses the printed map, not just in respect of its content, but as a physical object. In it Campbell points out the 'growing willingness among historians of cartography to study the techniques involved in the production of maps, to examine form as well as content. From this view point the map is ... the literal mirror image of the copper plate or woodblock from which it was printed. The historian aims to study these platforms via the impressions taken from them' and from this examination he may be able to determine the origin of the map or its development when the biographical and cartographical data are incomplete or ambiguous.' The physical evidence is a potential aid in the explanation of maps and mapping and this aspect was now fully in the frame. This rigorous approach may be contrasted at least to some extent with what we saw of Skelton's and Almagia's ruminations over the physical characteristics of the Martellus; while the physical evidence had been considered it was rather cursory and evidently took second place to the more exciting content portrayed.

Social context

In the 1980s the subject of the history of cartography 'took another turn,' at least in the Anglo-American world and this seems to have been the result of external drivers. A number of issues arose in the cognate disciplines of geography and cartography and in the wider historical, philosophical, and literary fields which were taken up by Brian Harley and others in an attempt to raise the history of cartography to an academic discipline. In some respects this development was in direct response to the criticisms of Wood and others, but it was also designed in particular to raise the aspirations and analytical standards of those working in the field. I think we may say they have succeeded in that respect, but sometimes with unexpected results especially from scholars from other backgrounds.

Some of these new approaches remain disputed at both theoretical and practical levels: for example, what constitutes a history of cartography and what, more especially from my point of view, is the criticality or otherwise of finding relevant evidence in writing that history? J H Andrews in particular has taken some of the interpretative approaches, which are more speculative than evidential, to task. Indeed

disputation has become a characteristic of the subject in respect of both approaches and interpretations; where, perhaps, previously discussion and argument would have been confined to questions of the priority of particular maps or some technical dispute about dating or else about authenticity issues as illustrated earlier, now the assessment of the value of carto-bibliographies of particular regions of the world is, for example, an issue in the assessment of the subject itself.

Whatever views you may hold on the subject of the history of cartography, more generally the second 'social context' turn opened the subject to other academic disciplines and legitimised new ways of looking at maps and mapping beyond the confines of the cartographic mode. Matthew Edney has described 'this turn' through his examination of the work of Brian Harley from the 1960s to his death in 1991. ('The origins and development of J B Harley's cartographic theories' *Cartographica* 2005, monograph 54). While Harley was not the only innovative practitioner, he was, at that time, the biggest promoter of new ways of writing the subject. In his analysis of Harley's development Edney looks at the earlier empirical studies of mapping in a historical geography context through Harley's appropriation of communication models from academic cartography, his use of iconographical concepts from the art historical world (Pankovsky *et al*) and latterly the use of Michel Foucault's philosophical concepts of power and knowledge. Harley promoted the analysis of maps as texts, and in his article 'The deconstruction of the map,' (*Cartographica* 1989, 26/2, 1-20) we can see quite clearly that the second turn has given the history of cartography an identity very different from its mid-century characteristics.

I suppose I first realised what Brian was thinking about when he contributed to a BL seminar held on 13 March 1981 on Tudor mapmaking 1500-1650. Even then I see we were already in the throes of what Matthew Edney calls 'disciplinary anxiety'. The seminar and volume published in 1983 were designed to provide new information about various aspects of Tudor maps and map-making and to take account of related subjects like the history of Tudor military fortifications and scientific instrument making and to offer some new interpretation of map history for the period 1500-1650, when maps were first drawn and generally used in England. 'Meaning and ambiguity' was Brian's contribution heralding his new approach to interpretation of maps as social constructs not merely depictions of a perceived reality. Vic Morgan contributed the idea of maps as literary image and so, rather tentatively, a more diverse approach to maps and mapping in the sense of its historical and societal

context was explored; in this case the objective was to assess the selection of data to be mapped and to examine the meaning of the symbols used in a map and to speculate what they might have meant to those who made maps, or used them and how they were referred to in the literature in this period.

Modern cartographers and indeed human geographers (with some notable exceptions) in general, were not then, nor are now, particularly interested in earlier mapping unless it shows a direct lineage to their own form of graphic mapping, which values accuracy (e.g. scale, projection) and presentation (e.g. principles of generalisation, depiction and symbols) as the defining elements of 'good' maps. But historians, and not just historians of science, became more interested, as did literary scholars, in examining maps from the past in their contemporary contexts; perhaps in the case of the literary scholar discussing their imagery in contemporary literature and speculating on what it might mean e.g. Nancy Bouzrara and Tom Conley and mapping imagery in French literature (*History of cartography* 2007 vol.3 pp.427-437).

Harley took all this up and made explicit, sometimes in a very polemical way, a new approach to the history of cartography which took on board what had been happening in art history, social theory. In particular in his last essays 1980-1991 he had a 'new take on' philosophy where he called for 'an alternative epistemology, rooted in social theory rather than in scientific positivism.' He was influenced in this by his own political stance, which we would now call socialist or 'old labour' and his belief that maps represented and were part of the power and control structures of the establishments of the European countries and latterly of the USA. For the early modern period his article, 'Silences and secrecy: the hidden agenda of cartography in early modern Europe' (Imago Mundi 1988 ,40 57-76) exemplified this view, but in many ways the article was really just part of his attack on the concept of modern cartography, which continues to maintain that it is objective and neutral in socio-political terms. At the same time, as others have done, Harley rejected the inevitability of progress as the only story the history of cartography could tell.

The social context had thus arrived, with or without explicit political and particular polemical overtones, as it had in Book History through the work of Don Mackenzie, to whom Harley was also indebted.

History of cartography project

Such are the building blocks and influences on the present subject of the history of cartography and, at the very least, in comparison with where we were in the 1970s the subject now has defined itself and has matured enough to exhibit discussion about the nature of the historical narrative, rather than just about the artefacts. Much of that impetus, but not all of it, has come from the history of cartography programme of which three volumes have been published, ranging from prehistoric, ancient and medieval, though non-European mapping to the European renaissance volume ending in 1650 or thereabouts. The programme, however, does not have a monopoly of thought, but inevitably it has required a critical and systematic approach from its editors and from at least some of the contributors. The drive to arrive at a synthesising account for the first three volumes which can then form a platform of knowledge from which more research can be stimulated, is in part the result of the ‘academic anxiety’ of the 1970s and 1980s, and the developments which I have described above.

As editor of the volumes Woodward encouraged the History’s contributors ‘to consider new approaches to the history of maps...’ and went as far as to say, ‘certainly the application of theoretical perspectives from varied subject areas is a valuable source of stimulus and that contributors should adopt a critical approach to the established wisdom of the history of cartography.... treatment of the social context in which maps were produced should be discussed. All of this is important for a broader appreciation of the significance of the role of maps and evidence for these aspects of map history may need to be sought well beyond the maps themselves.’ It is this contextual approach, together with the analytical approach of the earlier reforms in cartography in respect of examining maps themselves, which I have adopted in my consideration of the mapping of the early modern period. This enables consideration of what the various sorts of users thought of maps at the time, how they used them, and what was necessary in their opinion for ‘better’ cartography **at that time**, not in comparison with some twentieth century formulation. This approach is best summed up in the introduction ‘Cartography and the Renaissance: continuity and change’ (*History of Cartography* 2007, vol.3 p.7) Woodward himself where he says that, while it is clear that there was cartographical progress in mapping the world, especially in showing the new world of the Americas, and in developing cartography itself in Europe, ‘this view of mapmaking in the Renaissance as a model of metrical

progress has blinkered our vision by focussing only on maps that support such improvements in geographical accuracy. In so doing we tend to impose our own present-day standards of 'accurate maps' onto the past, usually forming a self-perpetuating canon of 'great maps' that conform to our limited notions of positional accuracy.' I would add that the view of what constitutes 'better' or more accurate itself changes over time and depends, as we shall see, on who you were. The historian of cartography needs to be able to distinguish both the exact changes which were actually happening at the time and which were important to contemporaries and to be able to see them in a longer time-scale without importing anachronistic present-day comparisons. A difficult judgement to make.

Interpretation

This leads me on to the modes of interpretation for these early maps. Interpretation is often in doubt and the subject of dispute at the basic artefactual levels, as we have seen in the case of the Martellus and other maps of the period.

Interpretation is also often disputed, through lack of direct evidence. Christian Jacob expresses his view of the period's charting in *L' empire des cartes* (1992) translated as *The Sovereign Map* (2006) where he examines theoretical approaches in cartography throughout history. As he says (p185) 'one of the difficulties in the history of cartography is the lack of archives and eyewitness accounts of the modalities of deciphering and interpreting maps. Further he goes on: 'Nor do we have accounts of perceptive experimentation by cartographers of the time spent deciphering and interpreting maps – a lacuna that can be filled by supposing that there is no reason for commenting upon the reading of a geographical map. It releases or may not release the information asked of it and the immediate functionality makes profound self-analysis unnecessary. Very rare are the historical accounts that go beyond the use of a map as a simple accessory, as an instrument of decision, or as something non problematic by itself'. This observation by Jacob may imply that in the absence of any such evidence **any or no** interpretation may be legitimate, but it also signals that the map is of primary significance in its own right and is able to be subjected to critical analysis as are other texts or artistic objects. How far can we take this?

(Slide 14, Plate 7 – 'Building the visual coherence of a graphic world' and slide 15 Plate 6 'Visual dynamics of a symbolic conquest') Perhaps in the role of reader,

Jacob describes these two maps as illustration of, on the one hand, the Black Sea conforming to an imposed geometry, which it assuredly does, drawn by the eminent Portuguese cartographer, Diogo Homem in 1559; and, on the other, European expansion represented on the map of the Atlantic and Brazil 1519, as the triumphalist approach of Christian ships (red crosses on the sails) to the coasts already named and recorded by the Portuguese (i.e. Europeanised). Thus the new lands are visually and textually claimed for Portugal, and Christendom together with the exotic interior awaiting their exploration and exploitation.

But we cannot know what the map-makers were thinking themselves, and we may, or may not, think Jacob's responses to these two maps are reasonable, for that is what we have to decide; they are not the known views of contemporaries. Neither of his interpretations seems unreasonable to me, but not because I know what the map makers were thinking but because that is how the history of the period is written nowadays. The signalling of the map as an object of interpretation beyond its geography is in itself very welcome, but fraught with decision making about what constitutes a reasonable assumption about the map makers' and indeed the clients' views since they paid for the maps in question.

But what more, if anything can be said **evidentially** about these maps, the cartographers, the social context in which they worked and does that help to construct the context of their thinking as well as of their production of maps? However difficult it may be to find any evidence, we have to try in my view, to deduce what we can reasonably say from any evidence we find, including obviously the maps themselves; in the end interpretation will always be a matter of opinion in the absence of corroboration from the archive, as in the case of Jacob above. Not all is lost however and we can get a good idea of who the practitioners were in some instances, and we can either know or make reasonable guesses as to their concerns about cartography itself and even hazard a guess as to what the maps and mapping might have meant to contemporaries in the context of the time and its place in history in general.

Notice of second lecture

Lecture II is entitled: 'Geographie is better than Divinitie.' This quote from Peter Heylin (1599-1662) who began to lecture on what we would call historical geography at Oxford in 1617, was used in 1978 by my friend and colleague Helen Wallis (1925-1995) of the Map Room at the British Museum, later the Map Library British Library (1967-86) to introduce her essay on 'Maps Globes and Geography in the days of Samuel Pepys.'

(slide 16 of Helen Wallis). Heylin was an academic practitioner of historical geography, although not of cartography, and his and some of Helen's interests feature in my second lecture, 'the practitioners' story'.