

Meagan Calogeras

History 602 Spring 2013

Historiography of history of cartography of North Africa and Algeria: medieval era to early nineteenth century

First, a word is in order about the inherent limitations of this historiography. Twenty-first century bibliographic controls being what they are, searches for studies conducted on the cartographic histories of North Africa will retrieve relatively few relevant records. Typically, North Africa—and Algeria, will be subsumed into the greater African continent in cartographic histories. Including “Mediterranean” will considerably broaden the geographic focus, retrieving works Islamic cartography. Generally, the history of cartography of the African continent in the past half-century is predominantly provided in cartobibliographies or surveys, catalogs, resource guides¹, and compilation of reproductions of nautical charts with commentaries. Africa will appear in histories also of individual survey departments, and histories of established cartographers or their publishing houses.

Of the studies retrieved specifically on North Africa or Algeria in these federated searches, much of the histories have been conducted in languages other than English, and are equally divided between those done in the last two decades and those before. Some of these works were difficult to evaluate, being inaccessible content-wise. From their bibliographic data, however, foreign works can reveal an outline of basic content information. In other cases, older works have been integrated into later scholarly research. Perhaps a few works have failed to be indexed or applied bibliographic

¹ One such example is *Maps and Mapping of Africa: A Resource Guide* by John McIlwaine. Published in 1998, this work includes a range of materials, from catalogs to school atlases and dissertations.

controls and have therefore fallen through the search cracks. Such is the nature of any historiography, however limited in scope, which attempts to be current.

With this caveat in mind, the historical narratives of the cartography of North Africa is rich in imagination and bright with possibilities for further scholarly inquiry, as will be shortly recognized. A convenient cut-off point for this inquiry is the early nineteenth century, before the science of cartography was transformed with the advent of photography in mapmaking.

Cartographic histories of North Africa and the African continent can fall under several overarching categories. Francesc Relaño mentions defining narratives of cartographic depictions and geographic exploration of Africa according to the temporal, regional, genre, or national nature.² “National” might include ethnic and cultural entities, as when we include narratives on Islamic maps, which straddle the temporal and regional. Even if limited, such a definition provides a working framework. On the other hand, any cartographic scholarship on the pre-modern age would end up satisfying a combination of these general categories. A more interesting characteristic of this timeframe of historical research is that regardless of category, one commonly shared research concern is tracing the provenance of maps, that is, their origins.

From a western cartographic perspective, the historical treatment of the cartography of North Africa in general is fragmented. North Africa has benefited from many centuries of both maritime and terrestrial intercultural exchange, so it is a puzzle that more has not been produced in the way of comparative studies. The challenges involved will be outlined shortly. But it is worth noting that the farther back in time a historian inquires of a particular map culture, the more difficult it becomes to solve the puzzle of the core questions: The mapmaker? The audience? For what

² Relaño, *The Shaping of Africa*, p. 3.

purpose? Under what conditions? Answers to these questions help to align “an individual map into a given cartographic family”³ and thereby offer important insights into the society of that time.

The geography of Africa has been a subject of a great deal of conjecture for many centuries, especially in regards to the interior, and the maps produced through the ages are a rich source for the historian of cartography. Piero Falchetta writes that Africa presents “an historical issue whereby the history of geographical knowledge and the history of cartography—both together and independently—have produced a continuous redrawing of forms and attributes, more than has happened for any other part of the world.”⁴ To illustrate, centuries of the uncertain origins of the great rivers of the Niger and Nile, as well as the location of the throne of the legendary Prester John, has spawned research tracing the changing ideas about the interior of the African continent. The art of filling in the empty, unknown spaces of the African interior, as with cartouches, and mythic monsters or peoples, typically seen in the sixteenth-century nautical charts of Africa has also been a line of inquiry. One such study is covered in the theme of cartographic methods by J. H. Andrews in his *Maps in Those Days: Cartographic Methods Before 1850*.

And yet, North Africa, perhaps because of the absence of mythical rivers and the likes of the “Ptolemaic lakes” of central Africa, has been largely ignored as, for example, in *A Short History of the Cartography of Africa* of 1995 by Jeffrey C. Stone. One attempt to schematize medieval conceptions of the geographical horizons beyond the Mediterranean shore into the interior—and the vague notion of the Sahara desert—has been offered by Relaño.⁵ Being a European perspective, we do not know what conceptions, if any, exist in Arab-Islamic cartography.

³ Ibid., p. 76.

⁴ Falchetta, Piero, review of *The Shaping of Africa: Cosmographic Discourse and Cartographic Science in Late Medieval and Early Modern Europe*, by Francesc Relaño, *Imago Mundi* 56, no. 2 (2004): 211.

⁵ Francesc Relaño, *The Shaping of Africa*, p. 79.

The foundational literature, that upon which other scholars have built their histories would undoubtedly include, besides the works of Charles de la Roncière, Yusuf Kamal and his five-volume *Monumenta Cartographica Africae et Aegypti* published from 1926 to 1951. The content covers a vast time period: before Claudius Ptolemy, the atlases of antiquity, Arab cartography, and portolan charts (navigational charts of the Middle Ages and Renaissance), and the eras of exploration and discovery. In French, this particular work is held as microfilm in the Library of Congress, and is a set that not many American libraries possess (only nine in the United States). It appears to be primarily a chronological survey with the merit of comparing selected Islamic maps with contemporary European examples.⁶ Many early histories of cartographies are of this nature—surveys, and are an example of a secondary source that has now been integrated into later scholarship.

In contrast to the hydrography of the interior landmass, the littoral of North Africa was rendered early on into a two-dimensional plane—even in the classical *ecumene*. Phoenician mariners in classical antiquity, Roman cadastral surveys, Greek and Arab traders, the Portuguese navigators and the ensuing portolan charts (navigational sea charts) of Spain, Portugal, and Italy in the main all contributed to this delineation. With portolan charts, historical treatments take the form of folio-sized compendiums to theoretical treatises. In particular, the representation of the changing breadth of the Mediterranean basin, the characteristics of the individual schools of chartmaking, different hypotheses regarding the portolans' origins, and the contrast to the cosmographic and symbolic imagery represented in the mappaemundi (medieval world map), are all popular themes of study inspired by the many extant copies of portolan charts (about 180 before 1500)⁷ and mappaemundi. More recently, there has been an attempt to explore the interplay between the authoritative and erudite traditions of the medieval mappaemundi with the technical accuracy and geographic-nautical

⁶ Woodward, *The History of Cartography* 2, bk. 1, p. 9.

⁷ Andrews, *Maps in Those Days*, p. 251.

functionality of the portolan charts. A prime example of the latter is found in one section of Francesc Relaño's *The Shaping of Africa*, published in 2002. This work charts the emerging concept of Africa as a continent over several centuries via cartographic development. Here the intricate interplay between the maps resulting from exploration and geographic knowledge on the one hand, and the authoritative Ptolemaic framework for maps on the other is analyzed through a plethora of primary and secondary sources. The author concludes that modern African cartography begins with the map that first embodies the concept of geographic reality and Renaissance cartographic science: the Cantino planisphere (1502). The author has constructed a narrative based on the progress of western cartographic science. Future studies along these lines of the "shaping of Africa" might include the origin of portolans designated "geographic-nautical" (a type that not only depicts the African coastline but also the interior landmass) that, according to Relaño, has been a "long debated issue."⁸ Gonzalo de Reparaz has summarized the numerous information sources that had been available to Majorcan chartmakers in the thirteenth century. As suggested by Relaño, there needs to be an analysis of the ways in which these Majorcan chartmakers depicted Africa to substantiate Gonzalo de Reparaz's assertion.⁹ An interesting line of inquiry would be a comparative study of Islamic cartographic perceptions of Africa during the same time period.¹⁰

By the fourteenth century, states Relaño, Catalan-style portolans in particular depicted in comparatively rich detail the Sahara regions and a distinctive style of the Atlas mountain range. This range was to be reproduced, essentially unchanged, in this characteristic style over the next several centuries in other maps. What is unclear is whether other cartographic traditions that depict the Atlas mountains can be indeed sourced to these Catalan-style charts. What is also of interest is that

⁸ Relaño, *The Shaping of Africa*, p. 109.

⁹ Ibid., p. 93.

¹⁰ Felipe Fernández-Armesto, review of *The Shaping of Africa: Cosmographic Discourse and Cartographic Science in Late Medieval and Early Modern Europe*, by Francesc Relaño, *The International Historical Review* 26, no. 2 (June 2004): 367-369.

these portolans displayed the knowledge of the trans-Saharan caravan trade routes with substantive descriptions of inhabited and uninhabited locales, including fortresses, settlements, Berber tribes and customs, vegetation, and so on. Yet much of these contents were not necessarily copied by ensuing cartographers.¹¹ This would seem to be an early example of a thematic map as we know it today. It appears the far-reaching influence of Catalan-style charts, verification of the sources for their cartographic knowledge, and the study of the thematic aspect, has not been exhausted from these tentative beginnings.

Islamic cartography as a genre is still a comparatively young field of historical research. Notions of the Maghreb are to be found in the early Islamic group of geographers Balhki, al-Istakhri, and Ibn Hawqal. Sorting out their legacy—chronology and relationship between different recensions of maps derived from their texts—is a major preoccupation of Islamic cartography. In terms of their influence on Catalan-style world maps (produced in the spirit of Catalan-style charts mentioned previously), this remains an area of intrigue. The question of influence in the opposite direction remained unexplored; in other words, to what extent Islamic geographers influenced early Renaissance European cartography.

Indeed, there has been a new addition to the scholarly literature on the topic of Arabic-Islamic geography and its hitherto relatively unacknowledged contribution to western cartography. For example, how depictions of the length of the Mediterranean was correctly shortened, how the Muslim maps led to the portolans of the 1300s, how European maps depicted parts of Asia with a remarkable degree of accuracy—all as a result of astronomical observation, spherical trigonometry, and new geodetic measurements in the eleventh century and after.¹² Arabist and science historian Fuat Sezgin argues that Muslim geographic information, including about the Mediterranean and

¹¹Relaño, *The Shaping of Africa*, p. 97.

¹²A. M. Celâl Sengör, review of *Mathematical Geography and Cartography in Islam and their Continuation in the Occident, Vol. I. Historical Presentation*, by Fuat Sezgin, *Nature* 441 (June 2006): 696-697.

Africa, influenced European Renaissance thinkers, explorers, and mapmakers. How persuasive his argument and extensive his research must still be assessed.

Along similar lines, a recent narrative to historical cartography of the region, though still viewed through European standards of cartography, is *Trading Territories*. This work offers a more inclusive perspective in the important role maps and globes played in the commercial trade, financial interests, and diplomatic disputes in the 1600s in the context of early maritime empires of the Portuguese, the Spanish, the Ottomans, the Dutch, and the English. The author offers a focus on the contributions of the Muslims, Arabs, Asians, and Ottomans in the art of mapmaking.

Whether in researching European influence on Islamic cartography or visa versa, there have been significant challenges in this arena for researchers, not the least of them being language and the differing concept of map or cartography in the non-western culture.¹³ For example, frequently maps are an accompaniment to older Arabic geographic texts, having been reconstructed according to the latitude and longitude tables and other charts. Tracing the recension of cartographically illustrated manuscripts is a significant line of inquiry of the Ottoman-era (1288-1918), and there appears much still to be done, since hitherto more focus has been on analyzing the texts rather than the maps they contain. Another example might be the “qibla maps,” cartography that defines the direction of Mecca, much of which still remains to be analyzed with the associated text. Certainly qibla maps of North Africa require more extensive documentation.

At this point I mention the importance of the works of Ptolemy¹⁴ as a basis for cartographic depictions of the cosmos and terrestrial world and the ways in which it reveals itself in maps from

¹³ The word map did not exist in premodern Islamic languages. Instead other words were used to describe the form, method, or organization of terrestrial space. See Ahmet T. Karamustafa, “Introduction to Islamic Maps,” *The History of Cartography* 2, bk. 1, p. 7.

¹⁴ Ptolemy’s tables from *Geography* most likely were introduced to Arabic scholars by the ninth century. There is ongoing debate of which Arabic version of Ptolemy was used for this or that pre-

Europe to China,¹⁵ it is perhaps timely that the appearance of an annotated English translation of the Greek theoretical text of Ptolemy's *Geography* appeared in 2000, the first since 1845. Here one will find maps of the western Mediterranean, *Oikoumene*, and Libye (Africa) according to Ptolemy. As historians revisit and reinterpret previous cartographic narratives, access to a "new" classic text is indispensable.

Returning to the topic of maps of the Ottoman Empire, the function and use of such maps, including marine cartography in relation to North Africa, and how their forms evolved under European influence, especially the sea charts, are yet to be fully analyzed. Cadastral maps, route maps and many other types of survey maps await to be examined.

Happily, new maps for study continue to be discovered, or a previously archived map reassessed. For example, Pascale Barthe in his 2008 "An Uncommon Map for a Common World: Hajji Ahmed's Cordiform Map of 1559" examines the cultural and scientific milieu of the Mediterranean scholars in which this cordiform map was created.

The epoch tantalizing in lacunae, international archival treasures, and imaginative histories waiting to be constructed, I would argue, are the centuries during the emergence of cartography as a science. The sub-Saharan, central Africa, southeastern Africa (including Ethiopia in the context of the elusive "Prester John" myth), Abyssinia and the Red Sea, and the Congo have had their discourse. An example of this type is "Mapping the Niger, 1798-1832: Trust, Testimony and 'Ocular Demonstration' in the Late Enlightenment" by Charles W. J. Withers. The author compares maps produced as a result of travel and direct observation with those from vicarious experience, taking up

Ottoman Islamic world map. See S. Maqbul Ahmad, "Cartography of al-Sharif al-Idrisi," *History of Cartography* 2, bk. 1, p. 168.

¹⁵ Some of the most obvious signs of Ptolemy's influence can be seen in Chinese and Islamic map depictions of Africa in the 1300s~1400s with the Nile river or mythical central lake of the interior.

the perception of truth in such documents. North Africa, with its intimidating desert terrain, would benefit from equal exploration.

In fact, a separate cartographic account of the Sahara as there is of the Niger and Nile rivers does not seem to exist. For example, one study examines the changes in the depiction of the Kong Mountains in West Africa over time, from its origins to its elimination in the nineteenth century via the political and cultural authority vested in the mapmakers. The continuing erroneous spatial image of the interior of the African continent is a recurring theme, and one that could be explored further in reference to the Sahara and Atlas mountains.

Another addition to the temporal category but from an Asian mapmaking perspective is a 1970 study done by Kuei-Sheng Chang in his “Africa and the Indian Ocean in Chinese Maps of the Fourteenth and Fifteenth Centuries.” He asserts that while the Arabs maintained the lead in geographic knowledge of the African continent, China, due to extensive Sino-Arab exchange, benefited from their knowledge and produced maps depicting Africa more accurately than the Iberians by nearly a century.¹⁶ Chang states that “numerous places in North Africa were mentioned by Chinese authors of the eighth and ninth centuries.” It appears to have taken several decades since Chang’s study for this theme to be taken up in again. *Mapping the Chinese and Islamic Worlds: Cross-Cultural Exchange in Pre-Modern Asia* by Hyunhee Park, published in 2012, examines these two cultures from the eighth century to sixteenth century and their cartographic renderings of each other. This work is currently being ordered by our university library and hence has not been examined, but it would be of interest to know what account it presents for depictions of North Africa and the Sahara.

¹⁶ Chang, “Africa and the Indian Ocean in Chinese Maps of the Fourteenth and Fifteenth Centuries,” 26.

Sharing the positions of historians attempting to rectify a neglect via studies on the Islamic and Chinese mapping traditions, Portuguese scholars have not failed to emphasize their cartographic legacy with the maritime and terrestrial exploration of the African continent.¹⁷ Many of these works are in Portuguese and are not easily accessible.

The recovery of African history and its cartographic depiction are major developments of the post-war world. Jeremy Black in his *Maps and History*, published in 1997, examines historical atlases as an influential tool in the dynamics of political and cultural power. He highlights the atlases published in eighteenth century Europe, such as of Johann Matthias Haas (1684-1742) of Wittenberg and his depiction of empires, past and contemporary. Black also addresses the function of national atlases in pre-colonial and colonial history. A focus on North Africa and Algeria would be a novel exposition but may be hindered due to lack of historical material. There have been methodical problems in depicting the African landscape in the western cartographic tradition in regards to territorial boundaries. This is due to the inherent transient nature of societies: mobility, shifting nature and transformation of social groups; and the analysis required for mapping African kingdoms.¹⁸

Continuing the topic of thematic mapping and approaching the very end of the timeframe of this historiography, we have Benjamin Brower and his *A Desert Named Peace*. Brower notes that colonial French administrators of Algeria benefited from the socio-, ethno-, geographic studies on the Maghreb, especially the Berbers, conducted by William Brown Hodgson who was a chargé d'affaires of the United States Consul to the Ottoman Regency. His proxy exploration of the Sahara produced a map, Brower states, that he was unable to locate.¹⁹ It is left for a persistent historian to locate this elusive map. While cartography and the discovery of the Sahara were not the main focus

¹⁷ Relaño, *The Shaping of Africa*, 3.

¹⁸ Black, *Maps and History*, 192.

¹⁹ Brower, *A Desert Named Peace*, 60.

of the Geographic Society of Paris in the 1830s during the time of the French colonial occupation of Algeria, there were maps produced by Ernest Carette (1808-1890), a military engineer for colonial France to assert French participation in the Saharan commerce.²⁰ An examination of the sources used would be of historical interest. Indeed, Josef Konvitz, in his *Cartography in France, 1660-1848*, points out that “Engineers, not scientists, made the most significant contributions to thematic cartography”²¹ in France after 1820.²²

Institutional practices of national agencies and their thematic outputs, such as the French Navy’s hydrographic office, Institut Géographique National, or the Ministère des Affaires Étrangères, might be undertaken as an example of corporate historical cartography. Josef Konvitz states, “French scientists, engineers, and public officials were responsible for the most important and distinctive innovations in cartography in eighteenth-century Europe.”²³ If so, then further topics for exploration might be its role in the shaping of the North African interior during that period.

As with other genres of histories, there has been a focus away from Eurocentrism toward the other. Studies of African indigenous mapping fall into this category, and while still in its infancy, headway has been made with the appearance in 1998 of volume two, book three of Woodward and Lewis’s *The History of Cartography: Cartography in the Traditional African, American, Arctic, Australian, and Pacific Societies*. With this volume, a broader definition of “maps” is presented, with new narratives being constructed for the period before western colonization, examining oral traditions, archaeological artifacts, and other non-traditional sources to uncover trends and relationships.

²⁰ Brower, 69.

²¹ Konvitz, *Cartography in France, 1660-1848*, 135.

²² Still another avenue for exploration would be the cartographic evolution from the first French geologists, geographers, and other surveyors of the 1870s in their attempts to formulate a theory of the Saharan desert, but this would be a few decades beyond the timeframe of this historiography.

²³ Konvitz, *Cartography in France, 1660-1848*, xviii.

But much remains to be done with the spatial organization impulse of the Saharan and Maghreb societies. The function, timing, methods, and symbols of geographical orientation manifested on the tribal level are yet to be documented. In contrast, African influences on European mapmaking have already been tentatively explored for the Sahara²⁴ but could benefit from further exposition.

A now commonly encountered theme in cartographic studies, whether in published works or as a dissertation, is that of colonial mapping and power, which is on the cusp of the time frame of this historiography, and too numerous to review except to mention a prototype in this vein written by Thomas J. Bassett. His “Cartography and Empire Building in Nineteenth-Century West Africa” examines colonial maps, such as in their glorification of the French civilizing (that is, colonizing) mission or legitimizing power through symbolic imagery.²⁵ I also must mention an interesting topic taken up by Jeffrey Stone in his “Imperialism, Colonialism and Cartography,” which treats the transition between imperialism and colonialism in Africa, and the different attributes of the two as it relates to mapping concerns. While source material is based on British west Africa, much relates to European imperial and colonial mapping interests: broadly, how imperialism reflected commercial interests and therefore maps with descriptive entries, such as farming and ranching possibilities, in comparison with colonial maps focused on rural settlements and data on local populace to facilitate administrative control. It would be of interest if similar or different cartographic transformations were evident in Algeria, characterized as it is by a vast terrain and location-shifting indigenous populace.

²⁴ For example, the cooperation between French geographer Henri Duveyrier and Tuareg informant in the mapping of specific Saharan itineraries. See Thomas J. Bassett, “Indigenous Mapmaking in Intertropical Africa,” in *Cartography in the Traditional African, American, Arctic, Australian, and Pacific Societies*, ed. David Woodward and G. Malcolm Lewis, of vol. 2, bk. 3 of *The History of Cartography* (1998), p. 38.

²⁵ such as a soldier imparting knowledge to a seated Arab with a map of Africa, or cannons and naval ships in the background

This historiography has presented a very preliminary finding of current scholarship and the rich possibilities for future interdisciplinary inquiry. Algeria and North Africa, as a locus of the meeting of western, eastern, and indigenous cultures, serves as an ideal landscape for continuing exploration of the history of cartography.

Bibliography

Andrew, J. H. *Maps in Those Days: Cartographic Methods Before 1850*. Cornwall, UK: Four Courts Press, 2009.

Barthe, Pascale. "An Uncommon Map for a Common World: Hajji Ahmed's Cordiform Map of 1559." *L'Esprit Créateur* 48, No. 1 (2008): 32-44. <http://uhawaii-primio.hosted.exlibrisgroup.com> [accessed 27/04/2013].

Bassett, Thomas J. "Cartography and Empire Building in Nineteenth-Century West Africa." *Geographical Review* 84, No. 3 (July 1994): 316-335. <http://www.jstor.org/stable/215456> [accessed 17/04/2013].

Berggren, J. Lennart and Alexander Jones. *Ptolemy's Geography: An Annotated Translation of the Theoretical Chapters*. Princeton: Princeton University Press, 2000.

Brotton, Jerry. *Trading Territories: Mapping the Early Modern World*. London: Reaktion Books, 1997.

Chang, Kuei-Sheng. "Africa and the Indian Ocean in Chinese Maps of the Fourteenth and Fifteenth Centuries." *Imago Mundi* 24 (1970): 21-30. <http://www.jstor.org/stable/1150454> [accessed 17/04/2013].

Harley, J. B. and David Woodward, eds. *Cartography in the Traditional Islamic and South Asian Societies*. Vol. 2, bk.1 of *The History of Cartography*. Chicago: University of Chicago Press, 1992.

Konvitz, Josef W. *Cartography in France 1660-1848: Science, Engineering, and Statecraft*. Chicago: University of Chicago Press, 1987.

Relaño, Francesc. *The Shaping of Africa: Cosmographic Discourse and Cartographic Science in Late Medieval and Early Modern Europe*. Hampshire, UK: Ashgate Publishing, 2002.

Stone, Jeffrey C. "Imperialism, Colonialism and Cartography." *Transactions of the Institute of British Geographers*, New Series 13, No. 1 (1988); 57-64. <http://www.jstor.org/stable/622775> [accessed 16/04/2013].

Woodward, David and G. Malcolm Lewis, eds. *Cartography in the Traditional African, American, Arctic, Australian, and Pacific Societies*. Vol. 2, bk. 3 of *The History of Cartography*. Chicago: University of Chicago Press, 1998.

Free access to the History of Cartography, Volume One, in PDF format. Volume One PDFs. Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean. Volume Two PDFs. Book 1: Cartography in the Traditional Islamic and South Asian Societies. The history of Africa begins with the emergence of hominids, archaic humans and "at least 200,000 years ago" anatomically modern humans (*Homo sapiens*), in East Africa, and continues unbroken into the present as a patchwork of diverse and politically developing nation states. The earliest known recorded history arose in Ancient Egypt, and later in Nubia, the Sahel, the Maghreb and the Horn of Africa.