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To cite this article: Thomas J. Bassett (31 Jul 2025): Drawing the Line: The Interplay of European and African Mapping Practices in the *Carte du Haut-Niger au Golfe de Guinée* (1:1,000,000), Imago Mundi, DOI: [10.1080/03085694.2025.2511054](https://doi.org/10.1080/03085694.2025.2511054)

To link to this article: <https://doi.org/10.1080/03085694.2025.2511054>



Published online: 31 Jul 2025.



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Drawing the Line: The Interplay of European and African Mapping Practices in the *Carte du Haut-Niger au Golfe de Guinée* (1:1,000,000)

THOMAS J. BASSETT

ABSTRACT: This article illustrates the intertwined nature of European and African mapping practices in the construction of Captain Louis-Gustave Binger's 1890 *Carte du Haut-Niger au Golfe de Guinée par le Pays de Kong et le Mossi* (1: 1,000,000). Most of the geographical information contained in this map, especially routes and place names, derives from African sources, not from firsthand observations by Binger or other Europeans. Binger collected this locally sourced route information, which he called *itinéraires par renseignements*, from Africans who conveyed their geographic knowledge to him through a variety of mapping practices. Both Binger and the Africans he encountered, especially traders and pilgrims, were faced with the same geographical problem—how to get from Point A to Point B. 'Drawing the line' refers to these shared mapping practices but also the limits placed by African authorities on French imperial advances into the Niger Bend. These political tensions stand out in Binger's map. Some regions where he was able to collect itineraries are covered with dense route networks while other areas where African leaders refused his passage are blank spaces. Using a mixed methods approach, I argue that the *Carte du Haut Niger* can be viewed as a hybrid Euro-African construction that emerged from repeated negotiations in the contexts of asymmetrical power relations, uncertainties, and anxieties.

KEYWORDS: Indigenous mapping, Euro-African mapping, route mapping, itineraries, intercultural encounters, digital analysis, West Africa, Louis-Gustave Binger.

I was able to depart Kong under excellent conditions: my stay there was very profitable in terms of geographical information; I was able to make an ample harvest of itineraries.

Some informants went as far as showing me the length of intervals between locations with bits of straw serving as comparative measures. The Mandé-Jula (language) is truly precious in many situations. When the next day, I set out en route, I had in my possession two excellent itineraries based on locally sourced route information.

Louis-Gustave Binger, *Du Niger au Golfe de Guinée par le pays de Kong et le Mossi*, 2 vols. (Hachette, 1892), 1: 328–9

The historical record of African Indigenous mapping is sparse but the examples that do exist suggest that the practice is widespread.¹ In this article I argue that a productive analytical approach for investigating African mapping activities is to examine the interplay of European and African mapping practices in the construction of nineteenth-century European imperial maps of Africa. To find their way, Europeans commonly collected route information from people they encountered during their travels. Africans transmitted geographical information via mapping practices that

► Thomas J. Bassett is Professor Emeritus at the University of Illinois at Urbana-Champaign. E-mail: bassett@illinois.edu.

included oral maps, ground maps, and written itineraries. African apprehensions about white men 'writing the land' in the context of European imperial expansion often led them to impede Europeans from collecting geographical information.² These cartographic encounters demonstrate the dependency of European mapmakers on both the mapping practices and cooperation of the Africans they encountered.

To illustrate these arguments, I examine the exploration and mapping of the region between the upper Niger River and the Gulf of Guinea of western Africa by French Navy Captain Louis-Gustave Binger between 1887 and 1889.³ Binger's two volume book of his travels and his four-sheet map titled *Carte du Haut-Niger au Golfe de Guinée par le Pays de Kong et le Mossi* (1:1,000,000) provide numerous examples of solicited itineraries. In fact, most of the spatial information contained in Binger's map, especially routes and place names, derives from African sources, not from European observations. Binger's celebrated map should be rightly viewed as a Euro-African construction.

This article builds upon two bodies of literature. The first centres on re-conceptualizing maps as dynamic processes as opposed to stable and immutable products. This literature's emphasis on the social and technical practices mapmakers and readers employ to solve spatial problems draws attention to the iterative process and relational nature of map construction. The second quite limited literature concerns the intertwined nature of African and European mapping practices with emphasis on the selective incorporation of African geographical knowledge into European maps of the continent. This article links these two literatures through a qualitative and digital analysis of Binger's mapping project.

Rob Kitchin and Martin Dodge argue that all maps are spatial practices, what they call 'mappings.' These practices, both technical and social, are mobilized to solve specific socio-spatial problems. Thus, all maps are context-dependent; they emerge from mapmakers' experiences and mapping skills, their objectives in highlighting certain features over others, and the varied social influences that shape the map's construction and utilization. To make a map showing the route from A to B through an unknown territory, a nineteenth century mapmaker would deploy standard surveying techniques such as using a compass to determine direction, a chronometer or watch to

calculate distance, and a barometer to determine elevation. The mapmaker might also refer to existing maps of the region and collect information from knowledgeable inhabitants and travellers. Kitchin and Dodge conclude that the map 'emerges through a set of iterative and citational practices' and is thus 'contingent and relational.'⁴ As we will see, Binger's map and travel narrative contain numerous examples of the contingent and relational dynamics of mapping.

Social practices refer to the varied contexts and relationships that influence the process of 'show[ing] this but not that' on the map.⁵ In the case of late-nineteenth-century West Africa, social contexts ranged from gaining the approval of local political authorities to travel through a region to the broader political economies, both African and European, which influenced where and when mappings took place. Social practices encompass the networks of individuals and institutions with whom the surveyor/mapmaker interacts during the mapping process. These networks assist and validate map making and interpretation through technical and financial assistance, map printing, diffusion and use, and public recognition of the map's significance. Although often viewed as marginal actors in conventional map histories in which Europeans take centre stage, Indigenous peoples were key participants. My focus on African mapping practices and how they are embedded in European maps builds upon and seeks to advance the literature on Indigenous contributions to map history.⁶

The literature on European-African interactions around mapmaking points to European dependency on African mappings in multiple contexts. Hélène Blais's historical research on the mapping of Algeria during the first half of the nineteenth century demonstrates that French military mapmakers commonly incorporated African spatial knowledge into their maps.⁷ Mapmakers were instructed by their superiors to utilize local knowledge in their surveys but were not told how to do so. In the absence of prescribed methods, improvisation was common. Blais emphasizes the importance of context, notably mapmaking during wartime when mapmakers, called 'topographers,' were unable to travel outside major cities for security reasons. Instead, topographers requested local people to come to them to share their geographical knowledge. Blais reports that European mapmakers held mixed views on the accuracy of this so-called 'secondhand information.' In their hierarchy of

geographical information, one in which European first-hand observations ranked highest, African-sourced information ranked relatively low. But their need for spatial information invariably led Europeans to integrate African geographical knowledge into their maps.

In her research on nineteenth-century European exploration of Africa, Isabelle Surun discusses the dependency of explorers on Africans for basic geographical information.⁸ For example, explorers first had to gain the permission of African political authorities to enter a region. Well-known explorers including Mungo Park and René Callié needed letters of introduction or 'travel permits' from local leaders before entering an area. If granted entry, these travellers commonly solicited itineraries and other geographical information from a range of individuals. The most successful explorers possessed strong social skills, an advanced knowledge of African languages, and a large inventory of gifts to help negotiate their passage and collect information. African hospitality and generosity were critical to surveying and mapping processes. Resistance to European intrusion led to false information being conveyed such as Sultan Bello's drawing of the course of the Niger River to British explorer Hugh Clapperton in 1824.⁹ Surun urges map historians to examine these encounters to grasp their 'transformative' effects on European mapping practices.¹⁰

In her work on the social uses of writing in nineteenth-century Africa, Camille Lefebvre examines European solicited itineraries from African perspectives. She discusses the Indigenous mapping practice of organizing geographical knowledge in linear and temporal frameworks which she links to speech practices in oral cultures in which individuals structure knowledge in certain ways to facilitate memorization. She argues that it is easier to remember how to get from A to B if one memorizes the names of communities and the distances between them in terms of the number of days of travel. Lefebvre suggests that this oral mapping practice was in use before this knowledge was expressed in material and ephemeral forms such as ground maps. She states that this 'oral framework appears to be the original material for the oral and written itineraries' that Europeans collected during their travels.¹¹

Researching mapping practices that have been omitted from map histories necessitates reading documents in innovative ways. Historians recommend reading travel accounts 'against the grain' to uncover the 'hidden histories' that reveal European dependence on the labour and skills of large

numbers of intermediaries in the course of exploration.¹² By doing so, the contributions of guides and interpreters as well as porters, servants, and couriers become more apparent.¹³ In some cases, European explorers and mapmakers were explicit about their dependency on intermediaries and their contributions to geographical knowledge.¹⁴ For example, the German explorer Heinrich Barth recognized the contributions of individual Africans to his geographical discoveries in northern and central Africa. In the appendices to his three-volume book, he gives the names of his informants and the routes and place names they conveyed to him. This solicited geographical information also appears on Barth's maps.¹⁵ Like Barth, Binger acknowledged his reliance on intermediaries to construct the *Carte du Haut-Niger*. Binger's employment of multiple guides and interpreters who were not necessarily 'local' and his solicitation of geographical information from a heterogeneous group of people such as village residents, long distance traders, cosmopolitan pilgrims, and others complicates the notion of 'Indigenous' contributions to his mapping.¹⁶ What these non-European actors have in common is their African origins. In this article, I equate the word 'Indigenous' with 'African' to encompass the diversity of people Binger depended upon in his mapping.

Scholars note that European cartographers rarely acknowledged the contributions of Africans to their mappings. They trace this silence to tensions associated with the rise of 'scientific geography' in the eighteenth century and its emphasis on observation and measurement. Guided by an ethic of accuracy, the proponents of this scientific approach relied on new surveying instruments and protocols that prioritized the placement of human and physical geographical phenomena in relation to astronomically determined grids of latitude and longitude. This meant that oral sources of geographical information or 'hearsay' were increasingly sidelined despite their prior acceptance.¹⁷ It also led to a proliferation of blank spaces on maps where scientific geographers were uncertain about the location of things. These spaces began to be filled in by European explorers who were often funded by learned societies to determine the courses of rivers and the locations of fabled cities like Timbuktu. Tensions between the credibility of measured distances versus the oral testimonies of local inhabitants emerged during these explorations of distant lands. Blais and Surun report that despite the commensurability issue between the two knowledge

systems, in many instances European explorers of Africa relied on local inhabitants for basic geographical information during their travels. Explorers often collected information on routes they were unable to travel and, contrary to the tenets of scientific geography, placed this information on their maps.

To accommodate this contradiction between what Matthew Edney calls the 'cartographic ideal' and mapping in the field, mapmakers devised new mapping practices.¹⁸ Like eighteenth-century cabinet geographers in Europe, explorers had to critically compare orally transmitted route information before placing it on their maps.¹⁹ They then used symbols like dotted and dashed lines to depict this secondhand geographical information on their maps. By the last two decades of the nineteenth century, this practice had become widespread and was formalized in map legends.²⁰ The routes observed and measured by Europeans were depicted by solid lines, while locally sourced information was represented by dashed lines. This hierarchical arrangement worked to reconcile the epistemological tensions of representing Africa on maps.²¹ This new mapping practice also accommodated the ideological tenets of European imperial mapmakers who succeeded explorers in field mapping. In Algeria, military mapmakers like Ernest Crette who was dedicated to the Saint-Simonian utopian philosophy, which viewed Africans as equals to Europeans, readily featured locally sourced geographical information on their maps.²² In the western Sudan, French military mapmakers guided by the ideology of the civilizing mission viewed their knowledge as superior (solid lines) and African knowledge as inferior (dashed lines), both of which were represented within the map's gridlines.²³ In summary, when Binger began his exploration of the Niger Bend in 1888, he was fully aware of the mapping conventions that allowed him to collect and to display African geographical knowledge on his maps.

In his two-volume travel account, Binger discusses the contexts of his mapping activities and is explicit about the importance of African mapping practices to his work. In addition to his text, I examined reports and maps pertaining to Binger's expedition located in the French Overseas Archives at Aix-en-Provence, in the National Archives of Senegal at Dakar, and in the archives of the French Ministry of Defence at Vincennes. Although biased towards French interpretations of events, these materials provide many examples, both

implicit and explicit, of the interplay of European and African mapping practices that inform 'Binger's' map.

Detecting African contributions to European maps of the continent also demands new map reading practices. For example, one way to interpret African contributions to the *Carte du Haut-Niger* is to compare the length of the itineraries provided by African intermediaries to the length of European-based itineraries. Binger distinguishes three types of itineraries in his map: his own, those of other European travellers, and those from African sources. In the map legend he refers to the latter as *itinéraires par renseignements* which I translate as 'locally sourced route information.' All three kinds of itineraries are identified in the map legend and depicted on the map.²⁴ To calculate the total length of each itinerary type, I worked with a research assistant to digitize all the itineraries shown in the *Carte du Haut-Niger* using geographical information systems software. First, we georeferenced the four-sheet map by establishing 182 control points such as cities and other points of interest. We then used ArcGIS Pro to link the *Carte du Haut-Niger* to ESRI base maps and used the Line Features Tool to trace the various itineraries. Finally, to determine the length of these routes, we used the Calculate Geometry Tool to measure them in kilometres. This digital analysis extends the hidden histories of exploration method of reading against the grain by focusing on the *visible* signs of African contributions to the construction of knowledge.

Binger's Mission to the Niger Bend

If all maps are associated with solving socio-spatial problems, then what were the problems that Binger's mapping tried to solve? The answer to this question can be found in Binger's 18 December 1886 letter to the Undersecretary of State for the Colonies and the Minister of Foreign Affairs in which he sought funding for his exploration.²⁵ Binger emphasized three overarching *imperial* problems in his letter. First, he wrote, France had recently established a commercial trade route linking the Senegal and Niger river basins. The goal of that imperial mission was to expand France's overseas trade with a region that was reputed to be densely populated and rich in resources. Binger noted that previous explorers indicated that the right bank of the Niger possessed fertile soils, large populations, and a prosperous



Fig. 1. The Kong Mountains in the *Carte du Soudan* (1:5,000,000). Ministère de la Marine et des Colonies, *Sénégal et Niger: La France dans l'Afrique Occidentale 1879-1883* (Paris: Challamel, 1884). Image courtesy of the author.

trade. But there was very little information in Europe about this vast region. He argued that his mission of exploration would unveil the region's human and economic geography to the benefit of French commerce.

A second and related problem was the lack of geographical knowledge of the Kong Mountains, the impressive mountain chain depicted on most nineteenth century maps of the continent (Fig. 1). The mountains were thought to serve as a major drainage divide between the Niger River and the Gulf of Guinea.²⁶ It behoved France, Binger argued, to explore this little-known mountain range which was reputed to be rich in gold and whose valleys were the likely source of regional trade products. Identifying trade routes and navigable rivers through the Kong Mountains would allow the French to direct some of the commerce of the middle Niger valley to outlets in France's coastal trading centres at Assinie, Grand Bassam and Porto Novo on the Gulf of Guinea.

The third challenge centred around French-British imperial rivalries. Binger noted that the British had successfully established themselves in the lower Niger River valley and were keen to expand their commercial activities to the middle Niger. He declared that France should quickly build upon its advances into the Upper Senegal and Niger River basins by securing Timbuktu and

the Niger Bend for the benefit of French commerce. Binger concluded that his exploration of the Niger Bend was thus timely and critical for France's political and economic future in the region. The Undersecretary of State for the Colonies and Minister of Foreign Affairs agreed and jointly funded Binger's expedition, which he estimated would take two years to accomplish.

Imperial rivalries, both European and African, significantly shaped the starting point and direction of Binger's mapping. First, to avoid drawing Britain's attention, Binger began his exploration from France's foothold in the Upper Niger rather than from the Gulf of Guinea. On 20 February 1887, Binger departed from Bordeaux for Senegal. He arrived at the French military post of Bamako on 21 June where he made a second important decision on his direction of travel, this time in relation to France's African rivals, Amadu Tal and Samori Turé. Binger considered two travel options. The first would take him east from Bamako to the Segu and Macina regions controlled by Amadu. The second headed south across territory controlled by Samori (Fig. 2). France had recently signed protectorate treaties with both African leaders which augured well for Binger's safe passage, at least for the first leg of his journey. But Binger had concerns about Amadu who was notorious for holding French military officers in semi-captivity for long

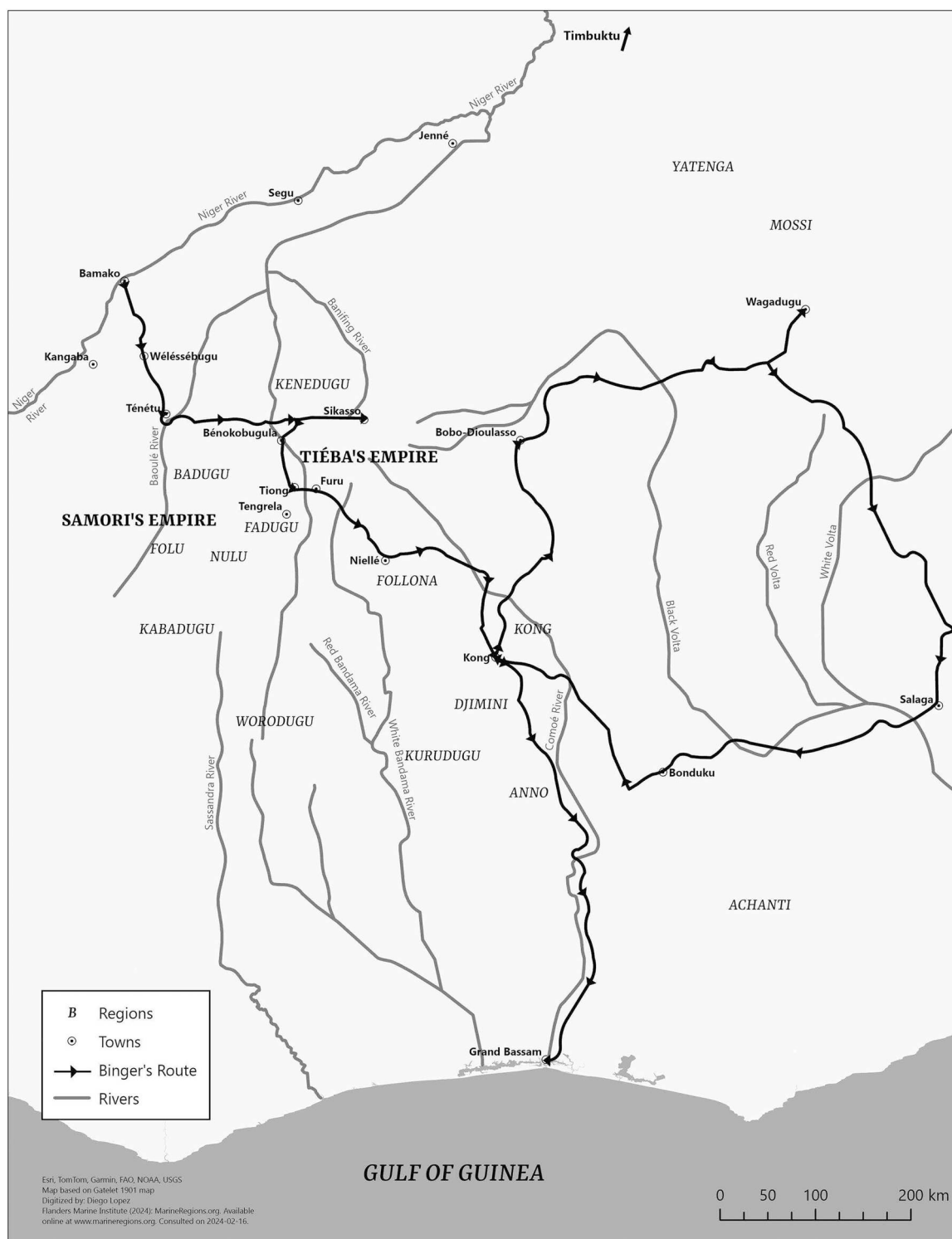


Fig. 2. Reference map of study area highlighting Binger's itinerary, made by the author with the assistance of Diego Lopez.

periods.²⁷ For this reason, Binger decided to take the more southerly route through Samori's territory. This route would take him to Sikasso where

Samori was engaged in a siege against Tiéba Traoré, the ruler of the Kenedugu empire. Binger wanted to collect military intelligence on Samori's

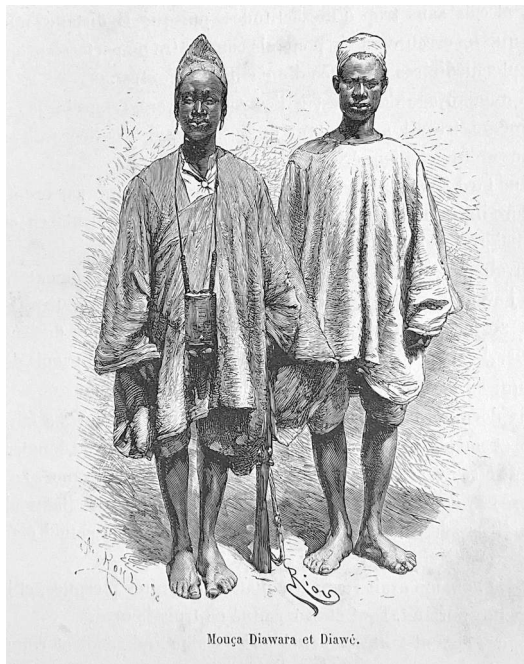


Fig. 3. Binger's interpreter, Moussa Diawara, and convoy leader, Diawé. Binger depended heavily on guides, interpreters, and other go-betweens to collect geographical information. Binger, 1892, v 1: 11. All images from this source courtesy of the author.

military forces and Tiéba's defenses for the Ministry of the Navy and Colonies.

Between March and May 1887, Binger devoted his attention to packing supplies and selecting his African traveling companions. The supplies were mainly gifts that he would give to political authorities for safe passage through their territories and to informants in exchange for geographical information. He recruited eighteen people to handle the donkeys that would carry these goods. He also recruited two men who had served him well during the 1884–85 topographic mission of Parfait-Louis Monteil to the western Soudan. Mouça Diawara, his former horse groom who would serve as his principal interpreter, and 'the devoted Diawé,' his former personal servant who would lead the convoy (Fig. 3). Importantly, all of the convoy members were from communities on the right bank of the Niger River and could, in a pinch, serve as guides and interpreters. Binger insisted that his mission have a non-military character so as not to frighten people en route. However, in the event they should be attacked, he armed three of his men with high-powered Beaumont rifles. In his own baggage, Binger packed three pistols. He also carried a hunting rifle.

With a letter of introduction to Samori from Upper River Commander Colonel Joseph Gallieni, Binger departed Bamako on 30 June 1887. On 5 July, the Binger expedition entered the trading centre of Wélessébugu to an unexpectedly cold reception. Samori's representative halted the convoy, declaring that it could not proceed without Samori's authorization. Binger waited a month before proceeding. This was the first of many occasions when African authorities constrained Binger's mobility.

The interplay of European and African mapping practices

Binger used more than a dozen mapping practices to construct *Du Niger au Golfe de Guinée* (Fig 4). These included surveying and mapping techniques to collect basic geographical information (routes, localities, rivers, mountains, latitude and longitude, etc.) as well as those he employed to organize and display those data in the Ministry of the Navy and Colonies cartography lab in Paris. In this section I emphasize the contingent nature of Binger's mapping in relation to African mapping practices and the constraints imposed on his mapping by African political authorities.

The first mapping practice involved making a base map of the Niger Bend region based on European and African sources. To do so, Binger compiled geographical information from the works of Arabic scholars (El-Békri, Ibn Khaldun, Ibn Battuta) dating from the Middle Ages and from the works of modern European explorers and military officers. His narrative repeatedly refers to the maps of Heinrich Barth, René Callié, and a number of British explorers whose itineraries he cross checks with his own observations. To these data, Binger added information he collected from African soldiers (*tirailleurs sénégalais*) based at the Bamako fort. Their information included routes passing through Samori's and Tiéba's empires and the names of the 'countries' (*pays*) in the border areas of their respective territories. As Binger advanced along the routes indicated to him by the *tirailleurs*, he gathered new information which he used to confirm and modify his base map. He used the Niger River as a rough baseline to estimate the distance and location of the new geographical features he recorded along his route.²⁸

A second mapping practice was to collect his own geographic information using scientific instruments. He used a compass to determine direction,

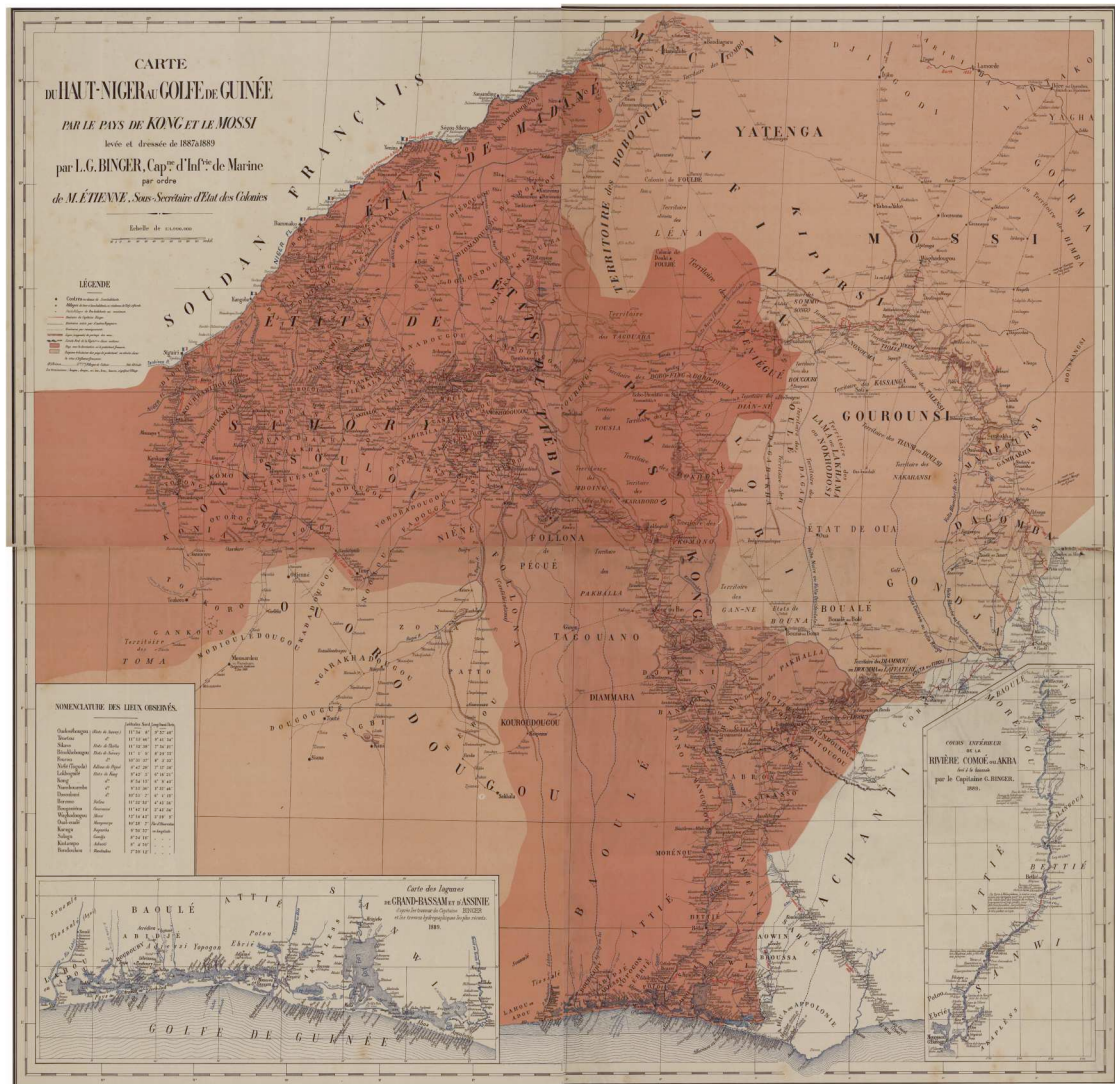


Fig. 4. Capt. Louis-Gustave Binger, *Carte du Haut-Niger au Golfe de Guinée par le Pays de Kong et le Mossi*, 1890 ed., 1:1,000,000. Paris: Service Géographique des Colonies, 1889. Map sheets reproduced courtesy of the Université Bordeaux Montaigne. Sheets pieced together in ArcGIS by Sarah Riadi.

a chronometer and watch to measure distance, a barometer to estimate elevations, and astronomic instruments to determine latitude and longitude. Binger determined the latitude and longitude of fourteen locations and made four additional latitudinal observations. These scientific measurements allowed him to connect his observations with points previously determined by French military surveyors along the Niger River. Binger's emerging geodetic grid served to situate the various itineraries he collected over the course of his journey. It also provided an efficient and legible framework, at least to fellow Europeans, to lay claim to

territories that France would obtain through treaty making and warfare.

A recurring theme in Binger's narrative is the difficulties he faced in conducting route surveys. He quickly learned that African populations viewed his mapping methods with great suspicion. He writes about this social and technical problem from the very beginning of his travels. While he waited at Wélessébugu for Samori's travel authorization, Binger spent his time recording geographical information. The day after his arrival he surveyed the surrounding area on horseback, noting the location of neighbouring villages and geographical

features in his notebook. Within a few days, Samori's representative paid him a visit. He informed Binger that his activities terrified people 'who believe that I had come to wage war on them, and that, already, a large number of women had fled for their safety.'²⁹ Binger was clearly upset by this reaction:

I can say that not once did anyone see me use my compass and I only used my notebook when I was out of sight of local people. As far as the fear of my suddenly invading the country, this was ridiculous: I did not have a single soldier and since my arrival I had considerably reduced my personnel.³⁰

In the context of ongoing French mapping and military conquest of the Senegal and Upper Niger river basins, Binger should not have been surprised by the fear his mapping instilled in local populations. His descriptions of their apprehensions as 'ridiculous' is characteristic of his duplicity, presenting French exploration and treaty making as peaceful, commercially motivated initiatives that did not pose a threat to local sovereignty.

The negative reaction to his surveying led Binger to significantly modify his mapping practices. Everything had to be done secretly. In Wélessé-bugu, for example, he met some long-distance traders who provided useful information on the routes they had taken. Binger noted:

Thus, it is with merchants originally from our [sic] Soudan and from Segou from whom I obtained information; and that at the cost of prodigious efforts at memorization, because the pencil had to be excluded from the interview.

When one of them visited me, I managed to turn the conversation to the route that they had just taken, the difficult streams they had to cross; and information on distances, I relied on comparing the different stops known by both of us; then it was the upcoming route they planned to take, etc.³¹

This passage indicates the transformative effect of African resistance on Binger's mapping. He was forced to adopt African route mapping practices such as memorizing the names of communities, the distance between them, and the physical geographical features along these routes.

When he arrived in a sizeable community or market centre, Binger would settle in and make conversation with local people and traveling merchants. Speaking fluent Mandé-Jula, Binger 'never lacked friends.'³² He also loosened tongues by giving small gifts to his informants. Kola nuts were especially effective. Because he was unable

to openly take notes, Binger adapted his surveying practices:

On market days, when people from neighboring regions arrive, they would be sure to come and visit me to satisfy their curiosity. Here too one had to be *cunning*, as I often spoke *deceptively* in order to know the truth regarding what direction and region they came from. After a laborious conversation lasting one hour, they would be sure to ask me if I would travel through their region. Without answering them directly, I told them that everything depended on the condition of the route, on the stream crossings, on the length of the stages, on the welcome that I would receive from chiefs, etc. In the hope of receiving a nice gift during the next stage of my travels, they would inform me on the number of stages, the nature of the water bodies, and the names of the chiefs to visit ...

Binger also trained his men to discreetly collect geographical information. When they arrived in a new community, they would indirectly inquire about the road ahead. Whether at the village well or in the bush collecting firewood, they would greet people and casually ask for news about the neighbouring village and the condition of the route leading to it. He wrote, 'At other times it was my men, at my direction, who posed questions, and, *hidden* in my hut, I carefully noted all of the proper names and directions.'³³ Binger compared the information gathered by his men with his existing itineraries to determine the direction of the next day's travel. In this surreptitious manner, Binger adapted his mapping practices to acquire the basic geographical information he needed to advance his journey and imperial goals. His calculation of distance between locations illustrates this iterative process of adjusting his mapping methods to local conditions.

To determine the distance between the localities mentioned by his informants, Binger estimated the number of kilometres that four different types of African travellers could walk in one day: fast walking couriers (80 km), individuals with no baggage (25 km); people carrying a head load (20 km); and people walking with pack animals (16 km).³⁴ For instance, he would ask a person traveling with pack animals: 'How many days *did it take you* to come here from such and such a place *with your donkeys*?'³⁵ He used these measures when placing villages along his locally sourced itineraries. He stated that this method was not fool-proof but was generally reliable when linked to his scientific observations. He remarked,



Fig. 5. Binger relied on guides and interpreters to introduce him to local political authorities to gain safe passage through unknown lands. Binger, 1892, v 1: 275.

‘Connecting two known points can only give errors in the length of the stops between them, but the total distance is always accurate.’³⁶

Binger’s travel narrative repeatedly refers to his dependency on a host of African intermediaries who helped him navigate the many obstacles he encountered during his expedition. These included guides, interpreters, couriers, porters, personal servants, villagers, and other people he met along the route. Guides played a critical role in selecting routes of travel and naming locations. In addition to navigating the convoy to the next destination, guides informed Binger about the history of the places they passed through, provided intelligence that was crucial to his safety, and served as diplomats when they introduced Binger to village chiefs and diffused conflicts encountered along the way (Fig. 5).³⁷

Binger frequently commented on his difficulties in finding dependable guides. The best were multilingual who could communicate with non-Mandé speaking populations. Otherwise, it was difficult to obtain geographical information.³⁸ Without a guide, Binger was forced to rely upon his itineraries and compass to navigate. Even these tools were insufficient when he arrived at the edge of a village only to discover multiple trails fanning out in different directions.³⁹ In the absence of a local guide to show him the correct route, Binger often wandered off course and sometimes got lost.

Apprehension is a major current running through Binger’s mapping. He frequently comments on African concerns that personal harm and a loss of sovereignty will result from his

writing on paper. Village chiefs, commoners, and captives alike fear reprisal from political authorities if they share geographical information with him. Binger himself worries that Africans will not share their knowledge and that his mapping project will be a failure. African anxieties about the dangerous potential of Binger’s mapping and his own fear of failure inflect Binger’s mapping as he continues his route to Kong.

Binger stated that travel conditions were ideal when he had a good guide and possessed a letter of recommendation that gave him safe passage into unknown territory.⁴⁰ In some cases, even these conditions were insufficient, as Binger discovered when he tried to enter the important trade centre of Tengrela on 1 November 1887. Tengrela was politically aligned with Tiéba’s Kenedugu Empire. When Binger arrived in a village outside of Tengrela, he explained to its chief that he was ‘completely neutral’ in the conflict between Samori and Kenedugu.⁴¹ He stated that he had been charged by France to visit Kong and, in passing, to greet the chief of Tengrela and its inhabitants. He gave the village chief his letter of introduction from Gallieni written in Arabic as well as a letter of recommendation to El Hadj Mahmadou Lamine from Ténétou, a personal friend of the Imam of Tengrela.⁴² The village chief sent a courier to Tengrela who returned a few hours later with an ominous reply. Tengrela’s chief viewed Binger as representing a political enemy, France, which had allied itself with Samori. The chief had a message for the whites in Bamako—he did not want to have anything to do with them. The time had passed for them to make political overtures to Kenedugu and Tengrela. He forbade Binger to enter Tengrela and ordered him to leave immediately. If he did not leave that evening, they would slit his throat.

Binger took the threat seriously. He fled his camp in the dark of night and under a heavy rain. Before departing, he distributed his three pistols to convoy members and made sure that the Beaumont rifles were loaded. His guards noted that armed horsemen from the Tengrela region followed close behind them until two in the morning. Binger’s main regret was that he was unable to collect itineraries at Tengrela to fill in the blank spaces of his map. He wrote:

This failure would be very difficult to make up. How much information I could have obtained during a month-long stay at Tengrela. The directions and itineraries for all of Fulu, Kabadugu, Bodugu, Nulou,

Fadugu, for Worodugu, Follona, Kurdudugu, etc., all of that is lost and I never will be able to have that opportunity again.⁴³

Despite the death threat, Binger was determined to continue his expedition. At Tiongi he sought permission from Samori's representative, Toumané, to travel to Furu. For nearly a month, Toumané delayed Binger's departure. Although he was finally allowed to enter Furu, Binger complained bitterly that Samori, rather than facilitating his travels, did everything he could to hinder them.⁴⁴

While he waited, Binger collected itineraries and studied the Senufo language with a man from the Follona region. He hoped to use his rudimentary Senufo to collect geographical information during his travels there. But he was frustrated once again when he arrived near Niellé, the capital of Follona, where the chief, named Pegué, barred Binger from entering the walled community. He believed Binger to be a sorcerer who had the power to kill people simply by looking at them. Binger's guide informed him that Pegué was concerned that white men might cast a spell on the town by writing some magical formula on a piece of paper and throwing it down a well or into the streets.⁴⁵

Binger sent his servant and interpreter, Diawé, to give gifts to Pegué. Following the advice of his

guide, Binger removed the manufacturers' labels from the gifts to allay Pegué's fear of writing. Nevertheless, Pegué refused to meet with Binger:

The refusal of Pegué to let me enter his capital was very distressing. Niellé itself was of little importance; what I feared was that other chiefs would greet me in the same manner. As for obtaining good itineraries among such a suspicious and superstitious people, I could only think that it would jeopardize my trip.⁴⁶

Confronted by African leaders' well-founded fears of his surveying activities, Binger was forced to depict many areas on his map as blank spaces. Diawé offered some cartographic consolation. When he returned from his diplomatic mission to Pegué, he drew the layout of Niellé on the ground. In his book, Binger presents a 'faithful reproduction' of Diawé's sketch map of the Follona capital.

A sixth mapping practice was to collect the written itineraries of Muslims who had made the pilgrimage to Mecca. Binger noted that these individuals often carried a sheet of paper that contained directions:

Every good Muslim possesses in a leather pouch the itinerary from his region to Mecca. It is concisely worded and includes directions like the following that I saw in the hands of Mahmoudou Lamine, ex-Znéin of Ténétou.

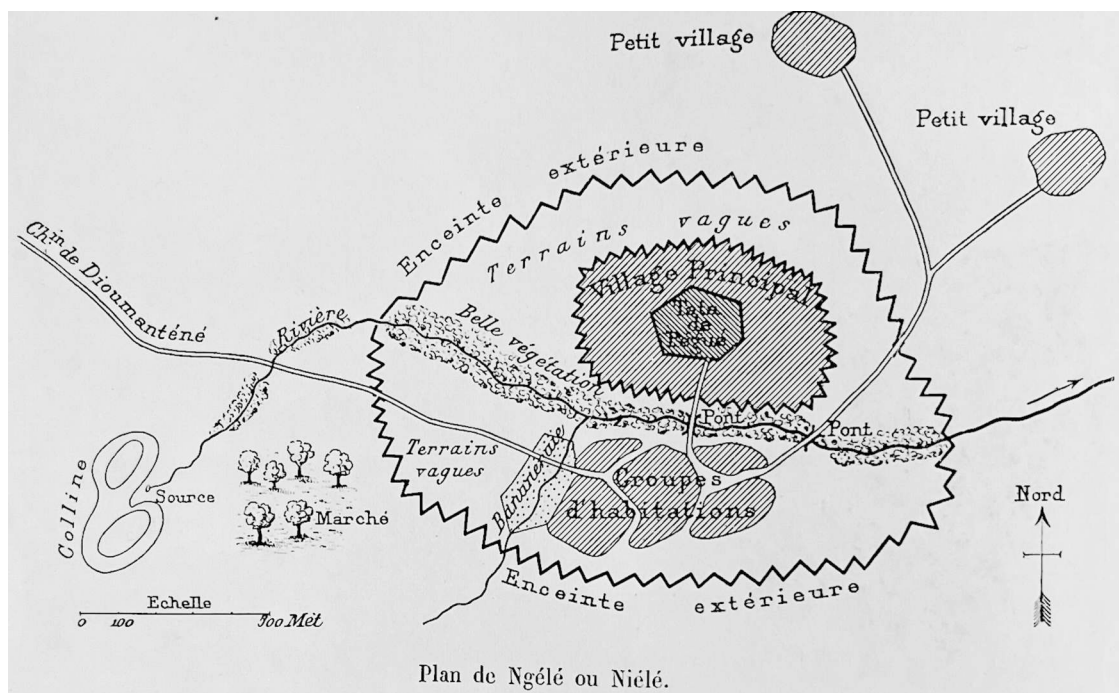


Fig. 6: Diawé's sketch map of Niellé. Binger 1892, v 1: 256.

'Leaving Sakhala in the Ouorodougou, one walks for eleven days before reaching Kanyenni, in the Kourou-dougou. After one passes through Bânou [one enters] the Diammara, or else [one takes] the route to Kong, where there are also many Muslims.'⁴⁷

This African-sourced itinerary is drawn on Binger's map in an area that is otherwise blank (Fig. 7). It represents his attempt to replicate the embodied experiences and mappings of Muslim pilgrims.

Binger interviewed more than a dozen Muslims who had made the hadj and who shared their itineraries with him. Their voyages lasted a minimum of seven years roundtrip. A number of these pilgrims did not return directly to the western Soudan but travelled to Persia, Malta, Tunisia, Egypt, and Yemen. Binger was impressed by these individuals' travel experiences and knowledge, and hoped to meet more learned Muslims who would share their written itineraries with him.⁴⁸

En route to Kong, Binger learned to his great surprise that contrary to prevailing maps, the Kong Mountains did not exist. They were a figment of the imagination of European explorers and map-makers!⁴⁹ In 1795–97 the explorer Mungo Park

believed he saw a mountain range south of Bamako, and its existence was confirmed by Mandé-Jula merchants he interviewed. In his 1798 map depicting Park's travels, James Rennell showed this mountain range extending across much of West Africa. He named them the Kong Mountains.⁵⁰ For nearly a century, the line of mountains appeared on purportedly scientific maps as a major barrier separating the interior and the coast of West Africa. When Binger eliminated the Kong Mountains from the European imaginary, he changed the map of West Africa and opened a new range of imperial possibilities. French merchants no longer faced an immense geographical obstacle to their commercial activities and the French government was delighted with the prospect of linking France's 'possessions' in the upper Niger river with those on the Gulf of Guinea thanks to the new routes opened up by Binger.

A year after his departure from France, Binger entered Kong, 'modestly mounted on an ox, in the middle of a population that was neither kind nor hostile but avid to see a European.'⁵¹ Kong's

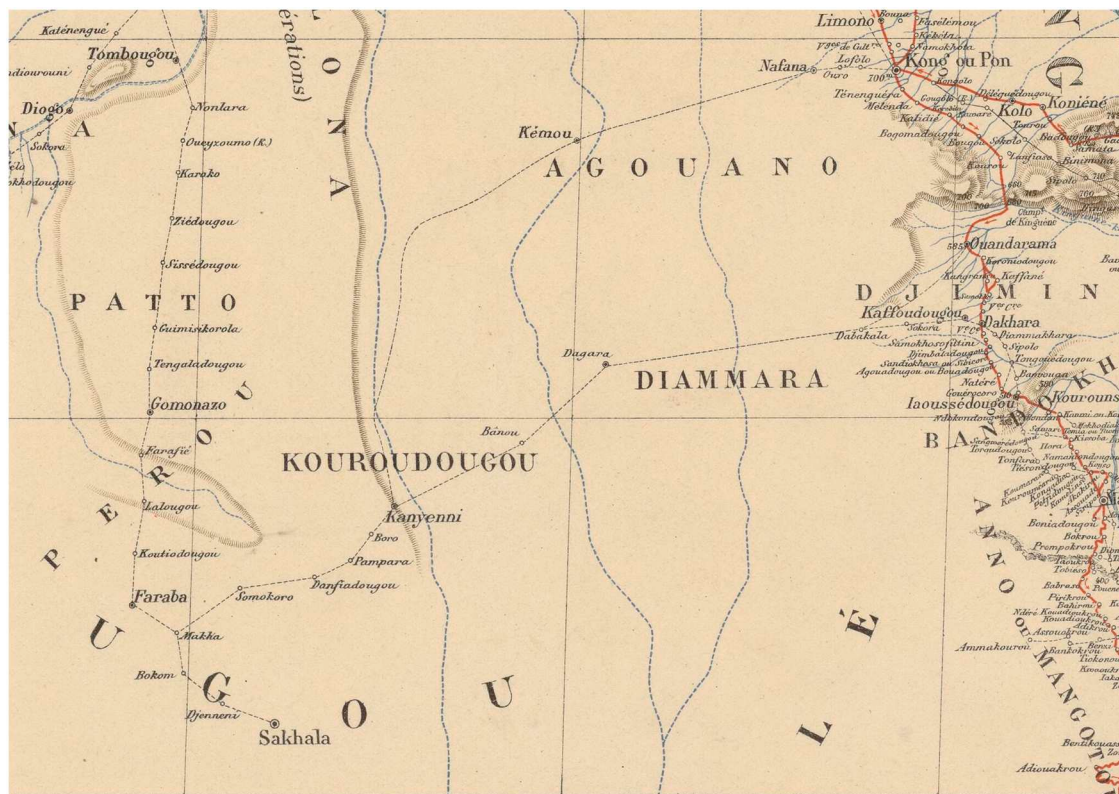


Fig. 7. Sakhala to Kong itinerary (black dotted line) in *Carte du Haut-Niger* based on a written list owned by Hadj Mamadu Lamine.

أَنَعْفَدَ إِلَهُ اللَّهِ، حَقَّ الْقُرْآنِ مَا تَرَكُوا لَنَا الْقَوْمَ بِأَلْسِنَتِهِمْ وَأَوَّلَ الْبَلَدِ
 وَالسَّيْلَ عَلَى نَبِيٍّ مَعَهُ سَيِّدُ الْأَوَّلِينَ وَالْآخِرِينَ قَدْ رَفَعَ إِلَهُ الْقُرْآنِ
 كَرَّمَ مِنْهُ جَزْرُورَ تَنْتَسِبُ إِلَيْهِ بِلَدُ دَاوُدَ عَلَيْهِ الْكَرِيمُ وَالْحُكْمُ
 سَبَبُ قِسْبِ الْقُرْآنِ سَلَامٌ عَلَيْكَ أَيُّهَا الْمَلِكُ يَا مُرِيدَ الْبَلَدِ
 قَدْ أَرْسَلْتُ إِلَيْكَ النَّصْرَةَ فِي سَلَامَةٍ لِيُخَالِفَ قَوْمِي تَمَّ أَمْرُ
 ضَكَّ الْفَرَسِ كَرَّمَ الْأَمْرُ فِي بِلَدِ دَاوُدَ عَلَيْهِ الْكَرِيمُ وَتَنْتَسِبُ
 وَلَقَدْ سَمِعْتُ خَبْرَهُ سَمِعْتُ الْكَلَامَ الْيَقِينُ فِي حَبْرٍ قَدْ خُولِيَ
 إِلَيْتَا وَلَقَدْ خَلَّ تِلْكَ النَّصْرَةَ إِلَيْنَا وَفَسَلْنَا لَكُمْ فِي حَبْرٍ تَمَّ جَزْرُورُ
 فِي أَفْرِو قَمَّا وَجَدْنَا شَيْئًا لَمْ نَكُنْ نَعْلَمُ بِهِ لَكُمُ الْكَرِيمُ قَدْ لَسْنَا إِلَيْنَا
 الْهَيْئَةُ حَقٌّ مَلِكُ تِلْكَ النَّصْرَةِ الْقَوْمِ مِنْ دُونِ الْبَلَدِ مَقْصُورٌ
 وَتَرَكْنَا الْفَرَسَ فِي بِلَدِ دَاوُدَ عَلَيْهِ الْكَرِيمُ وَتَمَّ أَمْرُ
 قَدْ أَرْسَلْتُ تِلْكَ النَّصْرَةَ إِلَيْنَا وَالْقُرْآنِ إِلَيْنَا يَا مُرِيدَ
 كَرَّمَ تَنْتَسِبُ إِلَيْنَا نَصْرَةَ إِلَيْنَا أَمِيرُكُمْ كَرَّمَ أَمْرُ
 يَكُنْ قَبْلَ الْبَلَدِ إِلَى الْأَسَدِ الْإِسْلَامِيِّ الْإِسْلَامِيِّ الْإِسْلَامِيِّ
 أَسْمُهُ كَبَدُ الْبَلَدِ وَكَرَّمَ أَمْرُكُمْ قَوْمِي فِي بِلَدِ سَدْرُوكَ
 قَدْ تَلَفْنَا إِلَيْنَا فِي بِلَدِ كَرَّمَ فِي بِلَدِ كَرَّمَ فِي بِلَدِ كَرَّمَ
 بَعْدَ رَجَاءِ اللَّهِ دَاوُدَ كَرَّمَ قَوْمِي فِي بِلَدِ كَرَّمَ فِي بِلَدِ كَرَّمَ
 بِاللَّهِ وَيَرْسُولِهِ دَاوُدَ كَرَّمَ قَوْمِي فِي بِلَدِ كَرَّمَ فِي بِلَدِ كَرَّمَ
 وَسَلَامٌ عَلَى قَوْمِ الْهَدْيِ

Fac-similé du sauf-conduit délivré par les gens de Kong.

Fig. 8. Binger's travel permit through Kong territory. Binger, 1892, v 1: 331.

rulers welcomed Binger and asked why he had travelled to Kong. Binger explained that France hoped to establish a political and trade relationship with the Kong State. He hoped to learn about the principal trade routes and products of the region and planned to visit the Mossi empire to the north. He tried to reassure Kong's political and religious authorities that France had no interest in taking over their country. But many people believed otherwise. Some viewed Binger as an emissary of Samori, Kong's enemy. They wondered why Binger would stop at Sikasso to visit Samori; was he not working to advance his interests? Others interpreted Pegué's authorization of Binger's travel through his territory as a sign that Kong's allies held a more positive view, and Binger's generous gifts to Kong's political and religious elite helped to win them over.⁵² Before his departure to Mossi country, Kong's leaders provided Binger with a guide and travel permit that would safely take him to the northern limits of Kong's territory (Fig. 8).⁵³

During his three-week stay in Kong, Binger was able to collect much route information from African sources:

Some informants went as far as showing me the length of intervals between locations with bits of straw serving as comparative measures. The Mandé-Jula (language) is truly precious in many situations. When the next day, I set out en route, I had in my possession two excellent itineraries based on secondhand route information.⁵⁴

The mention of Africans using different pieces of straw to indicate distance illustrates the Indigenous practice of route mapping. The length of the straw is proportional to the distance between locations. The incorporation of straw into drawings on the ground suggests that ground mapping took various forms. In many cases, ground maps were like Diawé's depiction of Niellé—schematic drawings on the ground. In other cases, material objects were integrated into these drawings to highlight certain aspects like distance. The different forms and compositions most likely emerged in the contexts of the socio-spatial problems that African mapping aimed to solve.

During his journeys to Wagadugu, Salaga, and back to Kong by way of Bonduku, Binger continued to use the same mapping practices. He depended on the authorization of African rulers to pass through their countries, sought guides to lead him from place to place, collected itineraries from African informants along the entire way, and secretly recorded his own geographical observations. Binger constantly cross-checked his observations with existing maps; he also drew sketch maps of communities based on his own surveys or from African sketches. His travel narrative indicates that he greatly benefited from the generosity of people he encountered along the way. These were individual men and women who not only shared their geographical knowledge but also cared for him when he fell ill.⁵⁵

But Binger was not welcomed everywhere he went. Between Kong and Bobo-Dioulasso, five chiefs refused to meet with him, purportedly because they believed they would die after viewing a white person:

This refusal was very upsetting, first because it prevented me from determining the importance of and surveying the two rivers that join to make up the western branch of the Volta, and to begin [mapping] the routes to Djitamana and Jenné; and [secondly] because since my departure from Kong, this was the fifth chief who refused to connect with me and to see me.⁵⁶

Binger also received a mixed reception in Wagadugu. The chief of the Mossi confederation, Naba

Samon, welcomed Binger but rejected his request to travel beyond the Mossi capital. He also refused to sign a protectorate treaty with France. Binger had hoped to travel to the Niger River and Yatenga province with the goal of connecting his travels with those of Barth.⁵⁷ As in Tengrela and Niellé, the limitations placed on Binger's travel by local political authorities forced him to leave large areas of his map as blank spaces.

The contrasting receptions to Binger's presence and geographical queries underscore the importance of context in mapping processes. In some quarters, Binger was well received and was able to 'harvest' considerable amounts of geographical information. In other places and circumstances, he faced a wall of resistance and left empty handed. Everywhere he had to modify his original mapping practices due to deep concerns about his presence and goals. Africans everywhere were suspicious of Binger's intentions. They correctly viewed him as representing the advanced guard of French military forces and thus a threat to their sovereignty. Binger's repeated references to using deception to gain geographical knowledge underscores the tensions and mistrust informing his mapping. The *Carte du Haut-Niger* emerges from these on-the-ground encounters and vulnerabilities marked by apprehension and distrust, cooperation and gift giving, and mutable mapping practices. Similar to knowledge making in other 'contact zones,' the *Carte du Haut Niger* can be viewed as a hybrid Euro-African construction that emerged from repeated negotiations in the contexts of asymmetrical power relations, uncertainties, and anxieties.⁵⁸

Drawing the line

My title, 'Drawing the Line,' refers to the limits placed by African authorities on Binger's travels. In regions where African leaders welcomed Binger, he was able to collect itineraries, which often take the form of route networks on his map. Where African leaders blocked his passage, blank spaces dominate. This is the case for the areas south of Tengrela and Niellé and north and east of Wagadugu where African rulers impeded Binger's travels and thus his ability to collect geographical information (Fig. 9). By drawing the line where Binger could travel and could not, African political authorities and politics stand out as major actors in the construction of the *Carte du Haut-Niger*.

In addition to these broad scale African influences on his mapping, Binger's narrative demonstrates his deep dependency on African wayfinding practices. These included the guides who led Binger from one village to the next and the individuals who provided him with itineraries. These actors drew upon their own repertoire of mapping practices—oral and written route mapping, ground mapping, and using different lengths of straw to indicate the distance between locations. This African-sourced information accounted for most of the route mapping Binger recorded over the course of his two-year journey. According to him, the total length of the itineraries he personally surveyed amounted to 4000 km.⁵⁹ In contrast, his African sources provided him with more than 50,000 km of itineraries that he never visited.⁶⁰

A geographic information systems analysis of the *Carte du Haut-Niger* shows this predominance of African itineraries. Figure 10 is a geo-referenced and digitized version of this map that highlights the three itinerary types: Binger's itinerary (green), the itineraries of other European explorers (black), and itineraries collected from African informants (purple). Binger's itinerary accounts for just 11% of the total length of all itineraries. The itineraries of other Europeans amount to another 15%. Itineraries derived from African sources represent 74% of the total length of all routes depicted on the map. European itineraries amount to 8,122 km while African itineraries total 23,178 km. A corollary to this finding is that the majority of place names shown on the map are also supplied by African informants. Indeed, an analysis of the origins of toponyms on the map showed this to be the case. I noted on each of the four sheets whether a village's name was located on a solid line, indicating a firsthand observation by a European, or along a broken line, pointing to an African source. The results show that 51% of the village names derived from African sources.

Based on these quantitative findings alone, we can conclude that Binger's map is a Euro-African construction. This finding is supported in Binger's narrative in which there are dozens of descriptions of his collecting itineraries from Africans, many of whom he names.⁶¹ Reading between the lines, it is fair to conclude that even the routes and toponyms attributed to Europeans are derived from Euro-African interactions.

These two quantitative indicators of African influences on Binger's map lead one to ask an



Fig. 9. Politically derived blank spaces south of Tengrela and Niellé in *Carte du Haut-Niger*.

additional question. What would his map look like if African-derived geographical information was removed? Figure 11 compares part of sheet 1 of Binger's map with a version in which locally sourced geographical information has been erased.⁶² I have retained some regional place names to facilitate the comparison. The edited map reveals that in the absence of African-sourced information, blank spaces would be far more extensive. This re-visualization, combined with the two quantitative indicators discussed above, underscores the Euro-African nature of the *Carte du Haut-Niger*.

Binger wrote that the blank spaces on his map testified to the rigour of his mapping methods.⁶³ Only that information about which he was certain

appeared on the map. In contrast to this scientific posturing, we can view Binger's blank spaces as 'contextually co-constituted.'⁶⁴ They do not issue simply from his inability to travel to these areas to make scientific measurements. As demonstrated above, he visited only a fraction of the places depicted on his map. The blank spaces emerge from Binger's inability to collect geographical information from people who were knowledgeable about these places. This failure is inextricably linked to Binger's interactions with African political authorities who refused to meet with him and who barred him from entering their territory. The blank spaces on Binger's map emerged from these political tensions. They also illustrate his failure to completely solve the geographical problems that

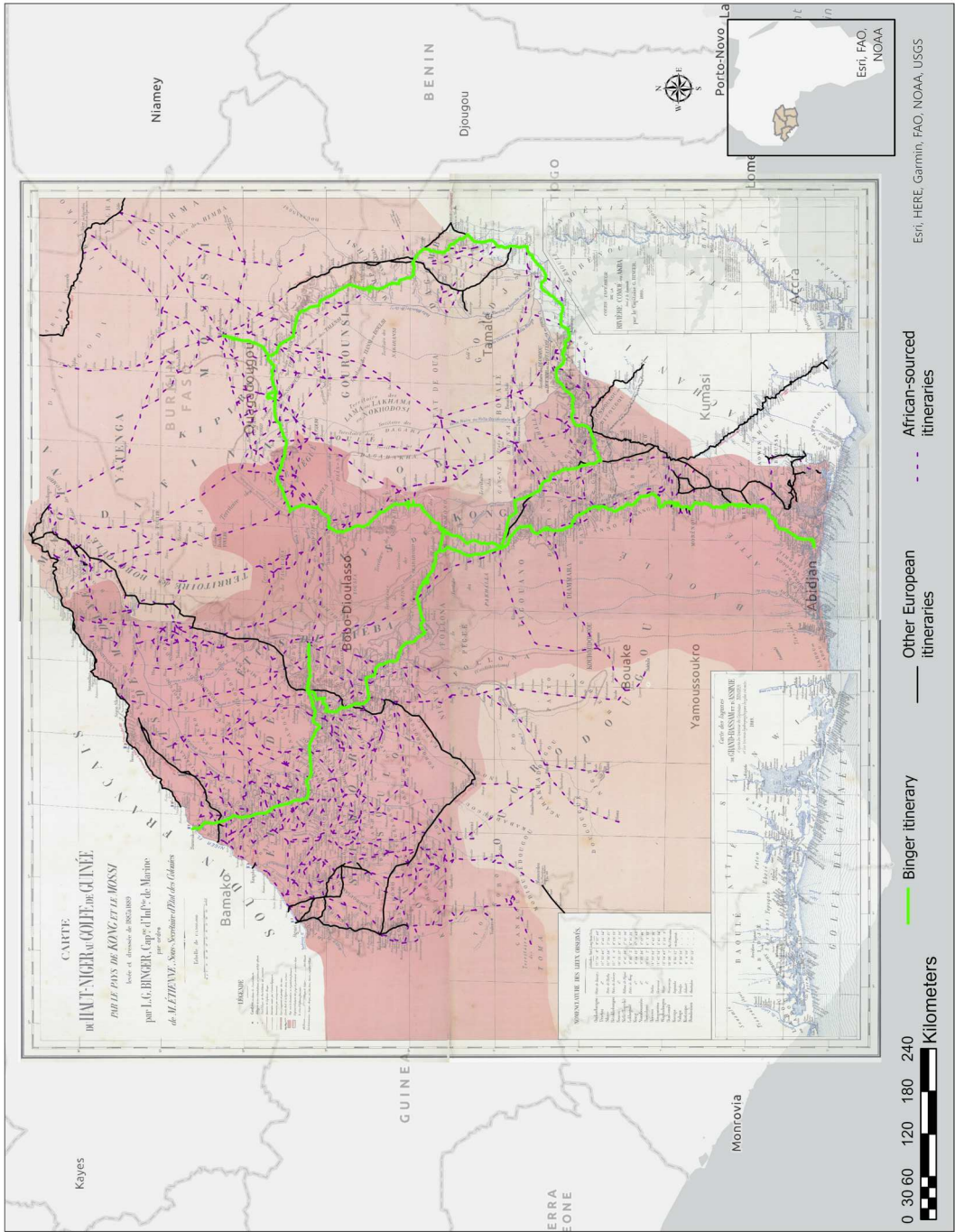


Fig. 10. A georeferenced version of *Carte du Haut-Niger* showing European and African-sourced itineraries.

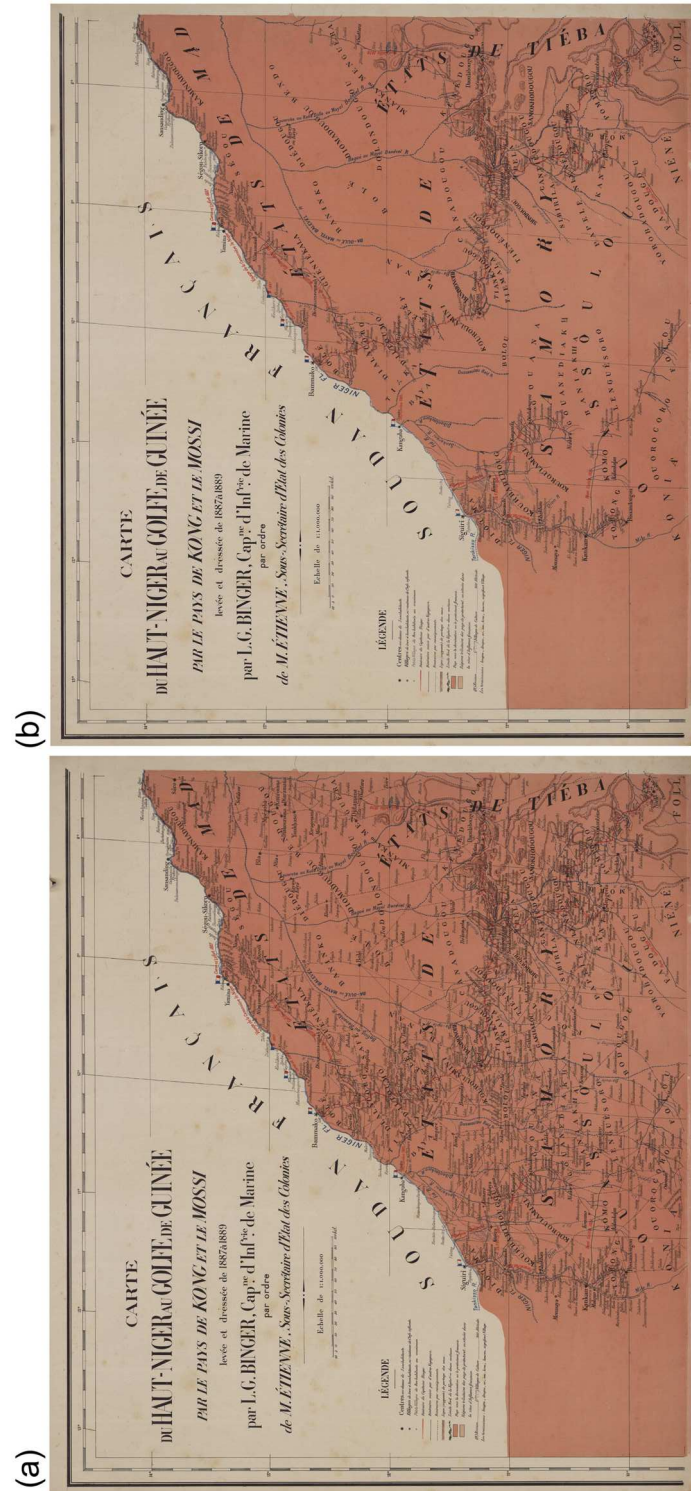


Fig. 11. A comparison of the original title sheet of *Carte du Haut-Niger* (left) with a modified version in which African-sourced geographical information is removed (right).

motivated his expedition. Filling in these blank spaces would ultimately take place in different social and political circumstances, notably after French military forces defeated Samori's and Tieba's armies and incorporated their territories into France's expanding colonial empire.

European cartographers and geographical societies were keen to update their maps based on Binger's findings. The French military mapmaker Reginald Lannoy de Bissy revised the relevant sheets of his monumental map of Africa to incorporate the new geographical information contained in the *Carte du Haut-Niger*.⁶⁵ Binger received numerous invitations to speak about his travels and was awarded the highest honours from France's geographical societies. In 1889 the Paris Commercial Geographical Society awarded Binger its gold medal and the Prix Berg.⁶⁶ The following year he received the highly prestigious gold medal from the Paris Geographical Society.⁶⁷ In the many accolades of Binger's achievements, some referenced his reliance on African sources. Georges Demanche, editor of the colonial expansionist journal *Revue Française de l'Etranger et des Colonies*, praised Binger's:

... remarkable geographical work that contains not only all of the surveys undertaken by Captain Binger, but also a great number of itineraries based on locally sourced route information (*itinéraires par renseignements*) that the explorer had the good fortune to obtain and the talent to coordinate. The protectorate lands are clearly determined along with their spheres of influence.⁶⁸

The 'talent to coordinate' refers to the mapping process of critical comparison in which mapmakers cross check the reliability of their sources to decide what information to show or not to show.⁶⁹ Demanche's recognition of the importance of African-sourced information in Binger's map testifies to the widespread acceptance of African-sourced materials in European maps by France's late-nineteenth-century scientific community.

There were clearly multiple hands involved in drawing the lines on the *Carte du Haut-Niger*. One of the contributions of this study is to show the extent to which Binger depended upon African intermediaries to advance his mapping goals. His map and narrative reveal the importance of several African mapping practices, including oral mapping, ground mapping, and written itineraries, in shaping the content of his map. Local suspicions of Binger's mapping practices forced him to modify his methods to the point of adopting local practices for his route mapping, such as

memorizing lists of place names and the days of travel between them.

A second contribution builds upon the first. It encourages the rethinking of conventional European mapping practices in non-Eurocentric terms. The convention of blank spaces is a case in point. This 'scientific' practice can be traced to the eighteenth-century French cartographer Jean-Baptiste Bourguignon d'Anville who argued that only those areas that had been observed by Europeans should be depicted on maps. By extension, areas not seen and measured by Europeans should be left blank. Map historians have also interpreted blank spaces as a European imperial mapping practice that encouraged the occupation of foreign lands by suggesting that these spaces were unoccupied and thus open to colonization.⁷⁰ This article goes beyond these Eurocentric interpretations to show blank spaces emerging not only from an ethic of accuracy or colonial expansionist desires but also from on-the-ground encounters between European explorers and powerful African authorities who refused Europeans entry into their territories for political and economic reasons.

A third contribution is methodological. The digital analysis of the routes based on European and African sources, combined with the qualitative analysis, complements the textual analyses pioneered by postcolonial literary scholars. The results of this mixed methods approach provide ample evidence for rethinking what have been considered European maps of Africa. Yet, the case study shows that African-sourced materials were integrated in a way that reinforces the cartographic ideal rather than diminishes it. African route information is accommodated in a hierarchical and temporary manner. It appears as tentative information (dashed lines) that will eventually be replaced by European observations (solid lines). African mapping is also subject to Binger's vetting and inserted into the geometric grid of European scientific geography. Given these practices, it is difficult to speak of the *Carte du Haut-Niger* as a 'co-construction' that unites mappers with a common objective and epistemology.

This study confirms the observations of other scholars of European map history that spatial knowledge of many non-Western regions was not the outcome of imposing a cartographic ideal but issued, rather, from negotiations and the interplay of intercultural mapping practices. Binger's incorporation of African practices into his mapping project extends to West Africa what Raj has

convincingly shown for the mapping of South Asia —‘that knowledges that thus emerged were totally contingent on the encounter and that important parts of what passes off as “Western” science were actually made outside the West.’⁷¹ Binger’s ‘talent’ to mediate African and European mapping practices resulted in a hybrid mapping that is likely characteristic of other so-called European maps of Africa. Additional research should reveal the extent to which this case study is representative of other mappings of the continent and, by extension, of the general history of European mapping of the non-Western world.

Acknowledgements: I thank Katie Parker and two anonymous reviewers for their insightful comments, Sarah Riadi for her assistance with the digital analysis, Diego Lopez with his help with figure 2, and Carol Spindel for her constant support and sharp blue pencil.

Manuscript submitted May 2024. Revised text received March 2025.

Disclosure Statement: No potential conflict of interest was reported by the author(s).

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22. Antoine E. Carette, ‘Carte Des Routes Suivies Par Les Arabes Dans La Partie Meridionale De L’Algerie Et De La Regence De Tunis,’ eng. J.M. Hacq, in Carette, *Étude des Routes Suivies par les Arabes dans la Partie Méridionale de l’Algérie et dans la Régence de Tunis* (Imprimerie Royale, 1844), Plate I, is available at Gotha.digital: https://gotha.digital/item/ufb_cbu_00033939. On the

influence of Saint-Simonian philosophy on French mapping of Algeria, see Michael Heffernan, 'An Imperial Utopia: French Survey of North Africa in the Early Colonial Period,' in *Maps and Africa. Proceedings of a Colloquium at the University of Aberdeen*, ed. Jeffrey C. Stone (African Studies Group, 1994), 81–107.

23. On the French ideology of the civilizing mission, see Alice L. Conklin, *A Mission to Civilize: The Republican Idea of Empire in France and West Africa* (Stanford University Press, 1997).

24. A digital version of the four-sheet lithographed map, 'Carte du Haut-Niger au golfe de Guinée, par le pays de Kong et le Mossi,' Bibliothèque nationale de France (BnF), Cartes et plans, GE C-1333, is available at <https://gallica.bnf.fr/ark:/12148/btv1b53025119c?rk=128756;0>.

25. Archives Nationales d'Outre Mer (ANOM)(France), Missions 12, Lieutenant Binger, Projet d'un voyage d'exploration dans la boucle du Niger. Exposé des motifs, Officier d'ordonnance du GI Faidherbe (Paris, 18 December 1886),

26. Thomas J. Bassett and Philip W. Porter, 'From the Best Authorities: The Mountains of Kong in the Cartography of West Africa,' *Journal of African History* 32, no. 3 (1991): 367–413.

27. Amadu held Lt. Eugene Mage and Dr. Louis Quintin in Segu for more than two years in 1864–66 before allowing them to return to Senegal. In 1880–81, Amadu detained the Gallieni mission for ten months outside of Segu in the community of Nango.

28. Archives Nationales du Sénégal (ANS), 1 G 199, Letter from Lieutenant Binger to J. Ancelle, Bamako, 29 July 1887.

29. Louis-Gustave Binger, *Du Niger au Golfe de Guinée par le pays de Kong et le Mossi*, 2 vols. (Hachette, 1892), 1: 28.

30. Binger, *Du Niger au Golfe de Guinée*, 1: 28–29.

31. Binger, *Du Niger au Golfe de Guinée*, 1: 30.

32. Binger, *Du Niger au Golfe de Guinée*, 1: 310.

33. Binger, *Du Niger au Golfe de Guinée*, 1: 329–30, emphasis added. Cited pages refer to the previous block quote as well.

34. Binger, *Du Niger au Golfe de Guinée*, 1: 1, 87–88.

35. Binger, *Du Niger au Golfe de Guinée*, 1: 88, emphasis in original.

36. Binger, *Du Niger au Golfe de Guinée*, 2: 352.

37. Binger, *Du Niger au Golfe de Guinée*, 1: 427–28.

38. Binger, *Du Niger au Golfe de Guinée*, 1: 412, 433.

39. Binger, *Du Niger au Golfe de Guinée*, 1: 166.

40. Binger, *Du Niger au Golfe de Guinée*, 1: 293.

41. Binger, *Du Niger au Golfe de Guinée*, 1: 175.

42. This is not the El Hadj Mamadou Lamine who led an uprising against France in the Upper Senegal River in the mid-1880s.

43. Binger, *Du Niger au Golfe de Guinée*, 1: 180–81; ANS, 1 G 199, Letter from Binger to J. Ancelle, Furu, 14 December 1887.

44. ANS, 1 G 199, Letter from Binger to [J. Ancelle], Notes from Binger's journal, Kong, 10 March 1888. Toumané also coveted Binger's merchandise and only let him depart after obtaining some of his goods for derisory prices.

45. Binger, *Du Niger au Golfe de Guinée*, 1: 252.

46. Binger, *Du Niger au Golfe de Guinée*, 1: 254.

47. Binger, *Du Niger au Golfe de Guinée*, 2: 87.

48. Ibid.

49. Binger, *Du Niger au Golfe de Guinée*, 1: 294. For a complete account of the rise and fall of the Kong Mountains, see Thomas J. Bassett and Philip W. Porter 'From the Best Authorities.'

50. A digital version of the manuscript map, A Map Shewing the progress of Discovery and Improvement in the Geography of North Africa, compiled by J[ames], Rennell,' Bibliothèque nationale de France, Cartes et plans, GE C-10996 is available at <https://gallica.bnf.fr/ark:/12148/btv1b531026549>.

51. Binger, *Du Niger au Golfe de Guinée*, 1: 288.

52. Binger, *Du Niger au Golfe de Guinée*, 1: 293.

53. Binger, *Du Niger au Golfe de Guinée*, 1: 331–33.

54. Binger, *Du Niger au Golfe de Guinée*, 1: 329.

55. Binger, *Du Niger au Golfe de Guinée*, 1: 384.

56. Binger, *Du Niger au Golfe de Guinée*, 1: 376.

57. Binger, *Du Niger au Golfe de Guinée*, 1: 465–66.

58. For contact zones, see Raj, *Relocating Modern Science*, 18, 225.

59. Binger, *Du Niger au Golfe de Guinée*, 2: 351.

60. Binger, *Du Niger au Golfe de Guinée*, 2: 352.

61. Binger discusses collecting and using African itineraries more than fifty times in his two-volume work.

62. I used Adobe Photoshop to remove all routes and river courses represented by broken lines, the symbol for locally sourced route information, as well as the village and regional names along these itineraries.

63. Binger, *Du Niger au Golfe de Guinée*, 2: 352.

64. Rob Kitchen and Martin Dodge, 'Rethinking Maps,' 342.

65. Binger corresponded with Lannoy de Bissy about the geographical position of Kong and Salaga, which led Lannoy to revise his maps. Letter from Louis-Gustave Binger to Lannoy de Bissy, 2 April 1890, Bibliothèque municipale de Chambéry, MSS C 001.550–002, Dossier relatif au Voyage de Louis-Gustave Binger.

66. M. Dunan, 'Rapport sur les prix de 1889,' *Bulletin de la Société de Géographie et de la Commission Centrale* (1889): 245–46.

67. First General Assembly, *Société de Géographie*, 25 April 1890, *Comptes Rendus des Séances de la Société de Géographie et de la Commission Centrale* (1890): 229–31.

68. Georges Demanche, 'Les Traités de Binger au Soudan Français,' *Revue Française de l'Étranger et des Colonies et Exploration*, *Gazette Géographique* 12, no. 100 (1890): 220, n. 1.

69. Anne Marie Claire Goldlewska, *Geography Unbound: French Geographic Science from Cassini to Humboldt* (University of Chicago Press, 1999), 40, 47–48.

70. J. Brian Harley, 'Silences and Secrecy: The Hidden Agenda of Cartography in Early Modern Europe,' *Imago Mundi* 40 (1988): 57–76; Thomas J. Bassett, 'Cartography and Empire Building in West Africa,' *Geographical Review* 84, no. 3 (1994): 316–35; Isabelle Surun, 'Le Blanc de la Carte, Matrice de Nouvelles Représentations des Espaces Africaines,' in *Comblant les Blancs de la Carte: Modalités et Enjeux de la Construction des Savoirs Géographiques (XVIIe–XXe siècle)*, ed. Isabelle Laboulais (Presses Universitaires de Strasbourg, 2004), 88–108.

71. Raj, *Relocating*, 223.

Tracer la ligne. L'interaction des pratiques cartographiques européennes et africaines dans la Carte du Haut-Niger au Golfe de Guinée (1:1 000 000)

Cet article illustre l'imbrication des pratiques cartographiques européennes et africaines dans la construction de la *Carte du Haut-Niger au Golfe de Guinée*, réalisée en 1890 par le capitaine Louis-Gustave Binger. La plupart des informations géographiques contenues dans cette carte proviennent de sources africaines et non pas d'observations directes de la part de Binger ou d'autres Européens. Binger a recueilli des informations d'itinéraires auprès d'Africains qui lui ont transmis leurs connaissances géographiques par un ensemble de pratiques cartographiques. Binger comme les Africains rencontrés, en particulier des marchands et des pèlerins, ont fait face au même problème géographique, à savoir comment aller d'un point A à un point B. L'expression "tracer la ligne" correspond à ce partage de pratiques cartographiques, mais aussi aux limites imposées par les détenteurs d'autorité africains face aux avancées impériales françaises dans la boucle du Niger. Ces tensions politiques sont perceptibles sur la carte de Binger. Les régions de la carte où ce dernier a pu réunir des itinéraires sont couvertes de denses réseaux de routes, alors que d'autres zones dont les dirigeants africains avaient refusé l'accès restent des espaces blancs. Par une approche combinant plusieurs méthodes, je soutiens que la *Carte du Haut-Niger* peut être considérée comme une construction hybride euro-africaine, issue de négociations répétées, dans un contexte de relations asymétriques de pouvoir, d'incertitude et de tensions.

Trazar la línea: la interacción de las prácticas cartográficas europeas y africanas en la Carte du Haut-Niger au Golfe de Guinée (1:1.000.000)

Este artículo muestra la natural relación de las prácticas cartográficas europeas y africanas en la construcción de la *Carte du Haut-Niger au Golfe de Guinée...* de 1890 del capitán Louis-Gustave Binger. La mayor parte de la información geográfica contenida en este mapa procede de fuentes africanas, no de observaciones de primera mano de Binger u otros europeos. Binger recolectó esta información sobre rutas de origen local, de africanos que le transmitieron sus conocimientos geográficos a través de diversas prácticas cartográficas. Tanto Binger como los africanos que encontró, sobre todo comerciantes y peregrinos, se enfrentaban al mismo problema geográfico—cómo llegar del punto A al punto B. "Trazar la línea" hace referencia a estas prácticas cartográficas compartidas, pero también a los límites impuestos por las autoridades africanas a los avances imperiales franceses en el Níger. Estas tensiones políticas sobresalen en el mapa de Binger. Algunas regiones en las que pudo recopilar itinerarios están cubiertas de densas redes de rutas, mientras que otras zonas en las que los líderes africanos rechazaron su paso son espacios en blanco. Utilizando un enfoque metodológico mixto, sostengo que la *Carte du Haut Niger* puede considerarse una construcción híbrida euroafricana, surgida de repetidas negociaciones en contextos de relaciones de poder asimétricas, incertidumbres y ansiedades.

Drawing the line': Das Wechselspiel von europäischen und afrikanischen Kartierungspraktiken in der Carte du Haut-Niger au Golfe de Guinée (1:1 000 000)

In diesem Beitrag wird veranschaulicht, wie eng europäische und afrikanische Kartierungspraktiken in der Konstruktion der *Carte du Haut-Niger au Golfe de Guinée* von Captain Louis-Gustave Binger aus dem Jahre 1890 miteinander verwoben sind. Die meisten geografischen Informationen auf dieser Karte beruhen auf afrikanischen Quellen und nicht auf Beobachtungen von Binger selbst oder anderen Europäern. Binger erwarb diese lokal entstandenen Streckenbeschreibungen von Afrikanern, die ihm ihr geografisches Wissen in einer Vielfalt an Kartentypen übermittelten. Wie Binger waren auch die afrikanischen Händler und Pilger, die er traf, mit dem gleichen geografischen Problem konfrontiert - wie von A nach B gelangen. ‚Drawing the line‘ im Sinne zeichnerischer Technik bezieht sich auf diese geteilten Kartierungspraktiken, spielt aber in der Bedeutung ‚Die Grenze ziehen‘ auch auf die räumlichen Beschränkungen an, die afrikanische Machthaber dem imperialen französischen Vorrücken in den Nigerbogen setzten. Diese politischen Spannungen werden in Bingers Karte besonders deutlich. Einige Regionen, von denen Binger Wegebeschreibungen sammeln konnte, sind mit einem dichten Streckennetz überzogen, während andere Gebiete, deren Durchquerung ihm von afrikanischen Anführern verwehrt wurde, auf der Karte leer

blieben. Der Autor des Beitrags nähert sich der Karte mit verschiedenen Methoden und stellt heraus, dass die *Carte du Haut Niger* als hybride euro-afrikanische Konstruktion gelesen werden kann, die das Ergebnis wiederholter Verhandlungen auf der Grundlage von asymmetrischen Machtverhältnissen, von Unsicherheiten und Ängsten ist.