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“Local knowledge is wonderfully good, but ...” – African Knowledge in European Maps –

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ABSTRACT

During the 19th and early 20th centuries, map-making European travellers, missionaries and scholars depended profoundly on the geographical knowledge provided by indigenous informants in Africa. In their diaries, travel accounts and maps, however, Europeans tended to conceal their dependence and depict African authorities as unreliable.

Our research project aims to ascertain the influence of local geographical conceptions (place naming, topology etc.) on European maps of Africa. What aspects of indigenous perceptions of space were appropriated? What are the characteristics of this transfer of knowledge? Who were its actors and driving forces? These questions have so far not played a decisive role in interdisciplinary historical research.

By a close analysis of published as well as unpublished German written sources from approximately 1850 to 1914, taking into account current research findings in various academic fields, we hope to gain a deeper understanding of the cartographic encounter between Africa and Europe. Our presentation will include case studies on famous German scholars such as the surveyor Fritz Jaeger, who relied on local guides for his search of Lake Kinarok (1906/07), and the anthropologist Karl Weule, who had Africans draw maps on paper for him during his visit to German East Africa (1906/07).

THE BEGINNINGS OF THE GERMAN CONTRIBUTION TO THE CARTOGRAPHY OF AFRICA

In 1850 one of the hitherto best equipped missions to Central Africa set out from Tripoli under the leadership of the missionary James Richardson, financed by the British government and the Royal Geographical Society. Two German scholars interested in geography, the classical philologist Heinrich Barth and the astronomer Adolf Overweg, were chosen to accompany Richardson, who possessed no academic training. Their aim was to negotiate trade agreements with the sultans of Bornu and Sokoto and the Tuareg leaders but also to collect geographical and anthropological information on those yet little known parts of Inner Africa. Both Richardson and Overweg had died from fever by September 1852. Barth was appointed the sole leader of the expedition and continued his travels around Lake Chad. When he returned to Europe in 1855, the explorer brought back with him an extensive amount of multifaceted material about great parts of what is today Mali, Niger, Nigeria, southern Chad and northern Cameroon. Barth must thus be acknowledged as the founder of modern professional research on Africa in Germany.

Barth's interdisciplinary approach was to a large extent based on indigenous sources, as his 3,500-page-long travel account *Travels and Discoveries in North and Central Africa* reveals. During the six months of his stay in Timbuktu, Barth lived under the umbrella of Sheikh al-Baqqai, a distinguished Quran scholar who familiarized the Christian explorer with unique manuscripts. Not only did these documents offer valuable insight into the history of this Sudan region: they also provided a vast quantity of geographical data which were used by Barth systematically. The appendix in Volume II of his book includes, among similar parts, 20 pages entitled "Geographical Details Contained in 'the Diván,' or Account Given by the Imám A'hmed ben Sofiya of the Expeditions of the King Edris Alawóma from Bórnu to Kánem". Innumerable references to „from native information" characterize the detailed geographical descriptions, and Barth insisted upon their accuracy and value.

The explorer used this collection of geographical data to draw sketch maps. Together with thorough verbal explanations about places visited and heard of, he sent them to Dr. August Petermann, internationally renowned as the leading cartographer at the time, who could thus fill blank spaces on the map of Africa. From 1855 until his death in 1878, Petermann was the main figure in Germany who pulled the strings in order to support and equip expeditions to Africa. He expected in return new, firsthand information about landscapes unknown to Europeans. Approximately 130 printed maps on sub-Saharan Africa appeared under his auspices in the most important geographical journal of the day *Petermann's Geographische Mittheilungen*. They illustrated an even greater number of travel accounts and expedition news which had not been published anywhere before.

In July 2007 a project was launched at the Leibniz Institute for Regional Geography that aims at the disclosure of map-making processes at Perthes' publishing house during the "Petermann era" (1855-1884), focussing upon Africa. The maps and reports contain numerous references to indigenous sources of information. Every explorer testified to his dependence on African spatial knowledge and authority. Nearly every map mirrored this influence. However, to this day, research has never elaborated the impact of African cartographical expertise on European cartography. Was there something we can call African cartography? What traces did it leave on modern maps of Africa? What strategies led to the concealment of such sources?

NON-EUROPEAN CULTURES AND MAPS

In 1779 the French mathematician J. L. Lagrange (1779, p. 161) defined 'map' as follows: "Une carte géographique n'est autre chose qu'une figure plane qui représente la surface de la Terre, ou une de ses parties." This definition has prevailed up to the 21st century. Respected works of reference, e. g. *Encyclopedia of World Geography*, still understand maps simply as objective "abstract representations of a selected set of features on or related to the surface of the Earth", despite the efforts made by scholars since the 1960s to deconstruct and expand the meaning of the term. They promoted the idea of a map being both a technically produced scientific document and a work of art, an idealized model. The emphasis has shifted from the final product in form of a 'map' to the process of 'mapmaking' and the subjective, rhetorical factors involved. Harley & Woodward (1987, p. xvi) considered the influence of such individual and cultural determinants to be decisive for an adequate definition in a global context. In their standard work on the global history of cartography they wrote: „Maps are graphic representations that facilitate a spatial understanding of things, concepts, conditions, processes, or events in the human world".

At the same time, geographers such as Harvey (1980, p. 10) were dismantling terms such as 'map' and 'cartography', demonstrating that they are western concepts that have acquired their contemporary meaning only in the course of the past three centuries. The process of secularisation and professionalisation within those decades entailed a narrowing of their original meaning. It was not until the invention of better navigational as well as measuring instruments in the eighteenth

century that expeditions to other parts of the world became more scientific endeavors and that the term ‘map’ gained its scientific connotations. Etymologically, it originates in almost all European languages from the Latin ‘mappa’, meaning ‘cloth’, or from ‘carta’, i. e. a formal document. The latter is a relative to the Greek ‘chartes’, meaning ‘papyrus’. Words like ‘picture’ or ‘description’ were originally used to refer to a cartographic image. In this respect, early European cultures barely differed from, for example, Arab or Chinese societies. The Arabic word ‘naqshah’ refers equally to map, depiction, description or an official report; so does the Chinese word ‘tú’ for diagram or drawing.

It may be assumed that other non-occidental cultures used similar strategies to express ‘map’. The lack of a specified term for ‘map’ led nineteenth-century European travellers to the conclusion that the principal of mapping did not exist within those societies, indeed that they were not even able to produce such devices. However, numerous records from all over the world have since proved the contrary to be the case. Probably the most famous examples are the nautical stick charts from the Marshall Islands in the South Pacific, which were made from coconut leaf veins and seashells and were used for navigation between the islands. In addition to spatial information, many maps convey cosmographic or mnemonic particulars and occur in all kinds of forms. They can be found as designs on earthenware or on cloth, as body art or as initiation elements. For example, Tabwa initiates from southeastern Congo scarified their backs or chests with a V-shaped sign running from both shoulders towards the middle of a vertical line. The north-south axis plays an important role in Tabwa society and is also reflected in their village structures, because their origin myth refers to the north-south migration of the ancestral heroes. The V-shape reflects the balance of forces, a dual system which parts east from west, good from evil etc. The production of ‘purely’ topographical maps was reserved only for certain situations in most cultures.

Maps as preservable objects constitute only a minority of the maps produced in non-European societies; the majority must have been ephemeral, judging from travel accounts and journals. In contact situations – ‘cartographic encounters’ – maps were usually drawn on the ground with a stick or the finger along with verbal explanations to convey geographical information. Africans competently created such solicited maps on request. Unlike North America, very few examples from Africa were bequeathed on paper, and only some of these were reproduced in published travel accounts. The best known example is a map that Sultan Bello from Sokoto gave to Hugh Clapperton in 1824 in answer to the Englishman’s question about the course of the Niger. The river system appears very prominently and the Niger is shown as flowing eastwards. It is argued that the African sovereign deliberately gave incorrect information in order to restrain European influence from spreading farther inland. Clapperton’s case illustrates how European travellers depended on African authorities for spatial knowledge and for authorization to travel through their realm. It also shows how a map is more than a mere graphic representation and geographical information is not just trivial knowledge. Maps and spatial understanding are at all times powerful and carry cultural as well as political importance.

Taking into account the multifarious richness of mapmaking in Africa, it would be short sighted to apply a restrictive definition, as most reference works do. In his article on indigenous mapmaking in sub-Saharan Africa, Thomas J. Bassett (1998: 25) promotes the idea of “maps as social constructions whose meaning lies as much in their making as in the interpretation of constituent elements [...]. Just as art produces meaning by stimulating thought rather than by simply symbolizing the ideas of the individual or group that made it, maps influence the social situations in which they are created”. The mapping of Africa played a decisive role during the implementation of European rule on the continent; but it was at no times a one-way venture.

AFRICAN INFLUENCE ON WESTERN CARTOGRAPHY

African and European spatial knowledge continuously influenced each other during the early phase

of the European cartography of Africa. Local African concepts of space appear to have had an impact on the designation of place names, on distances and directions, the relationship between space and time, on territoriality, and on models of spatial perception. In order to interpret the maps, it is necessary to view them in the context of published and unpublished written sources such as journals, correspondence, travel accounts and articles in periodicals. By focussing upon German-language sources from the period 1850-1914 we hope to gain insights into changes of spatial conceptions in Africa and the West on the eve of the Scramble for Africa and in the early years of colonial rule. From 1885 onwards, we will concentrate upon the German colonies; whereas before this point in time, there will be no particular regional emphasis.

Our research will follow two main lines of investigation. On the one hand, the project will enquire into African spatial conceptions during the period in question. What do European written sources reveal about this knowledge? How can contemporary ethnographic studies help to interpret the source material? How did the interaction between Africans and Europeans contribute to a modification of African spatial concepts? To what extent was it possible at all to depict African societies, which tended to be organized in forms of networks (Mabogunje & Richards 1985), territorially, i.e. on maps? Which aspects of African spatial knowledge did Europeans ignore? Current research on mental mapping plays an important role in this respect. In his essay on conceptions of space and time in the Asante kingdom, Ivor Wilks (1992) examined how the Asante perceived their state. He concluded that their understanding of space was linked closely to their notion of time: the diameter of the state was perceived as “one month”, i.e. 6×7 weeks. Wilks also showed how this confused European travellers in calculating distances and the time needed to cover them.

On the other hand, we intend to explore the transfer of spatial knowledge between Africans and Europeans. Who supplied information to Europeans and what strategies were applied? On what basis did ‘cartographic encounters’ take place? Is it possible to refer to them as a “dialogue of the deaf” (MacGaffey 1994) or a “working misunderstanding” (Dorward 1974)? What kinds of transformation did the information given by an African undergo in the process of translation and compilation? Which African geographical concepts survived despite the eclecticism of such processes and found their way into European cartography? Numerous published accounts from the nineteenth and early twentieth centuries conceal the authors’ dependency on local guidance by diminishing and often even negating Africans’ geographical performance. For example, Verney Lovett Cameron (1877, p. 242) gave vent to his resentment: “Local knowledge is wonderfully good, but they seem incapable of grasping anything like a general idea. They stared at my map and thought it a most wonderful performance; and when I said that people in England would know the shape and size of [Lake] Tanganyika, and the names and situation of rivers and villages by means of it, I am inclined to fancy they thought me a magician.” The guides’ mapping capacities did not meet Cameron’s expectations during his expedition across Equatorial Africa from coast to coast in the mid-1870s because, according to him, they “were never able to name a place until close to it, and had very little conception of the lay of the land they had coasted many times.”

By asking which actors were involved, it is hoped to shed further light on the cartographic interaction between Europe and Africa. The interests and field methods of a scientific explorer or a professional land surveyor sent by the government differed from those of a Christian missionary who often stayed in one area for years. An African local authority or a long-distance trader stressed different geographical information from that offered by a local guide forced to join an expedition. In this respect, King Njoya of the kingdom of Bamum in western Cameroon played a prominent role in the employment of maps for state affairs. Fully aware of the power of maps, he presented a map of his realm to the recently instated British authorities in 1916 together with a letter to the King of England asking for protection against Germany. The sovereign had learned some of his cartographic skills, like methods for route survey, from Max Moisel, a German land surveyor who had stayed in Cameroon in 1907/1908. Though Njoya admired Moisel’s maps of Cameroon, he found them inefficient for his own administrative purposes. He therefore had a map of his kingdom

Bamum drawn based on several surveys that were conducted by over twenty topographers between 1912 and 1920. The map completed in 1916 showed his kingdom comprising terrain contested by Britain and France as belonging to his own dominion. Thus, Njoya tried to safeguard his authority by using the power of a map.

The goal of our project is to show the close interdependence of European empires and African societies by looking at one particular aspect of the exchange of knowledge. The geographical exploration of Africa played a major role in demystifying the continent while, at the same time, new myths were created.

The Expeditions of Jaeger and Weule to German East Africa in 1906/1907

Two examples may illustrate the kind of material that we hope to find.¹ In 1905 a commission for the geographical exploration of the German colonies was founded. The plan for German East Africa was to survey a region between Mount Kilimanjaro and Lake Victoria. The maps of that region were still based on a survey by Gustav Adolf Fischer twenty-three years before. Although a couple of expeditions had been arranged since then (e.g. Baumann 1892, Kohlschütter & Glauning 1900), 8000 km² remained uncharted along with the conception that the majority of maps were deficient.

In May 1906 the geographer Fritz Jaeger was sent out in order to replace the “biggest blank spaces on the map of our East African colony” with the help of the newest topographical methods (Jaeger 1911, p. 1). He was to pay special attention to bodies of water. His first destination was the southeastern part of the Maasai veld, which was completely unexplored, except that one lake was shown on the maps. Because Lake Kinarok had never been the subject of investigation, Jaeger was determined to be the first European to describe it. In his published travel account, however, he addressed this part of his expedition only very briefly: “There was a settler named Herr Soder, who had moved there only recently and was kind enough to provide us with local guides at least for the next few days. We then went northeast into the wilderness towards Lake Kinarok. For days we exhausted ourselves walking through thick, uncleared thorn bush until we crossed a grass veld named Kitwej from where a couple of inselbergs aided our orientation. On the seventh day we reached Pangani River again. One of the main results of this journey was the discovery that the alleged Lake Kinarok did not exist.” (Jaeger 1911, p. 6)

However, Jaeger’s very detailed journal, which is preserved at the Geographical Archive of the Leibniz Institute for Regional Geography, allows a different view on this part of the expedition. The feelings revealed in the entries dating from 24th June to 14th July 1906 range from hope to a sense of defeat. Whereas Jaeger was optimistic at the beginning of his trip because he had met Abdallah, an old friend, who claimed to have been to Lake Kinarok, the explorer’s hopes to reach the lake dwindled in the course of the following weeks. It seems that the closer he came to its shores, the more unknown the lake was to the inhabitants. On 4th July 1906, Jaeger (1906, p. 116) wrote: „In [Mpapua] we were told that there are Maasai living a day’s march northwards who would know Lake Kinarok, in contrast to the local people.” The next day, when Jaeger was about to give up, he reached Soder’s farm, where Soder ordered an askari to find two local guides, both of them Wandorobbo hunter-gatherers.

The desperate need for local knowledge is best illustrated by the hunt for guides. Along the way, Jaeger’s expedition often seized inhabitants, thought to possess geographical information, and held them captive against their will. Even when the captives declined to answer questions, saying that they did not know the way, they were thought to be lying: „Our Massai men had by now brought two older Wandorobbo, who did not know the route to Kinarok but who could still be useful. [...] On the basis of previous experience, I had them tied up at night.” (Jaeger 1906, p. 133) In spite of Jaeger’s precautions, the Wandorobbo took the first opportunity to escape, so that the following days were occupied by a new hunt for guides. In the meantime the expedition members travelled

through thick brushwood while Jaeger took his bearings. On 10th July they finally met people who provided them with information about Kiniarok: “In the morning the guides brought more Wandorobbo who knew the path to Kiniarok. It becomes clear from their descriptions that a lake named Kiniarok, whose existence I had assumed since it was on the maps, does not exist at all, and that there were at the most a few very small pools of water.” (Jaeger 1906, p. 136) Jaeger verified this discouraging information by sending some of his guides there: “The Maasai and Wandorobbo returned at 5 a.m. They had not found water in the large Kiniarokbuga. [...] Lake Kiniarok, for whose sake we ventured on this strenuous journey and hauled the unwieldy folding boat and other appliances through the thickest bush, has turned out to be a phantom that needs to be erased from the maps.” (Jaeger 1906, p. 141) Instead of the body of water drawn on the maps, the German geographer found only a grass veld named Kiniarok which sometimes bore small pools of water during the rainy season.

The search for Lake Kiniarok discloses the high degree to which European travellers depended on local knowledge and close collaboration with the inhabitants. It also demonstrates how powerful

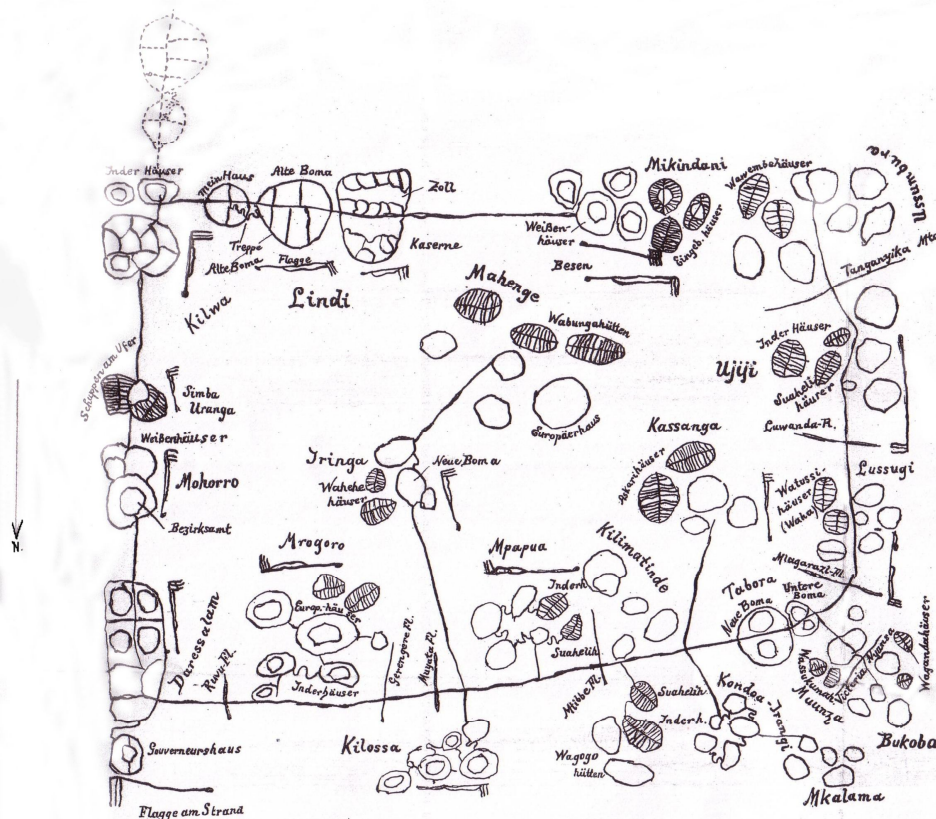


Figure 1 Map of German East Africa, drawn by Pesa Mbili.
Courtesy of the Museum für Völkerkunde zu Leipzig. Signature: L-K-Af I 192-172.

maps were. Jaeger was determined to find the lake and believed firmly in its existence because that is what the maps purported. While his journals reveal the importance of African participation, the official publication does not elaborate on this subject. On the contrary, the African members of the expedition are usually just referred to as incapable. Only in his journals do they appear as autonomous individuals with responsibilities.

At the same time as Jaeger visited German East Africa, the chief curator at the Ethnographic Museum in Leipzig, Karl Weule, was travelling in the colony. Originally he had intended to partake in Jaeger's expedition. An uprising changed Weule's travel plans and he decided to do

research in the southeastern part of the colony. His ethnographic writing indicates a deep interest in the artistic abilities of the indigenous population. That is why he distributed sketch books and pencils among his African travelling companions at the beginning of the expedition. At the end of the journey, he was handed a large number of drawings, including some sketch maps. Unfortunately, their whereabouts and exact number remain unknown. The Ethnographic Museum in Leipzig no longer has the original maps, but does possess glass slides of them.

Weule was not primarily interested in the specific geographical content of the maps. He travelled through already charted landscapes and hence did not depend on the spatial information conveyed by the drawings. He was much more intrigued by the context of their creation and observed them from an evolutionist point of view while approaching the problem psychologically. He aspired to find out more about the genesis of art and about the progress of man by means of these “native drawings”. Weule (1915, p. 20) regarded the “artist’s intentions and accompanying ideas” as intrinsic for his research and had every illustrator explain what he had depicted.

Figure 1 shows a “Map of German East Africa” which was penned by Weule’s 24-year-old caravan headman Pesa Mbili. It depicts every caravan route ever taken by him; and it constitutes the last map that he drew for Weule. The map is oriented southwards and resembles an itinerary in style, especially with regard to the stretch between Dar es Salaam on the coast and Kilimatinde with the charted rivers along the path. The river courses were depicted only as far as they were visible to the traveller’s eye. Pesa Mbili marked the two great lakes, Lake Tanganyika and Lake Victoria, in a manner similar to the courses of rivers. He even used the same designation ‘mto’, which means ‘river’ in Kiswahili. Inhabited localities are given in minute detail: the map shows African and colonial buildings (the *Boma*, district office, barracks, customs house etc.). The German flag is hoisted everywhere.

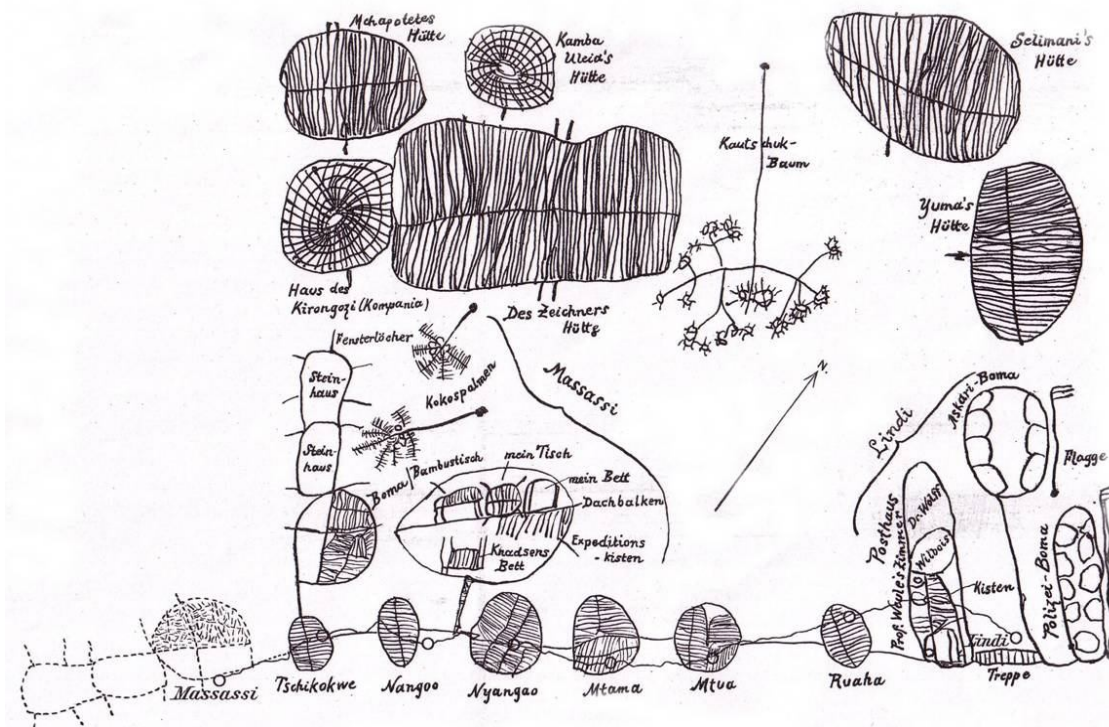


Figure 2 Route Map Lindi – Massassi, drawn by Pesa Mbili.

Courtesy of the Museum für Völkerkunde zu Leipzig, Signature: L-K-Af I 191-171.

Weule recognized the “Map of German East Africa” as a good piece of cartographic work created entirely without any resources other than Pesa Mbili’s memory. He was especially impressed that parts of the map corresponded to the European scale. Thus the distances between the stations along

the route from Dar es Salaam to Tabora matched those on German maps. It is, after all, a length of approximately 800 kilometers, i.e. 500 miles. Only the sharp bends of the road from Tabora to Ujiji as well as from Kilwa to Mikindani surprised Weule, because in reality these roads continued west- and southwards. When Weule addressed this inconsistency, Pesa Mbili alluded to the insufficient size of the paper given to him, although Weule had given him the largest paper format available.

Figure 2 constitutes a map of the route between Lindi and Massassi. Here, as well, Pesa Mbili adjusted the measures of the path from Massassi to Tshikukwe in the southwest to the size of the paper which he considered too small. However, the town of Massassi appears very detailed, maybe because the expedition had a longer stay there. Weule's bedstead, his table and storage boxes are rendered true to life, as are the trees. Several huts used by African members of the expedition are drawn in different sizes. Weule learned that this disparity reflected the artist's different relationships with the persons using the huts: the closer the expedition member was to the caravan headman, the larger his hut appeared on the map.

While Weule did not discover any new geographical data on this map, he detected interesting information in a different drawing. What at first sight appeared as a "unpretentious sheet of paper", proved to be "a very creditable cartographic accomplishment", since the illustration displayed all routes ever taken by Weule's porter Sabatele (Weule 1915, p. 60). When Sabatele explained the things drawn, he pointed out a river not far from Kilimatinde named Mutiwe. Only through consultation of a special map could Weule confirm the existence of this stream so far unknown to him. The only "mistakes" that the ethnologist could find in the map were the distances between individual places.

CONCLUSION

Unlike most of his contemporaries, Weule respected the cartographic capacities of the African members of his expedition. He defended what to Europeans appeared as alleged faults by alluding to the artists' living circumstances, namely that they, as "pristine [...] primitive children", did not know maps in the European sense of the word and that their daily lives were solely occupied by "tilling a humble field [...] and trotting laboriously but indefatigably under heavy loads along the never-changing dusty caravan roads" (Weule 1915, p. 61). Thus, like Heinrich Barth, Weule recognized the value of African knowledge and used it where necessary. Although in much published and unpublished material this recognition is not alluded to explicitly, closer inspection suggests a profound dependency on local spatial information.

As we have seen, map-making was not an occidental invention, but occurred throughout the globe. The power of African maps and concepts of space was especially significant during the early phase of the European exploration of the continent. However, African cartography and its influence on European maps still constitute an understudied subject.

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¹ All quotations from German sources were translated by the authors.

BIOGRAPHY

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