

# 3 • Indigenous Mapmaking in Intertropical Africa

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Although [they are] also known for their mapmaking skills, the cartography of the peoples of Africa is less well known than that of the Indians [of North and South America].<sup>1</sup>

Our knowledge of African mapmaking has substantially improved since Bruno Adler's seminal survey of non-Western cartographic traditions in 1910. This is particularly true for North African mapmaking, which emerged out of ancient Egyptian civilizations and Islamic cultures.<sup>2</sup> However, our understanding of sub-Saharan mapmaking remains comparatively weak (see fig. 3.1 for a reference map of Africa). The historiography is particularly scanty. When maps of Africa do receive attention, the focus is almost exclusively on European maps of the continent.<sup>3</sup> The dearth of studies of indigenous African mapmaking may be explained by a number of factors that have collectively served to marginalize the indigenous cartographic record.

First is the ethnocentric and pejorative view that Africans did not have the cognitive ability to make maps the same way Europeans did. This was Adler's perspective when he wrote, "We are all the more surprised that the Negroes do not draw well considering the delicate wood and metal carvings of which they are capable. . . . This lack of cartographic abilities leads us to impute that they have less intelligence than they do sharp eyesight, hearing, and a sense of smell."<sup>4</sup> Though decreasingly explicit, similar assumptions tend to have persisted until fairly recently. This chapter seeks to chart a less Eurocentric course by drawing attention to how African peoples have mapped their worlds. Even so, the deliberate emphasis placed on graphic representations is in itself a Western bias.<sup>5</sup>

Another reason indigenous mapmaking has not received the scholarly attention it deserves is the transfer of European mapmaking traditions to Africa during the colonial period. Metropolitan and colonial states, professional societies, and commercial mapmakers produced maps to aid in the colonization and subsequent control of conquered lands and peoples.<sup>6</sup> The subsuming of indigenous African mapmaking by European maps helps to explain why the sign systems illustrated in this chapter failed to develop and spread beyond their local settings.<sup>7</sup>

A third factor behind the meager historiography is that restricted definitions of "map" have excluded a range of processes and artifacts from serious study. Even if

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1. Bruno F. Adler, "Karty pervobytnykh narodov" (Maps of primitive peoples), *Izvestiya Imperatorskago Obshchestva Lyubiteley Yeststvoznanya, Antropologii i Etnografii: Trudy Geograficheskago Otdeliniya* (Proceedings of the Imperial Society of the Devotees of National Sciences, Anthropology, and Ethnology: Transactions of the Division of Geography) 119, no. 2 (1910), esp. 177.

2. A. F. Shore, "Egyptian Cartography"; S. Maqbul Ahmad, "Cartography of al-Sharif al-Idrīsi"; and Svat Soucek, "Islamic Charting in the Mediterranean," all in *The History of Cartography*, ed. J. B. Harley and David Woodward (Chicago: University of Chicago Press, 1987-), 1:117-29, vol. 2.1 (1992): 156-74 and 263-92, and James A. Harrell and V. Max Brown, "The World's Oldest Surviving Geological Map: The 1150 B.C. Turin Papyrus from Egypt," *Journal of Geology* 100 (1992): 3-18.

3. Youssouf Kamal, *Monumenta cartographica Africae et Aegypti*, 5 vols. in 16 pts. (Cairo, 1926-51), facsimile reprint, 6 vols., ed. Fuat Sezgin (Frankfurt: Institut für Geschichte der Arabisch-Islamischen Wissenschaften, 1987); John McIlwaine, *Maps and Mapping of Africa: A Resource Guide* (London: Hans Zell Publishers, 1997); Jeffrey C. Stone, ed., *Maps and Africa: Proceedings of a Colloquium at the University of Aberdeen, April 1993* (Aberdeen: Aberdeen University African Studies Group, 1994); R. V. Tooley, *Collectors' Guide to Maps of the African Continent and Southern Africa* (London: Carta Press, 1969); and [Oscar] I. Norwich, *Norwich's Maps of Africa: An Illustrated and Annotated Carto-bibliography*, bibliographical descriptions by Pam Kolbe, 2d ed., rev. and ed. Jeffrey C. Stone (Norwich, Vt.: Terra Nova Press, 1997).

4. Adler, "Karty pervobytnykh narodov," 186 (note 1).

5. Personal communication, Labelle Prussin, 22 February 1995. Also see Labelle Prussin, *African Nomadic Architecture: Space, Place, and Gender* (Washington, D.C.: Smithsonian Institution Press, 1995), 34-37.

6. Jeffrey C. Stone, *A Short History of the Cartography of Africa* (Lewiston: E. Mellen Press, 1995), and Thomas J. Bassett, "Cartography and Empire Building in Nineteenth-Century West Africa," *Geographical Review* 84 (1994): 316-35.

7. Denis Wood, "The Fine Line between Mapping and Mapmaking," *Cartographica* 30, no. 4 (1993): 50-60.



FIG. 3.1. REFERENCE MAP OF INTERTROPICAL AFRICA.

we employ the most general definition of a map as “a graphic representation of the geographical setting,”<sup>8</sup> we are bound to exclude the bulk of what may be justifiably called mapmaking in the African context. Examples of mapmaking that are excluded by this definition are mnemonic maps, body art (scarification, tattoos), the layout of villages, and the design and orientation of buildings. Here we view maps as social constructions whose meaning lies as much in their making as in the interpretation of constituent elements. The approach considers the making as well as the product. Just as art produces meaning by stimulating thought rather than by simply symbolizing the ideas of the individual or group that made it,<sup>9</sup> maps influence the social situations in which they are created.

Given the extraordinary diversity of African cultures and societies, one can only point to examples of mapmaking as illustrating what is clearly a cross-cultural creative activity. Thus the rest of this chapter is organized to

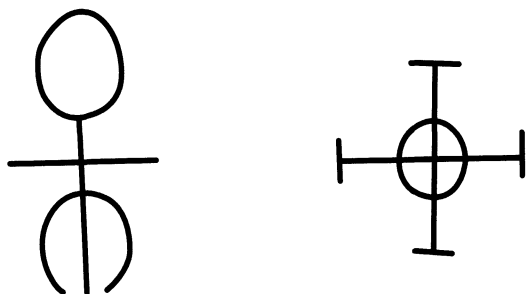
provide an overview of the range of maps one might encounter in the historical record. By no means does it pretend to be an exhaustive study. Rather, one of its principal objectives is to encourage further research and analysis of this understudied subject.

### COSMOGRAPHIC MAPS

Graphic representations of a divine spatial order are expressed in a variety of schematic maps in which cardinal directions and geometric forms (crosses, diamonds, circles) are characteristic features. The power of these in-

8. Arthur H. Robinson et al., *Elements of Cartography*, 6th ed. (New York: Wiley, 1995), 9.

9. Jean Laude, *African Art of the Dogon: The Myths of the Cliff Dwellers* (New York: Viking, 1973), 21, 30, 45, and Allen F. Roberts, “Tabwa Tegumentary Inscription,” in *Marks of Civilization: Artistic Transformations of the Human Body*, ed. Arnold Rubin (Los Angeles: Museum of Cultural History, 1988), 41–56, esp. 51.



FIGS. 3.2 and 3.3. DOGON ROCK PAINTINGS. On the left is the *aduno kine* or cosmographic map of the “life of the world.” The cardinal directions are represented by the torso and arms of the sign painted on cave walls. North is at the top. The rock painting on the right shows the cardinal directions and illustrates the moment in the Dogon creation myth when the god Amma stretched a ball of clay in four directions to form the earth.

Left, after Marcel Griaule, “L’image du monde au Soudan,” *Journal de la Société des Africanistes* 19 (1949): 81–87, esp. 81 (fig. 1A). Right, after Marcel Griaule and Germaine Dieterlen, *Signes graphiques soudanais*, *L’Homme, Cahiers d’Ethnologie, de Géographie et de Linguistique* 3 (Paris: Hermann, 1951), 21 (fig. 40A).

scriptions lies in their mixing of sacred orientations with the spatial patterning of everyday life, such as in the layout of living and work spaces, the control over resources, or the political geography of dynastic rule. Rock art provides some of the earliest examples of mapmaking by African peoples. Although the motivations and meanings of most paintings and engravings remain unclear,<sup>10</sup> we have sufficient evidence to believe that some images functioned as territorial signposts and cosmographical maps.<sup>11</sup>

According to Marcel Griaule, maps of the Dogon cosmos are represented in graphic signs painted by goatherds in caves on the Bandiagara escarpment in Mali.<sup>12</sup> Griaule interprets the sign known as the *aduno kine* or the life of the world (*vie du monde*) as representing the Dogon universe (fig. 3.2). The egg-shaped head signifies the “celestial placenta,” while the legs refer to the “terrestrial placenta.”<sup>13</sup> The torso and arms form a cross representing the cardinal directions. Griaule shows how this graphic representation is reproduced in the ground plan of the large house, in the layout of residential quarters, and in the plans of entire villages. Within the house itself is the hearth, which “derives its living flame from the celestial fire that came from the fire purloined by the smith. When the house is correctly sited, that is to say, is open to the north, the pot on the fire indicates the same point, the stones indicating east and west, while the wall, the third support for the pot, marks the south.”<sup>14</sup> This orientation toward a divine spatial order as codified in the *aduno kine* is replicated in other patterns of everyday life such as in the layout and cultivation of fields, weaving de-

signs, and where men and women sleep.<sup>15</sup> This repetitive patterning of the cosmological order at ever-expanding scales is also found in other African societies. For example, Blier shows how cosmological truths shape the spatial patterning of everyday life in her study of Batammaliba architecture in northern Togo and Benin, where “the direction of openings and the positioning of parts often

10. Thomas A. Dowson and David Lewis-Williams, “Diversity in Southern African Rock Art Research,” in *Contested Images: Diversity in Southern African Rock Art Research*, ed. Thomas A. Dowson and David Lewis-Williams (Johannesburg: Witwatersrand University Press, 1994), 1–8, and Whitney Davis, “The Study of Rock Art in Africa,” in *A History of African Archaeology*, ed. Peter Robertshaw (London: James Currey, 1990), 271–95, esp. 284–85.

11. For example, landscape features depicted in Khoisan rock art from the Brandberg, Namibia, are believed to represent the natural resources of a group’s *n!ore* or “exploitation space”; see Andrew B. Smith, “Metaphors of Space: Rock Art and Territoriality in Southern Africa,” in *Contested Images: Diversity in Southern African Rock Art Research*, ed. Thomas A. Dowson and David Lewis-Williams (Johannesburg: Witwatersrand University Press, 1994), 373–84, esp. 383–84. The paintings are thought to represent the out-of-body travel of shamans in trances during which they drew power from the land and its beings. Thus the images are metaphors of such journeys and at the same time represent a group’s construction of its social identity through its control over the natural resources of a territory; Whitney Davis, “Representation and Knowledge in the Prehistoric Rock Art of Africa,” *African Archaeological Review* 2 (1984): 7–35, esp. 23–24, 28.

12. Marcel Griaule’s writings on the Dogon have been the subject of considerable scholarly debate and have been described as a “contested oeuvre” (James Clifford, “Power and Dialogue in Ethnography: Marcel Griaule’s Initiation,” in *Observers Observed: Essays on Ethnographic Fieldwork*, ed. George W. Stocking [Madison: University of Wisconsin Press, 1983], 121–56, esp. 124). For example, some anthropologists who work among the Dogon find little evidence of a coherent set of myths and beliefs ordering daily life as presented by Griaule. This has led one critic to label Griaule’s work on Dogon cosmology an “intercultural fiction,” the product of his personal research agenda and his informants’ propensity to present a harmonious view of their culture (Walter E. A. van Beek, “Dogon Restudied: A Field Evaluation of the Work of Marcel Griaule,” *Current Anthropology* 32 [1991]: 139–67, esp. 152–53 and 165). Similar to the contemporary debate in the history of cartography around the notion of a “true” or “accurate” map (J. B. Harley, “Deconstructing the Map,” *Cartographica* 26, no. 2 [1989]: 1–20), some ethnographers refuse to label Griaule’s oeuvre either true or false. Rather, like maps, ethnographies are widely viewed as “textual constructions” that express “a complex, negotiated, historically contingent truth specific to certain relations of textual production.” The present discussion of Dogon cosmography should therefore be read as paraphrasing the “dialogical enterprise in which both researchers and natives are active creators, or, to stretch a term, authors of cultural representations” (Clifford, “Power and Dialogue,” 125, 126, and 147).

13. Marcel Griaule, “L’image du monde au Soudan,” *Journal de la Société des Africanistes* 19 (1949): 81–87, esp. 81.

14. Marcel Griaule, *Conversations with Ogotemmêli: An Introduction to Dogon Religious Ideas* (Oxford: Oxford University Press, 1965), 91–98, quotation on 94.

15. Marcel Griaule and Germaine Dieterlen, “The Dogon,” in *African Worlds: Studies in the Cosmological Ideas and Social Values of African Peoples*, ed. Cyril Daryll Ford (London: Oxford University Press, 1954), 83–110, esp. 94–103.



FIG. 3.4. KONGO COSMOGRAM SHOWN IN A CERAMIC STELE FROM A VILLAGE CEMETERY IN LAMBA TEYE, DEMOCRATIC REPUBLIC OF CONGO. The end points of the diamonds portray the position of the sun in its four phases (dawn, noon, sunset, and midnight). They also indicate the cardinal directions with north at the top. From Robert Farris Thompson and Joseph Cornet, *The Four Moments of the Sun: Kongo Art in Two Worlds* (Washington, D.C.: National Gallery of Art, 1981), 84 (fig. 49).

provide a frame of reference vis-à-vis the world and larger cosmos.”<sup>16</sup>

Cardinal directions appear to be a common feature of cosmographic maps. The daily east-west passage of the sun, its relative north-south position in the annual cycle, and the location of stars in the night sky all offer reference points for delineating primary directions. Creation myths across cultures refer to the cardinal points, suggesting that the sky serves as a common model of cosmic order.<sup>17</sup> The Dogon creation myth tells of the god Amma, who

created earth by flinging outward a ball of clay that stretched in four directions with north at the top and south at the bottom. The god’s gesture at the end of the earth’s creation is represented in rock paintings showing a cross and circle (fig. 3.3). According to Griaule, this cosmogram shows the creator with legs straddling the north-south axis and, with his torso facing south and his face looking east, stretching out his arms with the right hand pointing west, the left pointing east. Reference is made to these four principal directions in the cross-shaped *kanaga* mask as well as in a group of signs drawn on sanctuary walls at sowing time.<sup>18</sup>

Cardinal points also figure prominently in the Bakongo cosmogram known as the *tendwa kia nza-n’kongo* (the four moments of the sun). The Kongo cosmos is represented ideographically as a cross or diamond with circles attached at each end (fig. 3.4). The end points of the cross and diamond represent the four cardinal directions, and the circles illustrate the sun moving through its four phases: dawn, noon, sunset, and midnight. The horizontal line (*kalunga*) is interpreted in Kongo cosmology as the water above which lies heaven and below which extends earth. The daily cycle of the sun mirrors the lifetime journeys of all humans, some of whom are reborn in the Underworld and reappear as immortal spirits in the landscape.<sup>19</sup> Variants of the cosmogram are found in Kongo initiation and funerary art in the Democratic Republic of Congo (formerly Zaire) and in rock paintings and engravings in southeast Angola dating from 1600.<sup>20</sup> The striking resemblance between the Bakongo and Dogon cosmograms suggests that the order and meaning of these cosmographical maps is partly inspired by the regular movement of celestial bodies in time and space.<sup>21</sup>

16. Suzanne Preston Blier, *The Anatomy of Architecture: Ontology and Metaphor in Batammaliba Architectural Expression* (Cambridge: Cambridge University Press, 1987), 36.

17. Edwin C. Krupp, *Echoes of the Ancient Skies: The Astronomy of Lost Civilizations* (New York: Harper and Row, 1983), 315, and Dominique Zahan, *Le feu en Afrique et thèmes annexes* (Paris: Harmattan, 1995), 60–64.

18. Marcel Griaule and Germaine Dieterlen, *Signes graphiques soudanais*, *L’Homme*, Cahiers d’Ethnologie, de Géographie et de Linguistique 3 (Paris: Hermann, 1951), 14, 19–22. The *kanaga* masks are illustrated in Kate Ezra, *Art of the Dogon: Selections from the Lester Wunderman Collection* (New York: Metropolitan Museum of Art, 1988), 26–27 (figs. 11–12) and 68–69, and Laude, *African Art of the Dogon*, figs. 84 and 98 (note 9).

19. Kimbwandáende Kia Bunseki Fu-Kiau, “Ntangu-Tandu-Kolo: The Bantu-Kongo Concept of Time,” in *Time in the Black Experience*, ed. Joseph K. Adjaye (Westport, Conn.: Greenwood Press, 1994), 17–34, and Robert Farris Thompson and Joseph Cornet, *The Four Moments of the Sun: Kongo Art in Two Worlds* (Washington, D.C.: National Gallery of Art, 1981).

20. Thompson and Cornet, *Four Moments*, 44–46.

21. The religious significance of cardinal directions is also evident in the orientation of ritual acts. Among the Yoruba, Drewal notes that di-

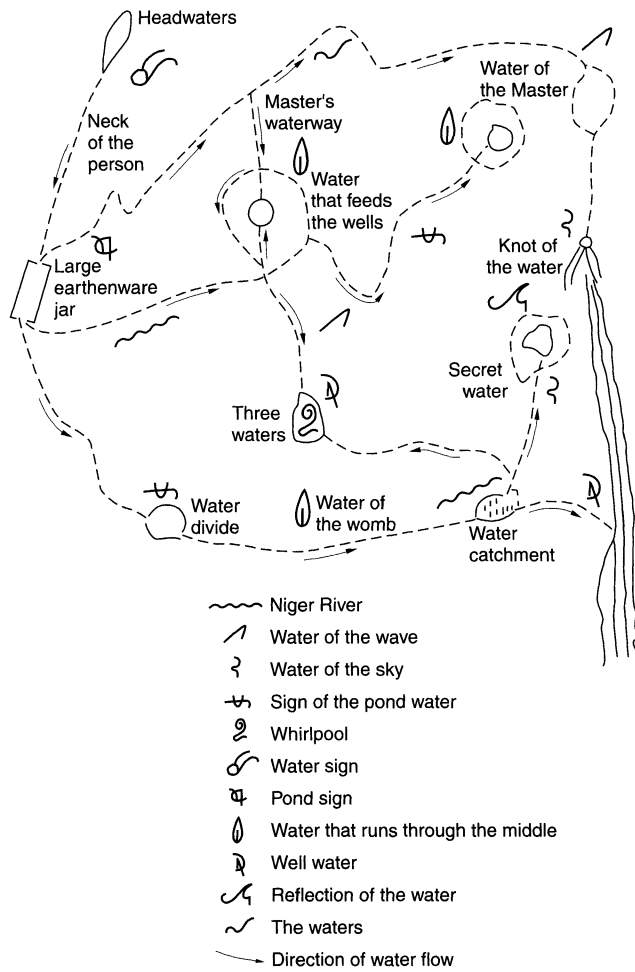


FIG. 3.5. MAP OF THE MYTHIC WATERS DRAWN BY BOZO ELDERS (MALI). The map is drawn to instruct children on the power and properties of water as transmitted by the ancestors. The ground map shows ponds, wells, and the Niger River.

After Marcel Griaule and Germaine Dieterlen, *Signes graphiques soudanais*, L'Homme, Cahiers d'Ethnologie, de Géographie et de Linguistique 3 (Paris: Hermann, 1951), 86 (fig. 11).

The discourse function of mapmaking is more explicit among the Bozo fishing people of the Niger River basin in Mali, who drew maps of the surface and underground flow of water as a means of controlling this vital resource. At the beginning of each new year, elders assembled the children of their community in a public place to demonstrate how their ancestor, Marourou, learned about the properties and creative powers of water. In this outdoor classroom, the children drew graphic signs on the ground representing different types of water and learned about their nature and linkages with each other. Figure 3.5 is a map of the mythic waters reproduced by Griaule based on information provided by two informants from the village of Dya. The process of mapmaking appears to have

been as important as the knowledge conveyed in the map itself. At one point in the ritual reenactment, each child stood on the sign that the elder believed corresponded to his or her character. This gesture signified that “the waters of today’s and future worlds will be controlled by people.”<sup>22</sup>

A distinctive form of schematic mapping is found in Ethiopian manuscripts dating from the eighteenth and nineteenth centuries. The circle maps center on the ancient kingdom of Aksum, which flourished in the northern province of Tigray during the first seven centuries of our era.<sup>23</sup> The circular form of these maps is reminiscent of maps produced within the Islamic and ancient Greek traditions, which are known to have strongly influenced Ethiopia. It also echoes the concentric circular form of the Abyssinian royal court.<sup>24</sup>

Five versions of this map are known to exist, two of them in the manuscript titled *Kebrä Nägäst*.<sup>25</sup> The maps consist of three concentric circles with Aksum in the center of the innermost circle inside a quadrangle (fig. 3.6, upper half). The middle circle is divided into eight sections showing the cardinal and intermediate directions written in the Ge’ez script of Amharic. The outer circle is divided into twelve or fourteen segments and contains the names of the outlying provinces of Tigray. The example shown in figure 3.6 was copied for Antoine d’Abbadie in the 1850s from an original *Kebrä Nägäst*.

viners face east during Ifa divination sessions and that “entrances to shrines and groves must face east, the direction from which Orunmila (Ifa) is said to have come” (Henry John Drewal, “Art and Divination among the Yoruba: Design and Myth,” *Africana Journal* 14 [1987]: 139–56, esp. 147). Along the east African coast, Swahili houses typically face north, and Swahili tombs are commonly found at the northern end of mosques, which is the qibla direction in this area. See James de Vere Allen and Thomas H. Wilson, *Swahili Houses and Tombs of the Coast of Kenya* (London: Art and Archaeology Research Papers, 1979), esp. 6 and 33.

22. Griaule and Dieterlen, *Signes graphiques soudanais*, 79–81 (note 18).

23. On the Aksumite civilization, see Stuart Munro-Hay, *Aksum: An African Civilisation of Late Antiquity* (Edinburgh: Edinburgh University Press, 1991).

24. Carlo Conti Rossini, “Geographica,” *Rassegna di Studi Etiopici* 3 (1943): 167–99, esp. 172; Otto Neugebauer, “A Greek World Map,” in *Le monde grec: Pensée, littérature, histoire, documents. Hommages à Claire Préaux*, ed. Jean Bingen, Guy Cambier, and Georges Nachtergaeel (Brussels: Editions de l’Université de Bruxelles, 1975), 312–17; and idem, *Ethiopic Astronomy and Computus* (Vienna: Verlag der Österreichischen Akademie der Wissenschaften, 1979). On Greek influence on Aksum in general, see Munro-Hay, *Aksum*, 6–7; Tadesse Tamrat, *Church and State in Ethiopia, 1270–1527* (Oxford: Clarendon Press, 1972), 269–75, describes the circular arrangement of the Abyssinian court.

25. Alula Pankhurst, “An Early Ethiopian Manuscript Map of Tegré,” in *Proceedings of the Eighth International Conference of Ethiopian Studies, University of Addis Ababa, 1984*, 2 vols., ed. Tadesse Beyene (Addis Ababa: Institute of Ethiopian Studies, 1988–89), 2:73–88.

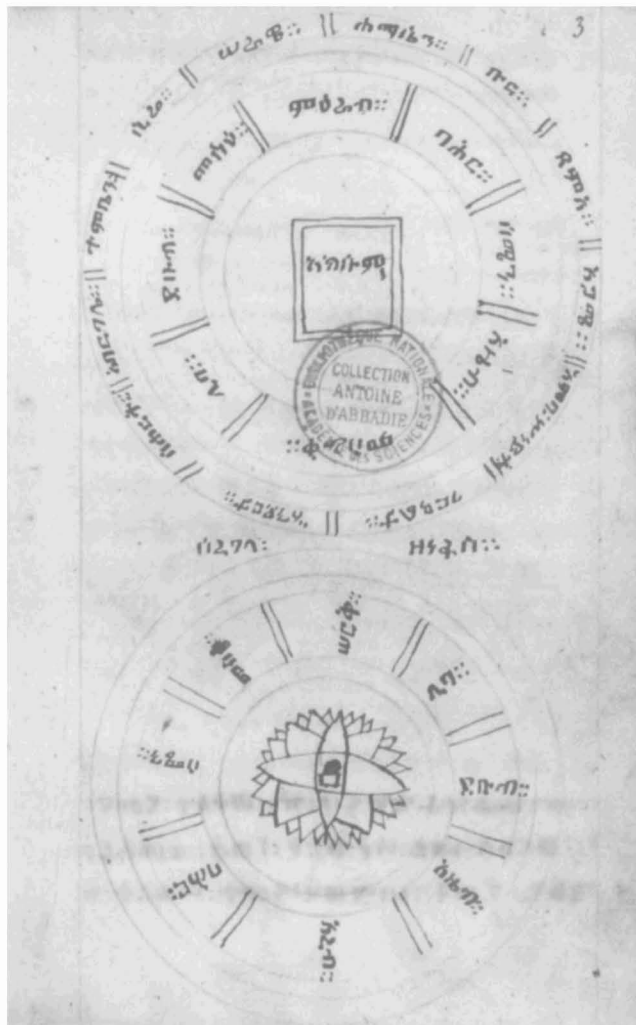


FIG. 3.6. TIGREAN CIRCLE MAP AND WIND ROSE COLLECTED BY ANTOINE THOMAS D'ABBADIE. Paper and ink from the Kebrä Nägäst. The cardinal and intermediate directions are shown in both maps. The sacred city of Aksum lies in the middle of the top map, and the names of the outlying provinces make up the outer circle. Size of the original: 22.3 × 14 cm. Photograph courtesy of the Bibliothèque Nationale du France, Paris, Collection Antoine d'Abbadie, 1859 (no. 225, fol. 3).

Below the circle map in figure 3.6 is a second diagram titled “chariot of winds.”<sup>26</sup> This wind rose or “wheel of winds”<sup>27</sup> contains the names of the cardinal and intermediate positions in the outer band. A multipetaled flower lies in the center with the largest petals pointing to the eight principal directions. East is at the top of the wheel.

The Tigrayan maps most closely resemble the cosmographical diagrams and qibla maps of Muslim scholars, in which twelve sector divisions are common. For example, there is a strong family resemblance between the Tigrayan maps and the spherical diagram of the eleventh-century scholar al-Bīrūnī that links the twelve signs of

the zodiac, the four elements, and the four cardinal directions.<sup>28</sup> The Tigrayan map also has affinities with twelve-sector qibla maps dating from the eleventh century showing the prayer direction toward the Ka'ba in Mecca from various locations.<sup>29</sup> The influence of wind roses, which date from antiquity, is also apparent in the geometry of these maps, particularly in the eightfold division of the inner circle.<sup>30</sup> The concentric circular form of Tigrayan maps appears to be embedded in these diverse traditions. It is a form that lends itself to distinguishing center from periphery, believers from nonbelievers, and the known from the unknown in a hierarchical and orderly framework.<sup>31</sup>

One of the most puzzling aspects of the two diagrams shown in figure 3.6 is their multiple orientations. The map itself has two. The outer circle containing the names of the twelve ancient provinces of Aksum has a northerly orientation. The inner circle of four cardinal and four intermediate directions is oriented toward the west.<sup>32</sup> Adding to the confusion is the easterly orientation of the wind rose below the map. Further research is needed to explain these discrepancies. Interestingly, the version of the Tigrayan circle map seen and redrawn by von Heuglin is oriented toward the east. He notes that this orientation

26. Personal communication, Daniel Gamachu, 12 May 1995.

27. Neugebauer, *Ethiopic Astronomy*, 186 (note 24).

28. Ahmet Karamustafa, “Cosmographical Diagrams,” in *The History of Cartography*, ed. J. B. Harley and David Woodward (Chicago: University of Chicago Press, 1987–), vol. 2.1 (1992), 71–89, esp. 75–80 and fig. 3.4, and Seyyed Hossein Nasr, *An Introduction to Islamic Cosmological Doctrines*, rev. ed. (Albany: State University of New York Press, 1993), 151–63.

29. David A. King and Richard P. Lorch, “Qibla Charts, Qibla Maps, and Related Instruments,” in *The History of Cartography*, ed. J. B. Harley and David Woodward (Chicago: University of Chicago Press, 1987–), vol. 2.1 (1992), 189–205.

30. The classic work on the ancient origins of the wind rose is Karl Nielsen, “Remarques sur les noms grecs et latins des vents et des régions du ciel,” *Classica et Mediaevalia* 7 (1945): 1–113.

31. Christian Jacob, *L'empire des cartes: Approche théorique de la cartographie à travers l'histoire* (Paris: Albin Michel, 1992), 174–81. The placement of Aksum in the middle of the map also follows a time-honored ethnocentric tradition. On ancient Greek circle maps the world pivots around Delphi, where the sanctuary of the great oracle is located. On certain medieval maps, Jerusalem lies at the center to show the centrality of the Christian church to European civilization. See Germaine Aujac and the editors, “The Foundations of Theoretical Cartography in Archaic and Classical Greece,” and David Woodward, “Medieval *Mappaemundi*,” both in *The History of Cartography*, ed. J. B. Harley and David Woodward (Chicago: University of Chicago Press, 1987–), 1:130–47 and 286–370.

32. Neugebauer, *Ethiopic Astronomy*, 186 (note 24), states that the inner ring of the map is in fact a wind rose. Antoine Thomas d'Abbadie, *Catalogue raisonné de manuscrits éthiopiens appartenant à Antoine d'Abbadie* (Paris: Imprimerie Impériale, 1859), similarly describes the map as “a rose of the eight principal winds, repeated below” (Bibliothèque Nationale, Paris, Manuscrits Orientaux, D'Abbadie 255, 218–19).



FIG. 3.7. TABWA WOMAN WITH BUTWA SCARIFICATION ON HER BACK. The V-shaped sign and vertical *mulalambo* line separate east from west, left from right, evil from good. The *mulalambo* line represents the north-south axis, drainage divides, and the migration paths of mythic heroes. By permission of the Museum für Völkerkunde, Berlin.

(of both the inner and outer circles) “is the same direction which the church [the Church of the Holy Virgin in Aksum] faces and to which Oriental Christians were to direct their prayers.”<sup>33</sup> The map was attached to a chronicle given to von Heuglin by Melka Zadek, a clergyman from Adwa.

The circle map centered on Aksum is an example of how maps emerge in specific social situations with the goal of inducing some political, economic, or social change. The association of the map with the Kebrä Nägäst supports this view.<sup>34</sup> Kebrä Nägäst is widely translated as meaning “Glory of the Kings” and is believed to be a historical, dynasty-legitimizing work. According to one interpretation, the legends and traditions that make

up the book were compiled to glorify the Solomonic line of kings that ruled Ethiopia for centuries. However, a non-Solomonic dynasty of Zagwe kings ruled for more than three hundred years until 1270, when the Solomonic line was restored. More than coincidentally, it was only in the fourteenth century that the Kebrä Nägäst appears in the Ethiopic language of Ge’ez.<sup>35</sup> Many scholars view this translation of “Glory of the Kings” as legitimating the reemergence of the Solomonic rulers who claimed to rule by divine right. Like the Kebrä Nägäst, the map places Aksum at the center of Ethiopian Christendom. Although Aksum was no longer the center of ecclesiastical and political power, it had become enshrined in Ethiopian history as a sacred city—a second Jerusalem where the Ark of the Covenant was brought by Menelek, the son of Solomon and the Queen of Sheba.<sup>36</sup>

An alternative interpretation is provided by Manfred Kropp, who translates Kebrä Nägäst as “Magnificence That Brings Kings Glory,” which he believes refers to possession of the Ark of the Covenant.<sup>37</sup> Contrary to the view that the Kebrä Nägäst is a work legitimating the restored Solomonic dynasty, Kropp considers the book “a kind of ideological pamphlet for the cause of Tigre, its dynasty, and Aksum as the centre of the Ethiopian empire—not only against the Zagwe, who were already deposed at the time the Kebrä Nägäst was written, but mostly against the Salomonides south in Shoa!”<sup>38</sup> The struggle between Tigre and the Salomonides is not well documented.<sup>39</sup> However, in either formulation, the center of power lies at Aksum, the supposed location of the Ark of the Covenant. Thus, like the Kebrä Nägäst, the circle map serves the discourse function of supporting the cause of either the Tigreans or the Salomonides, who sought to legitimate their contested authority by associating themselves with this sacred city.

## MNEMONIC MAPS

Visual and tactile aids for retelling origin myths and other

33. Hofrath von Heuglin, “Ueber eine altäthiopische Karte von Tigreh mit Facsimile,” *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 17 (1863): 379–80, esp. 379.

34. Personal communication, Tadesse Tamrat, 21 September 1994.

35. The earliest edition of the Kebrä Nägäst was written in Coptic during the sixth century A.D. An Arabic translation appeared in the first half of the fourteenth century. It was during the early fourteenth century that the Kebrä Nägäst was translated into Amharic, “the ‘speech of Abyssinia’”: E. A. Wallis Budge, trans., *The Queen of Sheba and Her Only Son Menelek (I)*, 2d ed. (London: Oxford University Press, 1932), xv–xviii.

36. Munro-Hay, *Aksum*, 264 (note 23).

37. Manfred Kropp, “Zur Deutung des Titels ‘Kebrä Nägäst,’” *Oriens Christianus* 80 (1996): 108–15.

38. Manfred Kropp, personal communication, 8 September 1996.

39. Donald Crummey, personal communication, 7 November 1996.

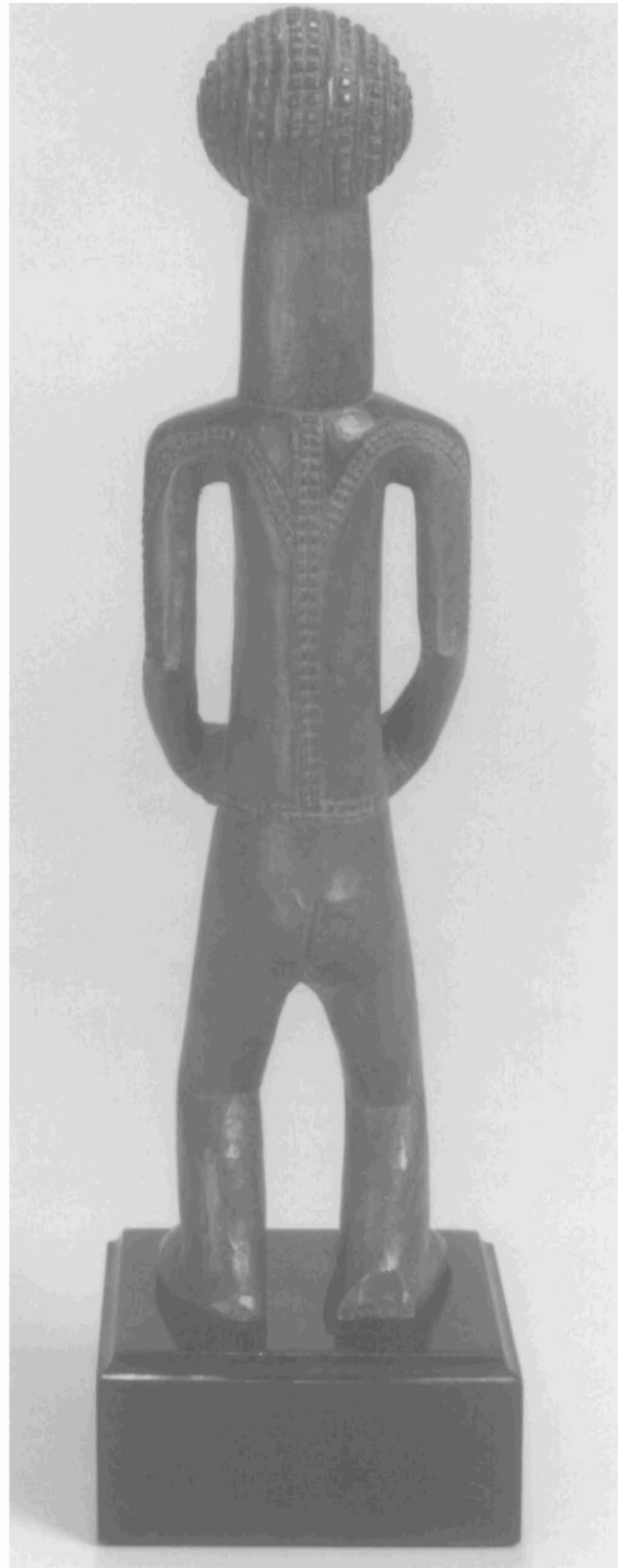
FIG. 3.8. TABWA ANCESTRAL FIGURE SHOWING MULALAMBO LINE AND V-SHAPED PATTERN. Carved wood.

Size of the original: 26.4 × 6.6 cm. Photograph courtesy of the University of Michigan Museum of Art, Ann Arbor, gift of Helmut Stern (1987/1.157.1).

stories of historical cultural importance take the form of maps in some societies. Among the Tabwa of southeastern Democratic Republic of Congo, the migration path of mythical ancestral heroes is inscribed in the skin of initiates to the Butwa society (fig. 3.7) and represented in wood sculpture (fig. 3.8). Initiates receive a V-shaped scarification on the back or chest or both during the last stage of the initiation process. A second line of “tegmentary inscription” cuts through the V and follows the midline of the body. This second line is given the name *mulalambo*, which also refers to the horizon line or “back” of Lake Tanganyika to the east of the Tabwa, to the Mwila drainage divide to their west, and to the Milky Way galaxy and Orion’s Belt in the night sky. According to Allen F. Roberts, the V-shaped sign and perpendicular *mulalambo* line separate east from west and left from right. Left has negative associations (deception, corruption) while right carries positive meanings (strength, integrity). “The Butwa V-shaped inscription, then, reinforces this recognition of opposed forces as well as the perfected state of being that leads both the individual and society to positive fulfillment.”<sup>40</sup>

The Tabwa, like many other Bantu peoples of central and southern Africa, possess a common origin myth in which a celestial hunter follows the Milky Way southward in pursuit of game. During the Southern Hemisphere’s dry season, the galaxy is oriented north-south. Roberts suggests that the *mulalambo* line represents a north-south axis along which the Tabwa migrated to their present location during the sixteenth through eighteenth centuries. Tabwa villages are also laid out north-south.<sup>41</sup>

Among the neighboring Luba peoples, mnemonic maps are used in the last two stages of initiation into the Budyé society. Budyé associations formed in the past around the investiture of a king and served as a check on royal authority. In the course of the four-stage initiation, members learn about the principles and spiritual precepts of Luba kingship. During the third or *lukala* stage, initiates are taken into a meetinghouse where elders draw wall maps showing the dwelling places of the guardian spirits of Luba kingship and the migration paths of the initiates’ ancestors.<sup>42</sup> The white-lined maps on black walls



Creating Power in a Central African Kingdom” (Ph.D. diss., University of Michigan, 1991), 106–10, 115.

40. Roberts, “Tabwa Tegmentary Inscription,” 48 (note 9).

41. Allen F. Roberts, “Passage Stellified: Speculation upon Archaeoastronomy in Southeastern Zaire,” *Archaeoastronomy* 4, no. 4 (1981): 26–37, esp. 30–32, and idem, “Tabwa Tegmentary Inscription.”

42. Mary H. Nooter [Mary Nooter Roberts], “Luba Art and Polity:





FIG. 3.9. LUKALA WALL MAP FROM BUDYE INITIATION CEREMONY. The map shows the location of the guardian spirits, chiefdoms, and waterways important to Luba kingship and history. Map photographed in 1898 on the Charles Lemaire expedition to the Lovoi River.

By permission of the Africa Museum, Tervuren, Belgium (E.PH. 5843, cl. 933).

cover a vast region, showing the major lakes and rivers, the location of various chiefdoms, and the abodes of important spirits (fig. 3.9). According to Burton:

The initiate is stood before the wall, and rough maps are chalked on the wall. The whole country from the Lualaba to the Sankuru is marked, with the chief lakes and rivers, the noted abodes of spirits, and the capitals of the various chiefs. The initiate is questioned as to where each chief resides, and where each river flows, the names of the tutelary spirits of each locality, etc. In many cases the initiators are inefficient, and the whole thing becomes more or less a farce, with nothing more than a mere naming of a few of the local chieftainships, but we have seen one wall, soon after the initiation, in which although the actual scale was far from correct, yet the general lay-out of the country was intelligently executed.<sup>43</sup>

Early *lukala* wall maps consisted of geometric designs like the cross shapes, circles, and spirals shown in figure 3.9. Contemporary murals are less abstract. Wall maps photographed by Mary Nooter Roberts in the late 1980s typically show animals, human stick figures, musical instruments, and celestial and geographical features.<sup>44</sup>

In the final and most esoteric stage of Budyé initiation, a mnemonic device known as the *lukasa* ("long hand") aids elders in teaching initiates about the origins of Luba kingship. The *lukasa* shown in plate 2 is typical of the Luba of the Kabongo region of the Democratic Republic of Congo, where boards are covered with beads and cowrie shells. During this last stage of Budyé initiation, the *lukasa* is read or sung in praise of the king who established his residence in that particular region. The

configuration of beads and shells charts the journeys of that king, the location of sacred lakes and trees, and residences that later became spirit capitals. The spirit capitals are depicted on *lukasa* by large beads and cowrie shells. Lines of beads often signify paths or migration routes, while circles of beads refer to chieftaincies. According to Reeve, the long gash in the lower right side of the board shown in plate 2 represents the upper Congo River.<sup>45</sup> The board's form and embellishment also signify the plan of the royal court and Budyé meeting house. Different *lukasa* will contain common configurations of beads and shells, but their interpretation will vary according to the praise singer's objectives. Readings are contingent on the king being praised, the praise singer's knowledge of royal history, and the political circumstances of the performance. Thus the names of spirit capitals, lakes, and chieftaincies will change as the praise singer highlights specific elements of a royal historical geography.<sup>46</sup>

43. W. F. P. Burton, *Luba Religion and Magic in Custom and Belief* (Tervuren, Belg.: Musée Royal de l'Afrique Centrale, 1961), 166.

44. Nooter, "Luba Art and Polity," 108 (note 42), and Mary Nooter Roberts, "Luba Memory Theater," in *Memory: Luba Art and the Making of History*, ed. Mary Nooter Roberts and Allen F. Roberts (Munich: Prestel and Museum for African Art, 1996), 117–49, esp. 122.

45. Thomas Q. Reeve, "Lukasa: A Luba Memory Device," *African Arts* 10, no. 4 (1977): 48–50, 88, esp. 50.

46. Nooter, "Luba Art and Polity," 74–88 (note 42); Mary H. Nooter [Mary Nooter Roberts], "Fragments of Forsaken Glory: Luba Royal Culture Invented and Represented (1883–1992) (Zaire)," in *Kings of Africa: Art and Authority in Central Africa*, ed. Erna Beumers and Hans-Joachim Koloss (Utrecht: Foundation Kings of Africa, [1993]), 79–89, esp. 84–86. For further discussion of the importance of the *lukasa* in the Budyé system, see Reeve, "Lukasa," and François

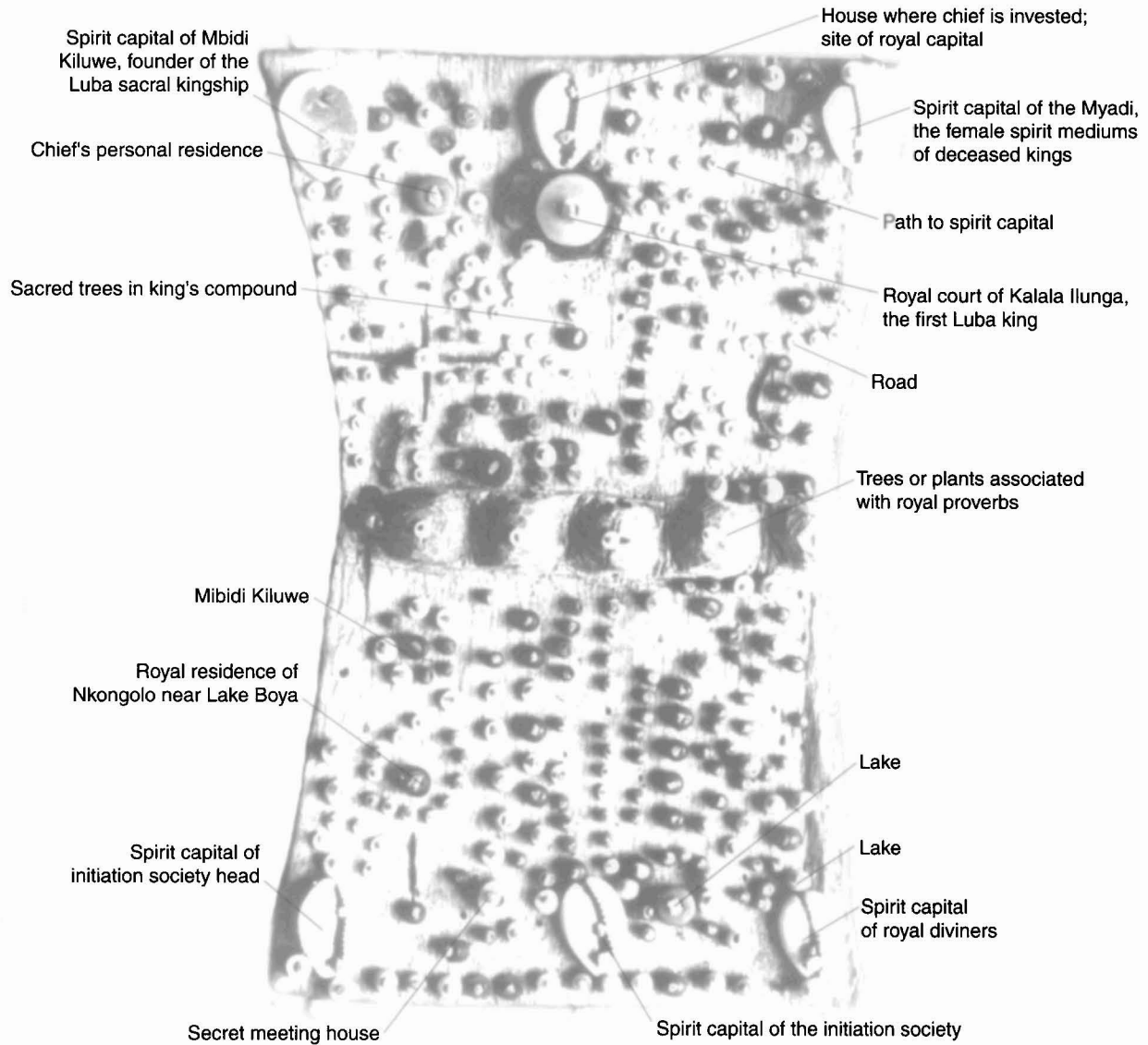


FIG. 3.10. TRANSLATION OF THE LUKASA IN PLATE 2. After Mary H. Nooter [Mary Nooter Roberts], "Luba Art and

Polity: Creating Power in a Central African Kingdom" (Ph.D. diss., University of Michigan, 1991), 90–93.

The selective reading of a *lukasa* is tied to the rhetorical nature of the performance. One of the orator's objectives is to emphasize the importance of a particular kingship to Luba history. The *lukasa* shown in plate 2 was constructed for a Budye society in a village where Kalala Ilunga, the first Luba king, established his residence. Figure 3.10 highlights some of the historical geographical elements of Kalala Ilunga's kingship, including his father's migration to Lake Boya, where he encountered the antihero of the Luba genesis myth, Nkongolo.<sup>47</sup> The *lukasa*'s focus on the significance of specific localities within the Luba culture area links it with the mapmaking of other societies in which selection and omission reflect the desires of the mapmaker.

### SOLICITED MAPS

We encounter further evidence of African mapmaking in the nineteenth century in the reports of European explorers of the continent. Most of the maps recorded in these travel accounts were solicited by explorers interested in the geography of areas unknown to Europeans. The bulk of the maps produced were ephemeral ones drawn on the

Neyt, "Tabwa Sculpture and the Great Traditions of East-Central Africa," trans. Samuel G. Ferraro, in *Tabwa: The Rising of a New Moon: A Century of Tabwa Art*, ed. Evan M. Maurer and Allen F. Roberts (Ann Arbor: University of Michigan Museum of Art, 1985), 65–89.

47. Nooter, "Luba Art and Polity," 89–96 (note 42).

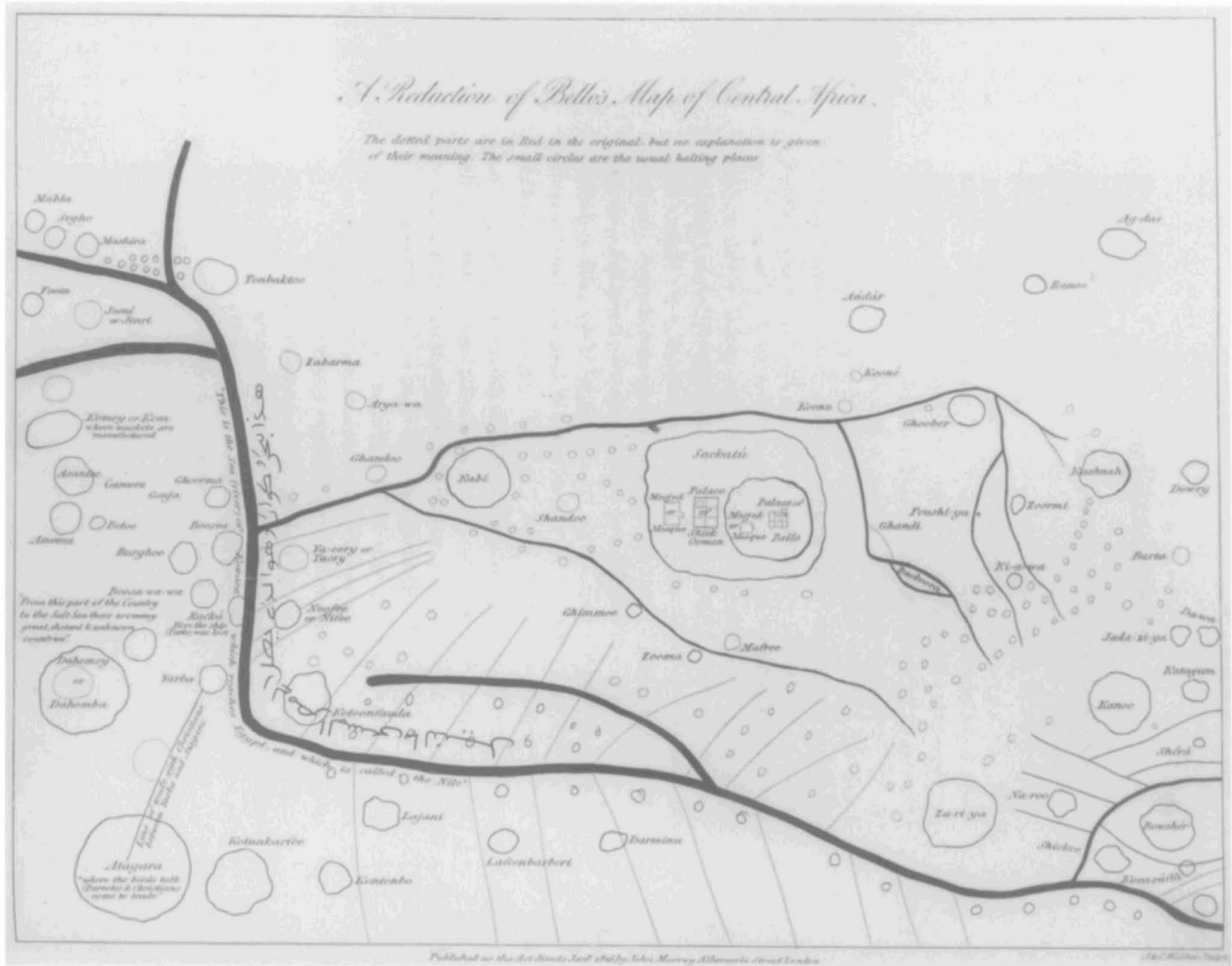


FIG. 3.11. SULTAN BELLO'S MAP OF THE NIGER RIVER'S COURSE. This "reduction" was engraved by J. and C. Walker for the publisher John Murray. Clapperton does not comment on its original state, so we have no idea of the orientation, size, and appearance of the map attributed to Bello. Under the title it is noted that "the dotted parts are in Red in the original, but no explanation is given of their meaning. The small circles are the usual halting places."

ground in the presence of the explorer. In many instances we have only a record of the mapmaking moment in the text of the European explorer, though some of these ground maps were transcribed onto paper and reproduced in the explorers' accounts. Rarely do we find an extant original without some modification by European hands. The ability and willingness of Africans across the continent to produce maps testifies not only to their competency in mapmaking but also to Europeans' dependency on indigenous geographical knowledge for their own mapmaking.

One of the best-known examples of African mapmaking is the map given to Hugh Clapperton in 1824 by Mohammed Bello (1797–1837), sultan of Sokoto caliphate.

From "Captain Clapperton's Narrative," in *Narrative of Travels and Discoveries in Northern and Central Africa, in the Years 1822, 1823, and 1824*, by Dixon Denham, Hugh Clapperton, and Walter Oudney (London: John Murray, 1826), 1–138 (2d pagination), facing 109.

Clapperton was interested in learning the course of the Kowara (Niger) River, whose outlet was the subject of considerable debate at this time. During one of their many meetings, the sultan "drew on the sand the course of the river Quarra, which he also informed me entered the sea at Fundah." Clapperton and Bello must have spoken at length about maps, because at their last meeting the sultan gave Clapperton "a map of the country" and requested that Clapperton send him a map of the world when he returned to England.<sup>48</sup> A modified version of Bello's map appears in Clapperton's published travel narrative (fig. 3.11).

48. "Captain Clapperton's Narrative," in *Narrative of Travels and*

The published version of Bello's map is distinguished by a number of features. First, Sackatú (Sokoto) is placed in the center of the map, illustrating what Harley called the "rule of ethnocentricity."<sup>49</sup> Second, the importance given to river systems reflects the circumstances of its making. Clapperton's inquires about the course of the Niger are answered by Bello in the map, which shows the Niger flowing from west to east. A text in Arabic and English meanders with the river and states: "This is the sea (river) of Kowara which reaches Egypt, and which is called the Nile." That the Niger and the Nile were the same river was one of many contending theories on the Niger's course at this time. Why Bello would depict the Niger's course this way is puzzling, since in an earlier meeting with Clapperton he indicated that he knew the river flowed to the Atlantic when he stated: "I will give the King of England," says he, 'a place on the coast to build a town: only I wish a road to be cut to Rakah, if vessels should not be able to navigate the river.'<sup>50</sup> On the map, Racká (Rakah) is noted as the place where Mungo Park's boat disappeared (during his second expedition to the Niger in 1805). It is possible that the sultan was persuaded by Moorish and Arabic merchants to conceal the true course of the river from Clapperton in order to impede European entry into the region.<sup>51</sup> Clapperton himself commented that the reason he received so many inconsistent accounts of the Niger's course was the common view "that strangers would come and take their country from them, if they knew the course of the Quarra [Niger]." When Bello informed Clapperton that he would not be able to visit the major river ports of Youri ("Ya-oory") and Nyffee ("Noofee") to the west of Sokoto, the frustrated traveler noted, "I could not help suspecting the intrigues of the Arabs to be the cause; as, they know well, if the native Africans were once acquainted with English commerce by the way of the sea, their own lucrative inland trade would from that moment cease."<sup>52</sup> The suspected intrigues and withholding of information suggest that the map Bello produced might reflect his political and economic concerns about expanding European influence in the interior of Africa.

Depicted on the western part of the map are locations of historical geographical significance to Bello's ancestors, who migrated from the Futa Jallon ("Foota") and Maasina ("Mashira") regions before coming to northern Nigeria. To the east are shown the former Hausa city-states of Kano ("Kanoo"), Katsina ("Kashnah"), Zaria ("Za-ri-ya"), and Gobir ("Ghoover") conquered by Bello's father, Usuman dan Fodio, and united into the Sokoto caliphate.

In addition to the map, Clapperton obtained from Bello a manuscript on the history and geography of the West African region known as Tak-roor (Tekrur) about which Europeans had vague knowledge from the writ-

ings of al-Idrīsī, the twelfth-century Arab geographer. An extract from Bello's geography was translated and appended to the account of Denham, Clapperton, and Oudney.<sup>53</sup> Although Europeans such as MacQueen belittled Bello's map, noting, for example, the "rude representation" of a river, and his "inaccuracy as a geographer," others valued his mapmaking and geographical writings for their contribution to European knowledge of the political geography of the region. Heinrich Barth studied Bello's map and geography before undertaking his major exploration of North and West Africa in the early 1850s. A modified version of Bello's map appears in Elisée Reclus's world geography in his discussion of Sokoto and the Hausa states.<sup>54</sup>

Other examples of solicited ground maps can be found in the vast travel and exploration literature of the nineteenth century. While mapping the watershed between the Blue Nile and Awash River basins in the early 1840s, the British explorer Charles Beke solicited indigenous ground maps. On one occasion Beke was shown the (incorrect) course of the Gojab River by "Hádji Moammed Núr, a merchant . . . [who] drew its course on the ground with his stick."<sup>55</sup> In the 1870s the Bohemian doctor Emil Holub traveled throughout present-day southern Zimbabwe and the northern Transvaal of South Africa to pursue his interests in ethnology and natural history. On one expedition through the Marutse empire around the upper Zambezi River, he asked the ruling chief, Sepopo, to suggest a travel route to the headwaters of that great river. Holub reported that "he began to show me my proper route, by drawing a map of the Upper Zambesi and its affluents with his stick on the sand." Pleased with Holub's keen interest in his map, Sepopo summoned two individuals familiar with the area, who confirmed the accuracy of his map.<sup>56</sup>

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*Discoveries in Northern and Central Africa, in the Years 1822, 1823, and 1824*, by Dixon Denham, Hugh Clapperton, and Walter Oudney (London: John Murray, 1826), 1–138 (2d pagination), esp. 89 and 109.

49. Harley, "Deconstructing the Map," 6 (note 12).

50. "Captain Clapperton's Narrative," 90 (note 48).

51. James MacQueen, "Geography of Central Africa, Denham and Clapperton's Journals," *Blackwood's Edinburgh Magazine* 19 (1826): 688–709, esp. 698–99.

52. "Captain Clapperton's Narrative," 42, 88 (note 48).

53. "Translation of an Arabic MS. Brought by Captain Clapperton," in *Narrative of Travels and Discoveries in Northern and Central Africa, in the Years 1822, 1823, and 1824*, by Dixon Denham, Hugh Clapperton, and Walter Oudney (London: John Murray, 1826), app. 12 (pp. 158–67, 2d pagination).

54. MacQueen, "Geography of Central Africa," 702 (note 51); Heinrich Barth, *Travels and Discoveries in North and Central Africa*, 3 vols. (New York: Harper, 1857–59), 3:138; and Elisée Reclus, *Nouvelle géographie universelle: La terre et les hommes*, vol. 12, *L'Afrique occidentale* (Paris: Hachette, 1887), 600.

55. Charles T. Beke, "On the Nile and Its Tributaries," *Journal of the Royal Geographical Society* 17 (1847): 1–84, esp. 44n.

56. Emil Holub, *Seven Years in South Africa: Travels, Researches, and*

During a scientific collecting trip up the Ogooué River in the French Congo (Gabon) in 1895, the British traveler Mary Kingsley asked a Fan chief about the location and conditions of villages upstream. In her witty and vivid memoir, *Travels in West Africa*, Kingsley describes one of the most memorable mapmaking scenes in travel and exploration literature.

He took a piece of plantain leaf and tore it up into five different-sized bits. These he laid along the edge of our canoe at different intervals of space, while he told M'bo [Kingsley's guide] things, mainly scandalous, about the characters of the villages these bits of leaf represented, save of course about bit A, which represented his own. The interval between the bits was proportional to the interval between the villages, and the size of the bits was proportional to the size of the village. Village number four was the only one he should recommend our going to. When all was said, I gave our kindly informants some heads of tobacco and many thanks.<sup>57</sup>

Kingsley was obviously pleased by her informant's map. Her reference to its proportional representation suggests she believed it was made to scale. However, she was soon to discover that the distances between villages were much longer than anticipated.

Now there is no doubt that that chief's plantain-leaf chart was an ingenious idea and a credit to him. There is also no doubt that the Fan mile is a bit Irish, a matter of nine or so of those of ordinary mortals, but I am bound to say I don't think, even allowing for this, that he put those pieces far enough apart. On we paddled a long way before we picked up village number one, mentioned in that chart. On again, still longer, till we came to village number two. Village number three hove in sight high up on a mountain side soon after, but it was getting dark and the water worse, and the hillsides growing higher and higher into nobly shaped mountains, forming, with their forest-graced steep sides, a ravine that, in the gathering gloom, looked like an alley-way made of iron, for the foaming Ogowé. Village number four we anxiously looked for; village number four we never saw; for round us came the dark, seeming to come out on to the river from the forests and the side ravines, where for some hours we had seen it sleeping, like a sailor with his clothes on in bad weather. On we paddled, looking for signs of village fires, and seeing them not.<sup>58</sup>

Overtaken by night and preoccupied with the perilous rapids of the Ogooué, Kingsley may have passed the fourth village without ever seeing it. She and her eight Gailoa canoe men finally stopped late in the evening when their canoe became jammed on some rocks. They eventually made their way to a nearby island, where they discovered a village and spent the rest of the night. Kingsley is silent on whether this was village number four.

Captain Henri d'Ollone's encounter with indigenous mapmaking profoundly altered his views of the cartographic abilities of African peoples. During a border reconnaissance mission between French West Africa and Liberia in 1899–1900, d'Ollone and his compatriot Jean Hostains inquired about the distribution of ethnic groups in the dense rain forest region through which they were traveling. They asked a Pérabo man named Tooulou to draw on the ground with a charred stick the location of various cultural groups in the region. To their astonishment, Tooulou not only showed the distribution of local peoples but also drew the location of villages, mountains, and rivers within a radius of one hundred kilometers. Skeptical of the accuracy of Tooulou's map, d'Ollone and Hostains tried to trip him up over the next few days by asking him to redraw it time and again, yet he repeatedly drew the same map and refused to change any part of it when they challenged certain elements. The two Frenchmen were further astonished when other individuals stepped forward to draw ground maps showing the location of their villages. What amazed Hostains and d'Ollone was that all these maps were drawn in the thick of the tropical rain forest, where it was difficult to gain a vantage point. D'Ollone makes the important observation that this mapmaking was not simply done for the benefit of Europeans but was a common form of expressing spatial information among Africans themselves. He notes that “on two occasions I saw natives [*des indigènes*] drawing a map for others in order to indicate a location: in sum, true geography lessons!”<sup>59</sup>

The scene of Africans drawing ground maps to the profound surprise of Europeans is a recurring theme of the exploration literature. Ludwig Wolf, the German physician accompanying the Hermann von Wissmann expedition to the Kasai and Sankuru Rivers in the Democratic Republic of Congo, was “amazed and still full of doubt” when a notable of the Bakuba king “drew the flow of these rivers in the sand with a confident hand. And, yes, his information is entirely correct!”<sup>60</sup> In 1876 the French explorer of the northern Saharan desert, Victor Largeau, was taken aback by what appeared to be parallel lines on a ground map made by a Tuareg goldsmith in the town of Ghadāmis. The man drew four straight lines and noted

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*Hunting Adventures, between the Diamond-Fields and the Zambesi* (1872–79), 2 vols., trans. Ellen E. Frewer (Boston: Houghton Mifflin, 1881), 2:174.

57. From Mary H. Kingsley, *Travels in West Africa: Congo Français, Corisco and Cameroons*, 5th ed. (London: Virago Press, 1982), 170.

58. Kingsley, *Travels in West Africa*, 171.

59. Henri Marie Gustave d'Ollone, *Mission Hostains-D'Ollone, 1898–1900: De la Côte d'Ivoire au Soudan et à la Guinée* (Paris: Hachette, 1901), 140–41, esp. 141 n. 1.

60. Hermann von Wissmann et al., *Im innern Afrikas: Die Erforschung des Kassai während der Jahre 1883, 1884 und 1885*, 3d ed. (Leipzig: Brockhaus, 1891), 240.

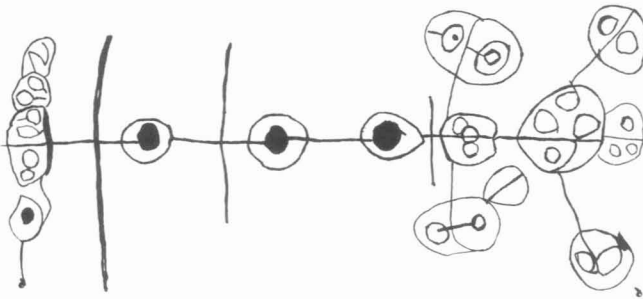
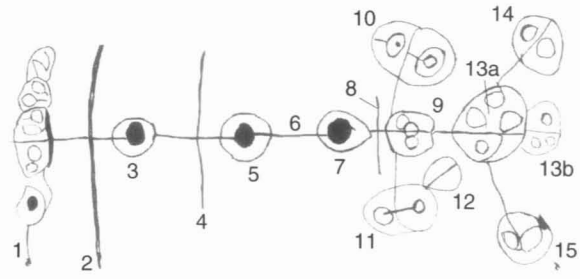


FIG. 3.12. SABATELE'S MAP OF THE MAIN CARAVAN ROUTES IN EAST AFRICA. Paper and pencil. This map with its southerly orientation traces the main caravan routes across Tanzania, with the terminus points placed at Dar es Salaam. See figure 3.13 for an explanatory diagram. Size of the original: unknown. Current location unknown. Photograph courtesy of the Archiv Museum für Völkerkunde zu Leipzig (Neg. Af 0 1428; from the original glass plate negative).

the relative locations of Tripoli, Ghadāmis and Ghat, the Hoggar (Ahagger) Mountains and Agades, and Tombouctou. Largeau was at a loss to explain how “the idea of meridians had found its way to this son of the Niger.”<sup>61</sup> The parallel lines were possibly the boundaries of climates that commonly appeared on medieval European and Islamic maps.<sup>62</sup> Adler believed Arab merchants were responsible for the diffusion of such elements of “scientific geography” in their trans-Saharan travels.<sup>63</sup>

The German geographer Karl Weule was “overwhelmed” by the number of maps members of his caravan produced during a six-month research expedition through German East Africa in 1906. Between marches, he supplied his carriers with paper and pencils to see what they would draw. Figure 3.12 is the map made by a Mambwe man named Sabatele, originally from the southern shore of Lake Tanganyika near the present Tanzania-Zambia border. The map, which traces caravan routes across Tanzania, was made in Lindi at the very beginning of Weule's expedition (see figs. 3.13 and 3.14). Weule notes that Sabatele's map was oriented with south at the top, but he turned it around 180 degrees “in order to bring it into agreement with our maps.”<sup>64</sup> Adler reproduces two additional maps Weule brought back that were made by the headman of his caravan, Pesa Mbili.<sup>65</sup>

In summary, solicited maps were generally ephemeral constructions produced on the ground, often, but not always, at the request of European travelers and explorers. The record indicates that these maps were made at a variety of scales. They appear in all major geographical regions of the continent and in a cross section of environments (e.g., desert, rain forest). A remarkable feature of ground maps was their cross-cultural intelligibility. Notwithstanding broad epistemological divides separating Europeans from various African cultural groups, it



1. "Mawopanda," Dar es Salaam
2. "Lufu," the Ruvu River, a large river frequently crossed on the main caravan road by Wanyamwezi carriers, one of whom created this map
3. "Mulokolo," Morogoro, the terminus for the central railway at the time
4. "Mgata," Makata, plain between the Uluguru and Rubeho mountains, a swamp during the rainy season
5. "Kirosa," Kilosa
6. "Balabala," the caravan road
7. "Mwapwa," Mwapwa, the old caravan center, once the last stop on the inland march before the great alkali desert, Marenga Mkali, and hostile Ogogo
8. Mutiwe, a stream near Kilimatinde
9. Kilimatinde, a mountain
10. Kasanga
11. Kondo-irangi
12. Post of Kalama, in Iramba (Mkalama?)
- 13a. "Tobola," Tabora, with the new *boma* (enclosure/fort)
- 13b. "Tobola ya zamani," Old Tabora with the former *boma*
14. Ujiji on Lake Tanganyika
15. Mwanza on Lake Victoria

FIG. 3.13. EXPLANATION OF SABATELE'S MAP (FIG. 3.12).

After Karl Weule, *Native Life in East Africa*, trans. Alice Werner (New York: D. Appleton, 1909), 9, 373–75.

appears that Europeans had little difficulty in reading these maps.<sup>66</sup> Solicited maps demonstrate that Africans had the spatial competence and requisite sign systems to produce maps spontaneously. They also fulfilled a basic discourse function—to show relative position and direction to outsiders unfamiliar with the territory through which they were traveling. Indeed, there is evidence that African ground maps were influential in shaping the form and content of European maps of the continent.

61. Wolfgang Dröber, *Kartographie bei den Naturvölkern* (1903; reprinted Amsterdam: Meridian, 1964), 29–30.

62. Early examples of *climata* appear in the work of Ptolemy and on globes of Hellenistic Greece; see O. A. W. Dilke, “The Culmination of Greek Cartography in Ptolemy,” and “Cartography in the Ancient World: A Conclusion,” in *The History of Cartography*, ed. J. B. Harley and David Woodward (Chicago: University of Chicago Press, 1987–), 1:177–200, esp. 182–83, and 1:276–79. The tradition was later adopted in Islamic mapping; see Karamustafa, “Cosmographical Diagrams,” 76 (note 28), and Gerald R. Tibbetts, “Later Cartographic Developments,” in *The History of Cartography*, ed. J. B. Harley and David Woodward (Chicago: University of Chicago Press, 1987–), vol. 2.1 (1992), 137–55, esp. 146–47.

63. Adler, “Karty pervobytnykh narodov,” 177–78 (note 1).

64. Karl Weule, *Native Life in East Africa*, trans. Alice Werner (New York: D. Appleton, 1909), 373–75.

65. Adler, “Karty pervobytnykh narodov,” 181–84 (note 1).

66. Jacob, *L'empire des cartes*, 63 (note 31).

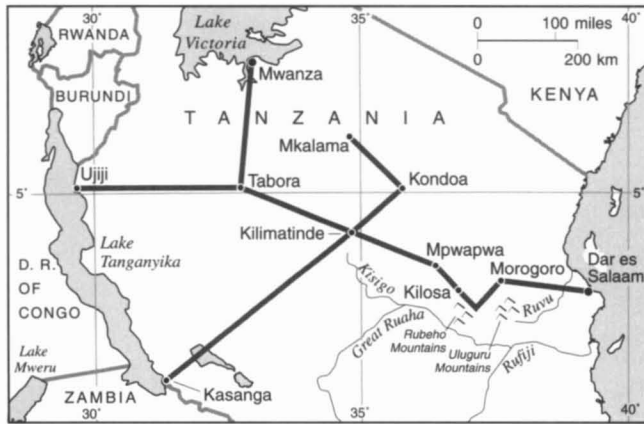


FIG. 3.14. REFERENCE MAP FOR FIGURES 3.12 AND 3.13.

### AFRICAN INFLUENCES ON EUROPEAN MAPMAKING

The information obtained from African informants was often incorporated into European maps. A common method was for Europeans to speak with well-traveled Africans (e.g., merchants, pilgrims, messengers), who would tell them about the settlements and topography of the areas they frequented. The information gleaned from these itineraries was then cross-checked with other sources. This was the method employed by Joseph Dupuis, the British consul to Kumasi in the Ashanti kingdom in 1820. To construct his maps of Wangara and Sudan, Dupuis relied heavily on travel guides written in Arabic script that he obtained from well-traveled Hausa and Jula merchants. These sources most often took the form of itineraries that listed the names of settlements between a starting point and a destination (e.g., Kumasi to Kong). With his informants' assistance, Dupuis calculated the distance between any two points based on the number of days' march between them.<sup>67</sup> Dupuis's "A Map of Wangara" (fig. 3.15) shows the influence of African itineraries in the linear procession of place-names.

William Desborough Cooley acknowledged the value of a map made by an elderly Arab merchant from Zanzibar when discussing the compilation of his 1853 map of the Lake Malawi region. The mapmaker was named Mohammed ben Nassûr. Cooley says nothing about the circumstances in which Nassûr's map was made, but he repeatedly refers to it as an authoritative source for his own mapmaking.<sup>68</sup>

Sections of Henri Duveyrier's map of the central Sahara were similarly based on ground maps he obtained during his travels in North Africa in 1860. The French geographer recounted how he gathered a number of itineraries for regions unknown to him but found some to be inconsistent. To sort things out, Duveyrier consulted with a certain Cheikh-'Othmân, "who drew in the sand a relief

model of parts of the Tuareg territory that I wasn't able to explore." After further discussions with his informant, Duveyrier sketched his own map, then cross-checked it with his informant's ground map.<sup>69</sup> More than a third of Duveyrier's published map is based on information provided by these local sources.<sup>70</sup>

A century later, the French geographer Edmond Bernus asked Tuareg herders in Niger to map their dry-season grazing areas. Figure 3.16 is one of five maps published by Bernus that were initially drawn in the sand and then put on paper by Tuareg informants (see also fig. 3.17). The map's linear form reflects the pattern of relict river valleys along which Tuareg herds graze during the dry season. The small numbered circles mark the position of wells along the valley floor. Place-names are written in the

67. Joseph Dupuis, *Journal of a Residence in Ashantee* (London: H. Colburn, 1824), reproduces a number of these travel guides, with English translations (cxxiv–cxxxv), and describes his calculations (xv–xx). The name Wangara was generally associated with the gold-rich areas of West Africa. It was first mentioned in the work of al-Idrisî, the twelfth-century Arab geographer, most likely in reference to the alluvial deposits near Bambuk in present-day Mali. Leo Africanus, in his sixteenth-century writings, also refers to a Wangara near the Hausa state of Zamfara. More than a thousand miles apart, these different Wangaras must have been confusing to early nineteenth-century Europeans, whose knowledge of West Africa remained poor. See Robin Hallett, *The Penetration of Africa: European Enterprise and Exploration Principally in Northern and Western Africa up to 1830*, vol. 1 (London: Routledge and Kegan Paul, 1965), 23n. In constructing his map, Dupuis relied on his informants' delimitation of Wangara to include "Ashantee, Dahomy, and Benin, east of the Formosa" (xci). See also Thomas J. Bassett, "Influenze africane sulla cartografia europea dell'Africa nei secoli XIX e XX," conference paper presented at *La cultura dell'alterità: Il territorio africano e le sue rappresentazioni*, Bergamo, 2–5 October 1997.

68. The map is titled "Map of Africa, from the Equator to the Southern Tropic, Shewing the Routes to Lake Nyassi, Moenemoezi the Muropue, the Cazembe and across the Continent, with the Discoveries of the Missionaries in Eastern Africa." William Desborough Cooley, *Inner Africa Laid Open* (1852; reprinted New York: Negro Universities Press, 1969), 54–60. Another example of African mapmaking for the benefit of Europeans seeking to fill in the blank spaces on their maps is Haile Mariam's "Carte du royaume de Kouollo." One of the few indigenous maps to be published, it was solicited by the French traveler and diplomat Guillaume Lejean during his tenure as French consul in Abyssinia under the reign of Emperor Theodore. Guillaume Lejean, "Note sur le royaume de Kouollo au sud du Kafa (Notes verbales fournies par deux indigènes)," *Bulletin de la Société de Géographie de Paris*, ser. 5, 8 (1864): 388–91.

69. Henri Duveyrier, *Exploration du Sahara: Les Touareg du Nord* (Paris: Challamel Ainé, 1864), xiv–xvi. See Erwin Raisz, *General Cartography*, 2d ed. (New York: McGraw-Hill, 1948), 4–5, for a similar story of a relief model of the area between Ahaggar in the Sahara and Tombouctou being constructed by a Tuareg man. Raisz's account is undocumented and unattributed, and it is possible he is repeating Duveyrier's.

70. The title of Duveyrier's map is "Exploration du Sahara—Années 1859, 1860, 1861, Carte du Plateau Central du Sahara comprenant le pays des Touareg du Nord, le Sahara Algérien, Tunisien et Tripolitain par Henri Duveyrier" (1/3,000,000), Drawn by E. Debuissons, Paris, published/printed by Erhard (79.6 × 61 cm).



FIG. 3.15. DEPUIS'S "A MAP OF WANGARA." The map shows the influence of written itineraries in the linear procession of place-names. A good example is the string of names running northwest-southeast in the center left of the map, just east of the name "Manding."

*tifnag* script. The map's focus on hydrographic networks reflects Bernus's request to show transhumance routes. Interestingly, the orientations of the five maps vary with the position of each mapmaker in relation to different grazing areas. This illustrates the point first made by Brosset that pastoral nomads use "sectors of orientation" to situate themselves more often than they use fixed cardinal points and directions.<sup>71</sup> As Bernus shows, the paths along which the Tuareg orient themselves are commonly associated with physical geographic features such as streambeds, sand dunes, hills, and isolated trees in the landscape.<sup>72</sup>

Orientation is also determined in relation to Mecca,

Size of the original: 42 × 49 cm. From Joseph Dupuis, *Journal of a Residence in Ashantee* (London: H. Colburn, 1824). Photograph courtesy of the Library of Congress, Washington, D.C.

which devout Muslim Tuareg face five times a day while praying. Among the Kel Ahagger, east is called *elkablet*, which means "the direction of Mecca." East is also de-

71. D. Brosset, "La rose des vents chez les nomades sahariens," *Bulletin du Comité d'Études Historiques et Scientifiques de l'Afrique Occidentale Française* 11 (1928): 666–84. See also Prussin, *African Nomadic Architecture*, 35 (note 5).

72. Edmond Bernus, "La représentation de l'espace chez des Touaregs du Sahel," *Mappemonde* 1988, no. 3, 1–5; idem, "Points cardinaux: Les critères de désignation chez les nomades touaregs et maures," *Bulletin des Etudes Africaines de l'INALCO* 1, no. 2 (1981): 101–6; and idem, "Perception du temps et de l'espace par les Touaregs nomades sahéliens," in *Ethnographiques*, ed. Paul Claval and Singaravélou (Paris: Harmattan, 1995), 41–50.



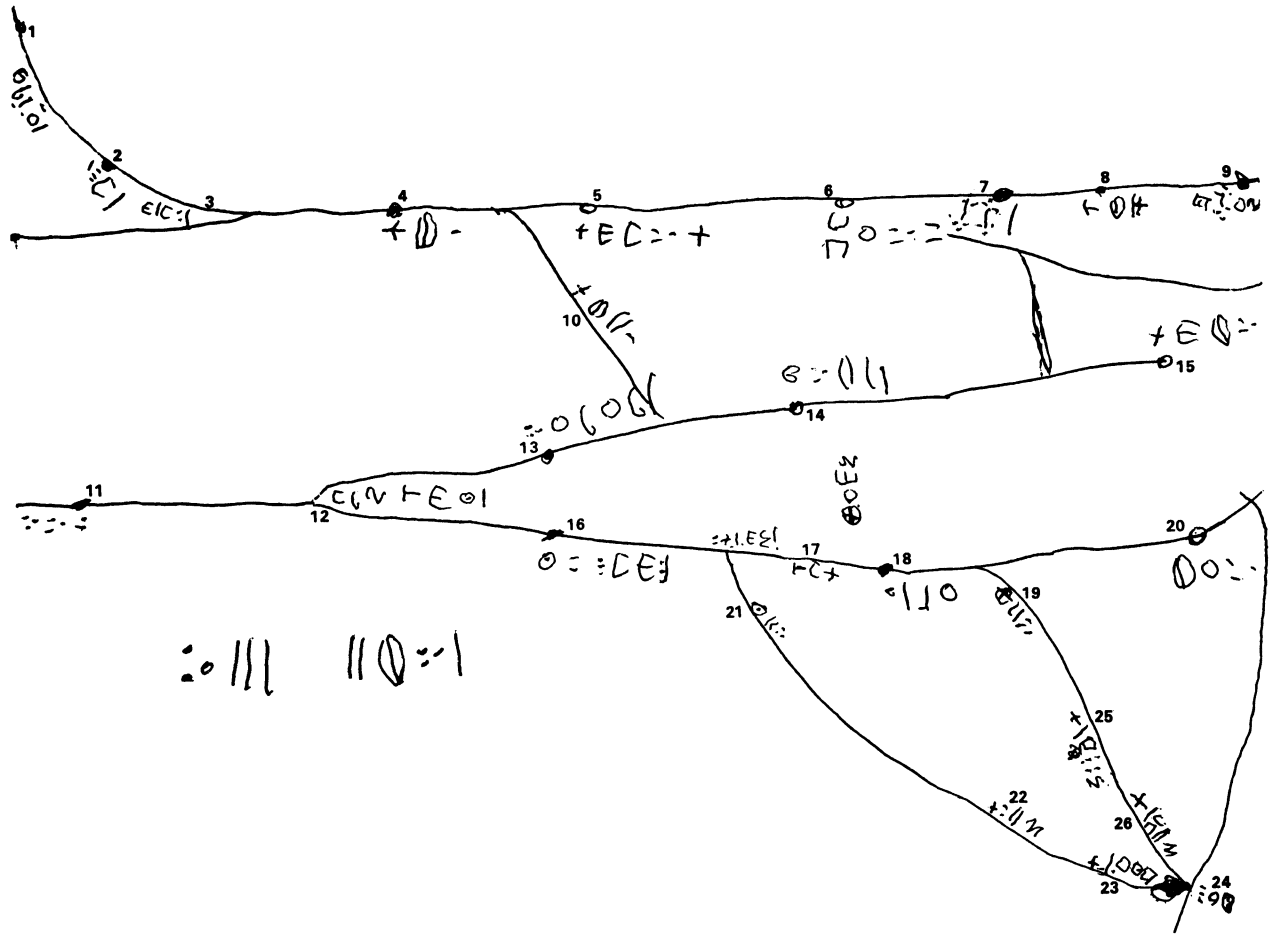


FIG. 3.16. MAP OF A TUAREG TRASHUMANCE ZONE MADE BY KILI KILU AG NAJIM AND MODIFIED BY EDMOND BERNUS. Paper and ink, original drawn in the notebook of Edmond Bernus. Orientation is north. The map covers an area 150 kilometers east-west and 90 kilometers north-south. Place-names are written in the *tifinag* script. The lines represent dry valleys, and Bernus identifies twenty-six local place-names and wells (numbers 1–26 on this figure).

Size of the original: 13.5 × 20 cm. From Edmond Bernus, *Les Illabakan (Niger): Une tribu touarègue sahélienne et son aire de nomadisation*, Atlas des Structures Agraires au Sud du Sahara 10 (Paris: ORSTOM, 1974).

noted by the word *dat-akal*, defined as “the country in front” of the person in prayer. West is defined as “the country behind” (*deffer akal*) the person praying. North and south are equally defined in relation to the person facing the sacred easterly direction. The word for north is *tezalge*, or “the left” or “the left side,” while south is denoted by *agbil*, or “the right.”<sup>73</sup> The practice of defining cardinal directions in relation to the human body facing a specific geographical feature or direction (left-right, front-back, up-down) links the Saharan Tuareg with the peoples of sub-Saharan Africa. In the central African rain forest region of Kasai, individuals commonly orient themselves in relation to the flow of rivers.<sup>74</sup>

The German explorer Eduard Robert Flegel had his map of the Benue River system corrected by King Ab-

dulrahamani of Ibi during an expedition to the Benue in July 1879. Flegel wanted to visit the community of Wukari, which his map placed along the course of a river labeled Kogi-n-Kalem, but he learned from the king that no such river approached Wukari. Abdulrahamani then “slightly raised his sheepskin, which served as a throne blanket, and, with his very own finger, drew the hydrographic system for me in the sand.” The king proceeded to mark points along the lines representing rivers and gave the names of the villages they represented. Flegel

73. Bernus, “Points cardinaux,” esp. 103, and “Perception du temps” (note 72). For similar conventions in European languages, see Woodward, “Medieval *Mappaemundi*,” 337 (note 31).

74. Jan Vansina, personal communication, 7 August 1995.

transcribed this ground map to paper to correct his own map of the Benue River system.<sup>75</sup>

There are innumerable instances of Africans' providing "oral maps" to European explorers. In Jakob Erhardt's mid-nineteenth-century memoir explaining his map of eastern and central Africa showing Lake Victoria in the shape of a giant slug, he acknowledges his dependence on ivory and slave traders for geographical information along the main caravan routes between the east African coast and Lake Tanganyika. Charles Beke gave credit to his informant in the title of a schematic map of southern Ethiopia: "Map of the Countries South of Abessinia, Drawn under the Dictation of 'Omar ibn Nedjât by Dr. Beke." 'Omar ibn Nedjât was a Muslim merchant from Dêrita who provided Beke with details on the course of the Gojab River. MacQueen similarly acknowledges the value of information provided by African informants when discussing his theories on the course of the Niger River.<sup>76</sup>

In summary, there is considerable evidence showing the influence of African maps on European mapmaking in the nineteenth and twentieth centuries. The examples cited here surely represent just a small number of what must have been innumerable cartographic encounters between Africans and Europeans. On the basis of this limited evidence, we can identify three major influences of African mapmaking on European maps of the continent. First, African maps were used by explorers to correct and, in significant ways, to construct their maps. This was true not only for explorers in Africa, but also for arm-chair geographers at home. Second, the topological nature of African maps in which location and orientation are derived from local historical and cultural (i.e., non-coordinate-based) determinations is also evident in European maps. For example, the linear form and temporal basis of indigenous mapping in which distance is measured by a day's journey on foot along a commercial or religious itinerary are represented in many European maps. Third, the place-names contained in the maps of Africans were widely transcribed onto European maps. It is ironic that African mapmaking contributed to the drawing of improved maps of the continent by Europeans who ultimately used them in partitioning Africa into colonies.

#### EUROPEAN INFLUENCES ON AFRICAN MAPMAKING

One of the most ambitious mapmaking enterprises emerged in the early twentieth century in the kingdom of Bamum in the grasslands of western Cameroon. Under the leadership of King Njoya (ca. 1875–1933), the people of Bamum developed their own alphabet and undertook a major topographic survey of the kingdom. There



FIG. 3.17. WOMAN DRAWING A MAP IN THE SAND. This photograph taken in 1968 shows a Tuareg woman of the Kel Adagh group in the Adrar des Iforas massif (Mali) drawing a map of the Ouzzeine Valley in the sand, showing its main axis and its perpendicular branches.

By permission of Edmond Bernus, Paris.

is some uncertainty whether Njoya was a self-taught mapmaker or learned to make maps from German missionaries or the cartographer Max Möisel. Nor is it certain whether Njoya himself engaged in mapmaking or whether a member of his court served as the king's cartographer. It is likely that Njoya was making maps before the German occupation and that his later work was influenced by Möisel.<sup>77</sup>

75. E. Robert Flegel, "Städtebilder aus West- und Central-Afrika," *Mitteilungen der Geographischen Gesellschaft in Hamburg*, 1878–79, 300–327, esp. 305–7.

76. James [Jakob] Erhardt, "Reports respecting Central Africa, as Collected in Mambara and on the East Coast, with a New Map of the Country," *Proceedings of the Royal Geographical Society* 1 (1855–57): 8–10; Beke, "On the Nile," 44 (note 55); MacQueen, "Geography of Central Africa," 702–6 (note 51).

77. Idellette Dugast and Mervyn David Waldegrave Jeffreys, *L'écrit-*

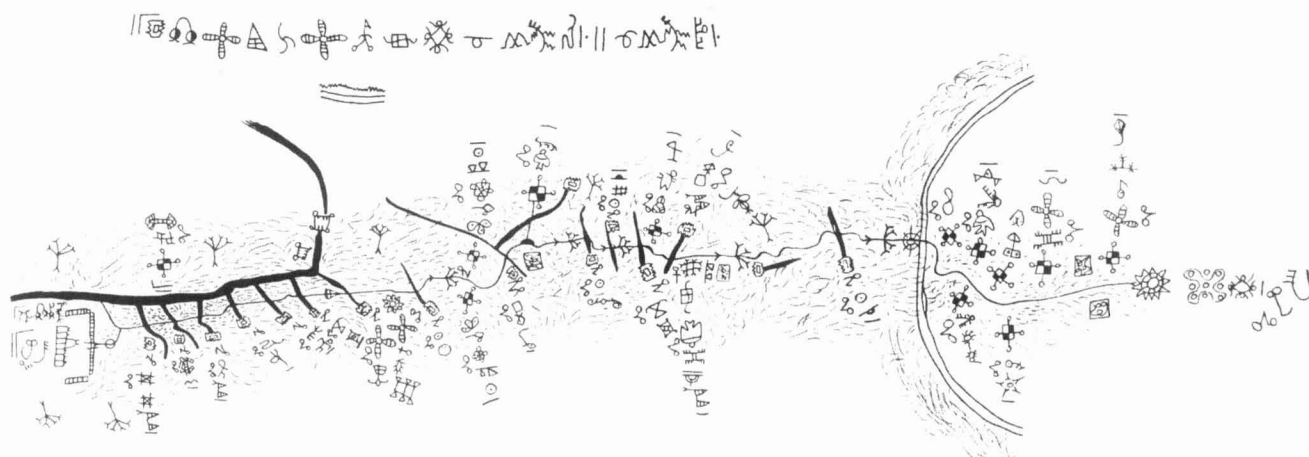


FIG. 3.18. KING NJOYA'S ROUTE MAP BETWEEN HIS FARM AND FUMBAN (1906). Paper and ink. Place-names are written in the *mbima* alphabet.

Size of the original: unknown. From Bernhard Struck, "König Ndschoya von Bamum als Topograph," *Globus* 94 (1908): 206–9, esp. 208.

The earliest cartographic work attributed to King Njoya is a route map between his farmstead and the royal capital of Fumban and a plan of his farm. The route map, shown in figure 3.18, is noteworthy because it is an example of mapmaking in Bamum before European influence. It is oriented toward the southwest and shows Njoya's farm to the left and Fumban to the far right behind the arc-shaped city wall. Depicted along the route are fourteen streams identified by their names, hills represented by a treelike ideograph, and farmsteads with the names of their owners. To the left of the stream just outside Fumban, the road makes a winding path over "Evil Hill." Struck notes that the map was drawn in pencil on paper and that "the end of the route is drawn on the back side of the paper because there was not enough room on the front side." The map was presented by Njoya himself to the German missionary M. Göhring to show the location of his farm.<sup>78</sup>

In 1912 Njoya decided to make a map of his entire kingdom. He admired Möisel's maps of Cameroon but considered them of limited value for his own administrative needs, such as allocating land rights and resolving land disputes within Bamum.<sup>79</sup> To construct the map, Njoya organized a topographic survey led by twenty members of his entourage. It was organized into specialized groups: bush clearing crews, surveying teams who recorded their observations in notebooks, and servants who waited on the king and his surveyors. The king's twenty topographers supervised and checked the work of the survey crews. Dugast and Jeffreys interviewed the principal leader of the survey team, Nji Mama, who estimated that sixty individuals participated in the survey.<sup>80</sup>

Work began in early April 1912 and continued for close to two months. At each village in the kingdom, a

guide would accompany a survey team to report the extent of village boundaries and rural domains, the names of local streams and mountains, and other pertinent information. Distances were calculated by using watches and noting the time it took to walk from one stop to the next. Njoya halted the survey at the beginning of the rainy season when travel became increasingly difficult. The expedition notebook kept by Nji Mama indicated that the topographers had made thirty stops over fifty-two days and had surveyed two-thirds of the kingdom.<sup>81</sup> The death of the king's mother followed by the turmoil of World War I prevented Njoya from recommencing work until 1918, when a survey of the capital city of Fumban was undertaken. The remaining third of the kingdom was surveyed in January 1920. Nji Mama and King Njoya were

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*ture des Bamum: Sa naissance, son évolution, sa valeur phonétique, son utilisation*, Mémoires de l'Institut Français d'Afrique Noire (Centre du Cameroun), Populations, no. 4 (1950). Struck argues that Njoya was making maps for at least a year and a half before Möisel passed through Bamum for the first time; Bernhard Struck, "König Ndschoya von Bamum als Topograph," *Globus* 94 (1908): 206–9. Njoya did speak with Möisel about German cartographic techniques, which probably influenced his later work. Claude Tardits believes that King Njoya was exposed to mapmaking during his visits to a German missionary school established in Bamum in 1906 (personal communication, 18 December 1995).

78. Struck, "König Ndschoya," 208, and see also Dugast and Jeffreys, *L'écriture des Bamum*, 13 (both note 77).

79. Claude Tardits, *Le royaume Bamoum* (Paris: Armand Colin, 1980), 761–69.

80. Dugast and Jeffreys, *L'écriture des Bamum*, 68–71 (note 77).

81. According to Dugast and Jeffreys, *L'écriture des Bamum*, 69 n. 2, one of the surveyor's notebooks could be seen in the collection of the Musée de l'Homme in Paris. When I went to consult this item in the Département de l'Afrique Noire in November 1995, however, it was missing from the collection of Bamum materials.

responsible for constructing the actual *lewa ngu*, or map of the kingdom.

The map of Bamum shown in plate 3 is attributed to Ibrahim Njoya. It is distinguished by its western orientation, the exaggerated size of the royal capital, and the capital's placement at its center. It is colored showing rivers in blue, mountains in green, and two black, white, and red disks signifying the rising (bottom disk) and setting sun (top disk). The rectangular shape of the *lewa ngu* is achieved by stretching the western boundary of the kingdom beyond its actual extent. The true shape of the kingdom was triangular, as Dugast and Jeffreys well illustrate.<sup>82</sup>

The map's form and content nicely illustrate the political use of maps. In the 1890s Njoya's rule was contested by members of his court. A siege of Fumban was finally broken only after the Fulße of Banyo came to his aid.<sup>83</sup> During the early twentieth century, Njoya sought to consolidate his control over Bamum through diplomacy, warfare, and collaboration with colonial authorities.<sup>84</sup> His maps promoted this political goal by presenting "images of rule," which effectively mask these power struggles and create a sense of unity.<sup>85</sup> This image is attained graphically by framing the kingdom within an extraordinarily symmetrical river system, which is itself enhanced by the quadrilateral border design. Hundreds of place-names are found along the edge of the kingdom, suggesting that the king's topographers essentially delimited the territory of Bamum by walking its perimeter. The exaggerated scale of Fumban is an emphatic statement that draws the viewer's attention to the political heart of the kingdom. The chiaroscuro of blank white spaces and dark boundary lines accentuates the image of power and unity.

The medallions and celestial signs in the map's margins not only orient it toward the west but also enhance the image of rule. The medallion on the left states, "This is where the rains begin"; the one on the right reads, "Here is where the rains end, to the right, in Bamum country." The circle at the lower right shows where the full moon rises; the crescent moon at the top shows where the new moon rises. The star closest to the crescent moon appears in the western sky at the time of day "when women prepare the evening meal." To its right is a star with a tail that signifies, "If we go to war this year, we will win." Next to the full moon at the bottom is the morning star, seen in the eastern sky by Bamum warriors as they prepared to attack their enemy.<sup>86</sup>

These decorative features refer on one level to the political-economic basis of precolonial Bamum, in which rain-fed agriculture and warfare were characteristic. Successful wars brought new territory and slaves into Bamum's orbit, greatly expanding the wealth and prestige of the kingdom.<sup>87</sup> On another level, the celestial bodies and medallions in the map's margins function as a cosmic

framing device to place the kingdom within the cyclical rhythms of the heavens. These signs suggest that the sun (and other celestial elements) rises and sets over Bamum in an orderly, predictable manner. They accentuate if not celebrate the unity and integrity of the kingdom, which was in fact being undermined by colonial rule. By 1924, French authorities subdivided Bamum into administrative regions and restricted Njoya's role to judicial affairs in Fumban.<sup>88</sup>

An early version of this map was prepared by Njoya in 1916 when British troops temporarily occupied Bamum (fig. 3.19). It shows a well-defined territory in which all roads lead to the royal capital. Its form resembles a concentric circle with the walled city of Fumban at its center. Two outer circles are shaped by the courses of the rivers that delimit Bamum as a coherent if not symmetrical whole. The orientation is to the south, as symbolized by the rising sun on the left side of the map and the setting sun on the right. A legend is at the lower right. Njoya attached this map of his domain to a letter to the king of England in which he petitioned for British protection against Germany. In a letter to the secretary of state for the colonies, Major General C. Dobell credited Njoya himself with making the map. Njoya's map establishes his claim to rule over territory that was contested before colonial rule and was now the subject of negotiation between France and Britain. It is the product of a political

82. Dugast and Jeffreys, *L'écriture des Bamum*, 68–71 (note 77). They published the map with north at the top. Another version of the *lewa ngu* made by Ibrahim Njoya was collected by Claude Tardits in 1960–61 in Fumban. Tardits recalled that Ibrahim Njoya reproduced this map on a number of occasions to sell to Europeans. He used a master copy for a base map. The hand-drawn version Tardits collected is very similar to the one shown in plate 3, with important differences linked to its reproduction for a European audience. In many places the names of localities or physical geographical features are written in the roman as well as the Bamum alphabet. French words also appear near the medallions ("Nord," "Sud") and in the legend. The map appears to have two orientations. A westerly orientation is maintained from the original map, but a northerly one is suggested by the placement of the legend in the southeast corner. To read the legend, one must turn the map so that north is at the top. The map has also been updated from the one shown in plate 3 in that it shows new localities established by immigrant coffee growers near the Noun (Moinun) River.

83. Tardits, *Le royaume Bamoum*, 204–9 (note 79).

84. Claude Savary, "Situation et histoire des Bamum," *Bulletin Annuel* (Musée d'Ethnographie de la Ville de Genève) 20 (1977): 117–39, esp. 120–22.

85. J. B. Harley and Kees Zandvliet, "Art, Science, and Power in Sixteenth-Century Dutch Cartography," *Cartographica* 29, no. 2 (1992): 10–19; the phrase comes from Thomas Da Costa Kaufmann, "Editor's Statement: Images of Rule: Issues of Interpretation," *Art Journal* 48 (1989): 119–22.

86. Savary, "Situation et histoire des Bamum," 129 (note 84).

87. Tardits, *Le royaume Bamoum*, 130 (note 79). During the first half of the nineteenth century, the area of Bamum increased almost sevenfold as a result of King Mbouémboué's conquests.

88. Tardits, *Le royaume Bamoum*, 241–66.

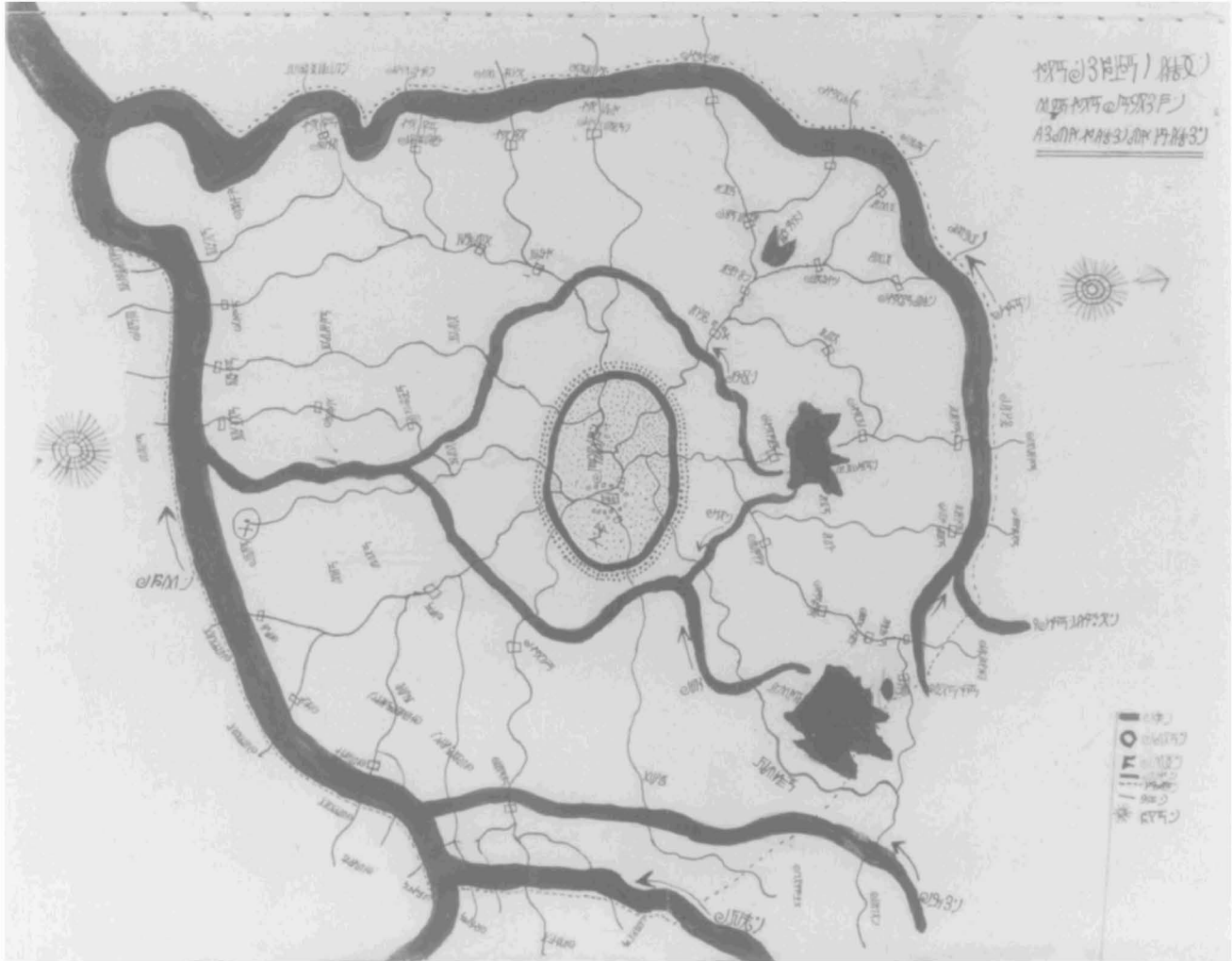


FIG. 3.19. KING NJOYA'S MAP OF HIS KINGDOM PRESENTED TO BRITISH AUTHORITIES IN 1916. South is at the top. Paper and ink.

Size of the original: 21 × 29.5 cm. Photograph courtesy of the Public Record Office, London (649/7).

transition in which Njoya used his mapmaking skills to safeguard the territorial claims of Bamum and to preserve his role as its traditional sovereign.<sup>89</sup>

Njoya clearly understood the power of maps, especially their practical value in administrative and diplomatic affairs. Figure 3.20 suggests that maps were also appreciated for their symbolic value in reinforcing the political status of Bamum's rulers. Inside the royal chamber, amid the emblems of authority such as the royal throne and elephant tusks, the king (or his son, the young sultan Seidou, who succeeded him in 1933)<sup>90</sup> sits in front of a wall map. It is a map of Cameroon, most likely one of Möisel's maps of German Cameroon. The photograph recalls seventeenth-century French and Dutch paintings in which maps and globes appear as icons of wealth, knowledge, and power.<sup>91</sup> Njoya's poise and his known penchant for photography suggest that this is a self-conscious

89. "Letter from Njoya, Chief of the Bamum Tribe, to H.M. the King," 2 February 1916; "Letter to Secretary of State for the Colonies, A. Bonar Law, M.P., from Major General C. Dobell, Commanding the Allied Forces, West African Expeditionary Force," 2 February 1916, Duala (both in Public Record Office, London, CO 649/7); and Savary, "Situation et histoire des Bamum," 121–22 (note 84).

90. There is some doubt who is actually pictured in the photograph. The Musée de l'Homme caption reads: "Njoya, sultan de Fomban dans son palais." However, when Christraud M. Geary, curator of the Eliot Elisofon Photographic Archives at the Smithsonian Institution's National Museum of African Art and the authority on Bamum photography, showed this image to several people in Fumban, the consensus was that it is Sultan Seidou, not Njoya (personal communication, 22 January 1996).

91. Svetlana Alpers, "The Mapping Impulse in Dutch Art," in *Art and Cartography: Six Historical Essays*, ed. David Woodward (Chicago: University of Chicago Press, 1987), 51–96; J. B. Harley, "Maps, Knowledge, and Power," in *The Iconography of Landscape: Essays on the Symbolic Representation, Design and Use of Past Environments*, ed. Denis Cosgrove and Stephen Daniels (Cambridge: Cam-



FIG. 3.20. KING NJOYA OF BAMUM (OR HIS SON, SULTAN SEIDOU). This picture was taken at the palace in Fumban sometime between 1917 and 1933. Note the map of Cameroon on the wall at the left.

By permission of the Musée de l'Homme, Paris (no. C-35-1217).

image in which the map is an icon of territorial and political control.<sup>92</sup>

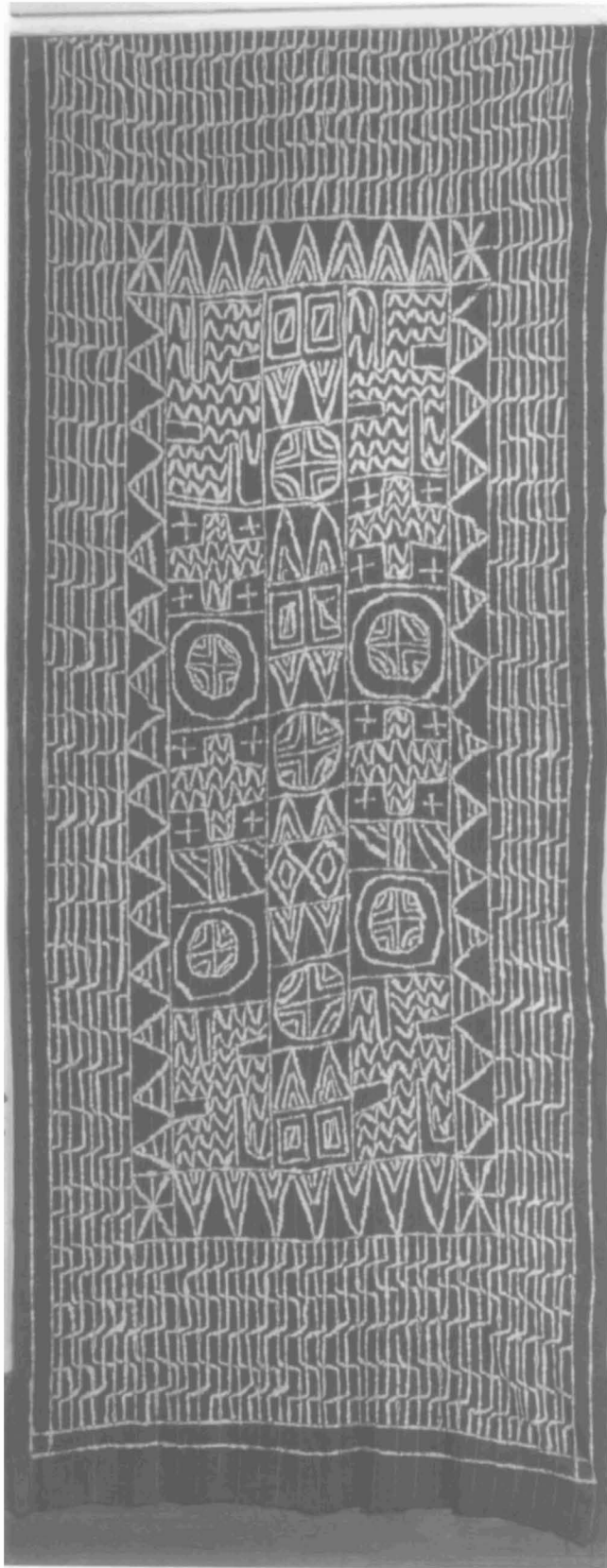
The royal tapestry showing the plan of the old palace grounds of Fumban (fig. 3.21) is an example of how far mapmaking had become institutionalized in Bamum. The large stitch-and-dye hanging was made from local hand-spun cotton woven into narrow two-inch strips that were later sewn together. An outline of the palace ground plan was sketched on the undyed cloth and then gone over with tight stitching. After the cloth was dyed with indigo and dried, the outline was unstitched and the ground plan appeared as the undyed area of the cloth. Bamum tied-dyed tapestries were viewed as prestige objects among regional chiefs and were commonly displayed in Fumban during royal functions. With its emphasis on the locus of traditional power in the kingdom, the tapestry plan can be read as an expression of the king's political authority in Bamum. Purchased in 1933, the same year Njoya died destitute in exile, it could also be interpreted as a nostalgic mapping of an earlier political geography, before colo-

nial rulers redrew boundaries, appointed puppet chiefs, and established new centers of power.

Another example of statecraft and mapmaking is the Ethiopian map produced in the military camp of Ras Makonnen in Adwa in 1899 (fig. 3.22). It was given to the Italian historian Carlo Conti Rossini, who presumably added the place-names and notes in Italian. The rectangular map is oriented toward the north, which Conti Rossini believed reflected European influence. He viewed the actual drawing, however, as "the first expression of

bridge University Press, 1988), 277–312, esp. 295–96; Catherine Hofmann et al., *Le globe et son image* (Paris: Bibliothèque Nationale, 1995), 56–61.

92. On Njoya's interest in photography, see Christraud M. Geary, *Images from Bamum: German Colonial Photography at the Court of King Njoya, Cameroon, West Africa, 1902–1915* (Washington, D.C.: National Museum of African Art by the Smithsonian Institution Press, 1988), and Christraud M. Geary and Adamou Ndam Njoya, *Mandou Yénu: Photographies du pays Bamoum, royaume ouest-africain, 1902–1915* (Munich: Trickster, 1985), esp. 40, 108.
















- 
Corner stones and guardhouses of the walled and fenced palace property.
- 
Huts of the paramount wives of the ruler.
- 
Clubhouses of the palace officials.
- 
Garden plots of the members of the household.
- 
Residence quarters of officials, divided into sections or "quarters."
- 
Food storage huts, corn bins.
- 
Private quarters of the ruler and the Queen-Mother of the dynasty.
- 
Audience chambers.
- 
Dwellings of the wives, female relatives, and female servants along the palace boundary.
- 
Treasury huts, protected by the double-headed serpent emblem of the dynasty.
- 
Shrines and ceremonial quarters.
- 
Crosses in circles and squares indicate division of space and protective magic; traditional Tikar concepts about the perils of crossroads are incorporated in Bamum symbolism, making the cross a protective device.
- 
Two interpretations are offered for the irregular lines outside the bounded property:  
 1) royal claims to vegetation and farms adjacent to the palace grounds;  
 2) reference to magical protection of the soil through past animal sacrifice.

FIG. 3.21. ROYAL TAPESTRY OF THE KING'S PALACE AT FUMBAN. Royal tapestry showing an idealized ground plan of the old palace grounds in Fumban in the kingdom of Bamum. The ground plan was first sketched on undyed cloth. This outline was then gone over with tight stitching before the entire fabric was dipped in indigo dye. When dry, the outlined pattern was unstitched and the ground plan appeared as the undyed portion of the cloth. A key to the pattern is shown on the right.

Size of the original: 84 × 28 cm. Photograph courtesy of the Portland Art Museum (cat. no. 70.10.81). Interpretation after Paul Gebauer, *Art of Cameroon* (Portland: Portland Art Museum, 1979), 374.

Abyssinian cartography; it deserves to be known because (if we exclude the orientation) it seems totally exempt of European influences.”<sup>93</sup> In fact, Ras Makonnen was quite familiar with how Europeans used maps as tools for empire building. For example, he was present at a meeting in early November 1898 between Emperor Menelik and John Harrington, the British minister in Addis Ababa, at which Harrington informed Menelik of Britain’s recent advances in the Sudan. Harrington’s report of this meeting suggests that Ethiopian leaders appreciated the discourse function of maps.

The news of the occupation of Gedaref was received with apparent indifference by the King and those present, viz., M. Ilg and Ras Makunan; but when I notified the occupation of Roseires, everyone’s face showed signs of astonishment. “Where is that?” said the King. I showed him Roseires on the map. The King then asked M. Ilg where the 14th degree north was. When shown, the King, drawing his finger over the country contained between 14° and 2° and bounded on the west by the White Nile, said to me, “That all belongs to me.”<sup>94</sup>

Unknown to Britain, in December 1897 Menelik had sent eighty thousand troops under Ras Makonnen to eastern Sudan with the goal of annexing the gold-rich province of Bela Shangul. Resistance was strong, but Makonnen’s forces ultimately went as far north as Roseires, where he presented the local ruler with Ethiopia’s flag to symbolize its new status as an Ethiopian protectorate. Like his fellow European expansionists, Menelik was “playing the game of effective occupation” (Harrington’s phrase) to strengthen his country’s territorial claims in anticipation of future negotiations over boundary areas.<sup>95</sup>

Makonnen’s map shows the extent of Ethiopia’s southerly expansion under Menelik until 1899. Entotto (Intotto), the initial site of Ethiopia’s capital city, lies at its center. What is unusual about this map is the nearly complete omission of cities, regions, and ethnic groups to the west of Entotto. The Uabe River takes up considerable space in the southwest quadrant leading to the (dis)placement of southwestern cities to the west and northwest (e.g., Gimma [Jīma] and Caffa [Kaffe]). As Conti Rossini correctly notes, the map’s silence on the western region was not a reflection of Ras Makonnen’s ignorance of the area.<sup>96</sup> Makonnen’s forces ultimately conquered the Mahdist sheikhdoms of Bela Shangul (Beni Shangul), Aqoldi (Asosa), and Khomosha. For political reasons, however, the emperor Menelik wished to conceal the extent of Ethiopian advances in the Wallaga region from European ministers resident in Addis Ababa.<sup>97</sup> Conti Rossini be-

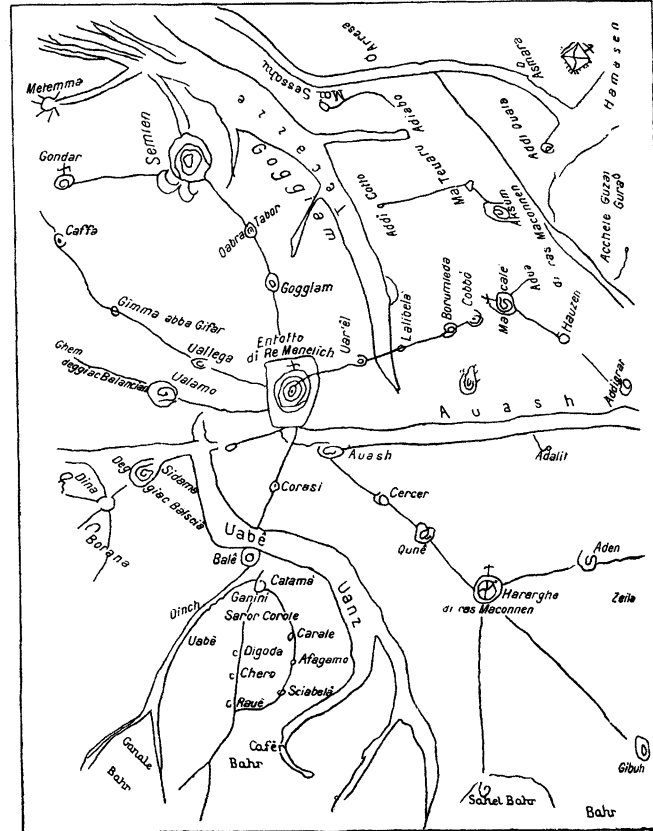


FIG. 3.22. MAP OF ETHIOPIA ATTRIBUTED TO “THE CAMP OF RAS MAKONNEN,” 1899. Entotto (Intotto), an early location of Ethiopia’s capital, lies at the center of the map. North is at the top. Size of the original: unknown. From Carlo Conti Rossini, “Geographica,” *Rassegna di Studi Etiopici* 3 (1943): 167–99, esp. 174 (fig. 9).

lieved that the suppression of geographical information on the western frontier stemmed from the emperor’s prohibition. Those who dared talk about the Bela Shangul expedition would be punished by having their tongues cut out. Not surprisingly, when Conti Rossini was in Ras Makonnen’s camp, “people would speak of that expedition in a subdued tone.”<sup>98</sup>

In summary, the European influences on African mapmaking are evident in the materials used (paper, ink,

93. Conti Rossini, “Geographica,” 175 (note 24).

94. Quoted in Alessandro Triulzi, “Prelude to the History of a No-Man’s Land: Bela Shangul, Wallagga, Ethiopia (ca. 1800–1898)” (Ph.D. diss., Northwestern University, 1980), 259.

95. Quoted in Triulzi, “Prelude,” 255.

96. Conti Rossini, “Geographica,” 175 (note 24).

97. Bahru Zewde, *A History of Modern Ethiopia, 1855–1974* (London: James Currey, 1991), 66, 82–83, and Triulzi, “Prelude,” 253–54 (note 94).

98. Conti Rossini, “Geographica,” 175 (note 24).



crayons), in the northerly orientation of some maps (e.g., Ras Makonnen's map), and in the methods employed in their construction (e.g., Njoya's topographic survey). The use of maps by African rulers as diplomatic tools also reflects European influence during the late nineteenth- and early twentieth-century partition of the continent into colonies. Other cartographic details appear to be cross-cultural, such as positioning the locus of power in the middle of the map, selecting and omitting details based on the mapmakers' goals, and the existence of sign systems capable of conveying the mapmakers' messages.

### CONCLUSION

Given the cultural relativity of sign systems, geographical orientation, and intention, we should be careful about evaluating the mapmaking abilities and products of other peoples according to the assumptions and standards of any single tradition. The most commonly shared feature of European and African mapmaking is the social dis-

course function of maps. Like those of other traditional cultures, African maps are social constructions whose form, content, and meaning vary with the intentions of their makers. The variety of materials and audiences reflects the diversity of social situations in which maps were produced. Whether in the arrangement of beads and shells on a *lukasa* or in the tie-dyed cloth of Bamum, the process of selection, omission, and positioning is influenced by the mapmaker's desire to influence specific social and political situations. This discourse function means that the sign systems employed do not necessarily have to be understood by everyone. Maps may be esoteric and therefore understood by only a small group such as Budy society initiates, or they may speak to a much wider audience, as does Ras Makonnen's map. It is this variable and changing social nature of maps that links African mapmaking with other traditional cartography surveyed in this book and other volumes of *The History of Cartography*.