

5 *Ethnographic and linguistic evidence for the prehistory of African ruminant livestock, horses and ponies¹*

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Introduction

To the student of African prehistory, the contribution of archaeology to hypotheses about the dates, methods and routes for the introduction of ruminant livestock is generally disappointing. In part this is because finds are relatively few and often late in date. Moreover, in many cases, it is not practical to identify the subspecies or race of livestock at a given site. Rock paintings constitute a more informative source of data but they are notoriously hard to date and give a misleadingly patchy coverage of types. Since it is generally the productivity characteristics of livestock that have implications for economic prehistory, this leaves a large historical lacuna.

Two possibilities suggest themselves to fill this: analysis of the distribution of current and recent breeds in traditional management; and comparative linguistics. Monographs characterizing livestock breeds are more abundant than linguistic studies. The first major description of African domestic stock was Doutressolle's (1947) study of franco-phone Africa. However, there are two essential texts for this study, Epstein's (1971) massive catalogue of contemporary African livestock breeds and related archaeological and historical data and the recensions of this evidence compiled in Mason (1984a). Animal production compilations such as those of the International Livestock Centre for Africa (ILCA) (1979) and the Food and Agriculture Organization (FAO) (1987) also provide distributional data not available elsewhere.

These sources do not generally consider linguistic evidence and comparative material on livestock terminology. In this field, the broadest discussion is Bender (1982) on domestic ruminants in northeast Africa but there are also smaller-scale studies by Ehret (1967; 1968) and Manessy (1972). Purely linguistic sources such as Westernmann (1927) and Greenberg (1966) also incidentally provide valuable evidence for the antiquity of certain species.

Methods

The basic method used in this chapter is to plot the present-day distribution of the various species and breeds of African domestic stock and to explore the historical

sources for documented changes. These data are then used to generate a series of scenarios for the possible pattern of diffusion of domestic ruminants.

Comparative linguistics can play a part in unravelling the prehistory of African livestock but it is a problematic part, since there is limited agreement among linguists about fundamental issues of reconstruction. Current ideas about the classification of African languages and the use of linguistic data to reconstruct economic history have been dealt with elsewhere (Williamson 1989a; Williamson, Ch. 8, this volume; Blench, Ch. 7, this volume). Ehret (1989; Ch. 6, this volume) has recently proposed a subclassification of Nilo-Saharan and argued that 'cattle', 'sheep' and 'goat' can be reconstructed to relatively ancient proto-languages. However, as his subclassification has not been accepted by other workers in the field, this claim is difficult to evaluate. It is not the object of this chapter to try and link species or the practice of pastoralism to particular linguistic groups. Evidence from livestock terminology is therefore only remarked in passing.

The core of the present chapter is a series of maps showing the recent or present-day distribution of the major subspecies and races of African ruminant livestock. Some of the unreferenced distributional data were compiled as part of the Nigerian National Livestock Resource Survey (RIM 1991) and working on the survey has provided many useful insights into the processes of change among traditional livestock producers.

Related maps have been published by the contributors to ILCA (1979) and Mason (1984a) but these do not use the distinctions outlined in this chapter. Indeed, for the purpose of prehistory, such maps can sometimes be misleading, as they conflate populations initiated in historical times with 'traditional' populations of unknown antiquity.

Maps of the distribution of mobile entities such as livestock are at best abstractions. Pastoralists are constantly exploring new regions and learning to exploit them on a seasonal or year-round basis. Crossbreeding is constantly taking place, through both conscious policy on the part of producers or simple accidental encounters. In recent times, livestock have been moved around Africa by researchers in pursuit of improved animal productivity. Many types of African stock have been transported out of their traditional habitats and in some cases released to farmers in 'new' areas. Such patterns of distribution are documented in ILCA (1979) but are not reflected on the present maps.

Two other aspects of the maps² deserve comment: the enlargement of distribution for very small residual populations and the absence of crossbreeds. Since the humpless longhorns in northern Cameroon may constitute as little as a few hundred animals, to represent them at their true scale on a map of Africa would be an infinitesimal dot. They have therefore been enlarged to draw attention to their presence. Stabilized crossbreeds, such as the Keteku and Baoulé which are both well established and numerically significant, are excluded. There is nothing historically opaque about the development of stabilized crosses at the boundaries of two subspecies, and they are not discussed further in this chapter.

Cattle

Introduction

The most comprehensive overview of the origin of the traditional cattle of Africa is that of Epstein (1971) and Epstein & Mason (1984), who also included historical speculations about the chronology of their introduction into Nigeria. Useful animal production descriptions can be found in Stewart (1937), Gates (1952) and Fricke (1979). Additional archaeological material is reviewed in Smith (1980a), Muzzolini (1983; Ch. 11, this volume) and Clutton-Brock (1989b; Ch. 4, this volume).

All types of cattle interbreed and to that extent they can be regarded as a single species. However, differences between types run so deep that hypotheses as to their origins have often invoked different wild progenitors. Much of the literature on cattle uses the terminology of breeds, types, varieties and races somewhat indiscriminately. In this chapter, 'subspecies' (breeds) are used to refer to the primary divisions of African cattle, i.e. zebu and the humpless breeds. Below this level, the distinctions are treated as races and given upper case initials e.g. Rahaji etc.

TERM	EXAMPLE	COMMON NAME
Species	<i>Bos</i>	Cattle
Subspecies	<i>Bos indicus</i>	Zebu
	<i>Bos taurus</i>	Muturu
Race	Bunaji	White Fulani

Linguistic evidence

One of the most striking features of terms for cattle – with a quite distinct root from terms for buffalo – in west-central Africa is the apparent time depth for which they can be reconstructed. Greenberg (1966, p. 17) cites cognate forms from all the major branches of Niger-Congo suggesting an original root something like **na*. There appear to be no cognates in Kordofanian, arguing that cattle were brought to west Africa after the Kordofanian speakers broke away from the main body of Niger-Congo. The terminology does not clearly distinguish between subspecies, but it is evident that cattle were part of the cultural repertoire of Niger-Congo speakers at the beginning of their expansion in west Africa (which, on conservative archaeological grounds, cannot be later than about 5000 BC).

Contributory evidence is the curious scatter of terms for cattle in Chadic languages (Jungraithmayr & Shimizu 1981), many of them borrowed from neighbouring Niger-Congo languages. This strongly suggests that speakers of Proto-Chadic were *not* cattle producers, at least on their arrival in west Africa.

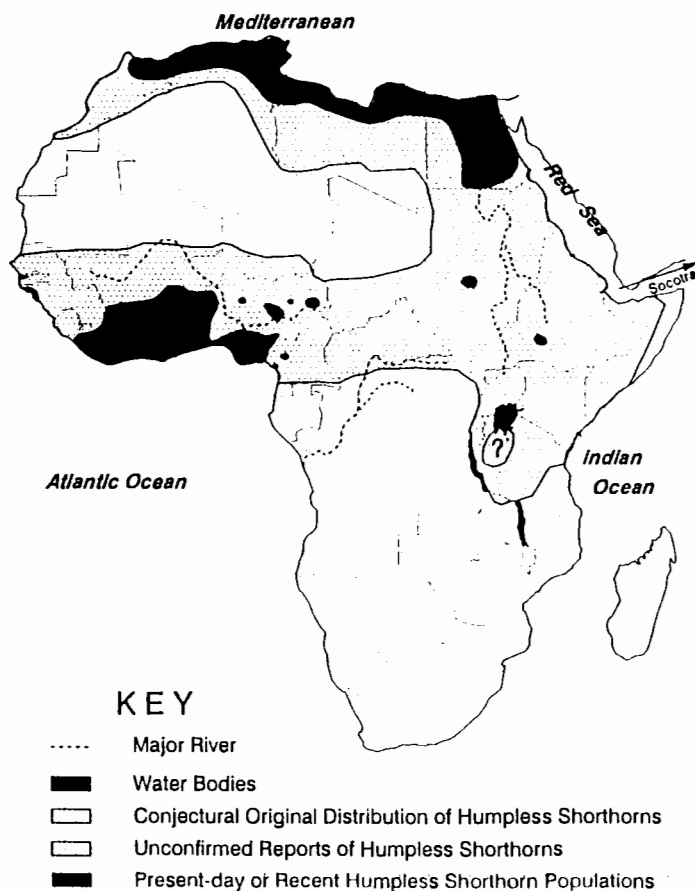
The linguistic evidence for Nilo-Saharan and other branches of Afroasiatic is summarized in Bender (1982). Essentially, he argues that cattle were brought into east Africa twice: initially from the Ethiopian highlands and then by ancestors of the present-day Nilotic speakers moving in from the northwest. If it is useful to tie in these introductions to cattle subspecies, then it is most likely that the primary introduction

from Ethiopia was the all-but-vanished humpless shorthorns and the secondary introduction the zeboid types.

Dwarf shorthorn cattle

The west African dwarf shorthorn, or *muturu* (a Hausa name), is probably the least-known breed of cattle in Africa. Little has been published on its distribution, management, anatomical characteristics or productivity. Some useful background material can be found in Ferguson (1967), Grandin (1980), Beauvilain (1983) and Dineur & Thys (1986). These cattle are usually referred to in the literature as 'trypanotolerant' cattle (ILCA 1979; FAO 1987), although humpless shorthorn cattle were historically distributed in almost all ecological zones. However, there are certainly races that can survive in regions of exceptional humidity, such as the Cross River in Nigeria, where annual rainfall may exceed 4000 mm.

Far from being confined to west Africa, they were once distributed across the continent from Liberia to Ethiopia and even reached the islands off the southern tip of the Arabian peninsula (Epstein 1971) (Fig. 5.1). Isolated populations were recorded in



the Nuba hills in Sudan and in central Tanzania in historical times, and there are still small remnant populations in Ethiopia (Alberro & Haile-Mariam 1982a; Alberro & Haile-Mariam 1982b) and on Socotra island. Humpless shorthorns are the principal breed kept by village producers in northern Africa and down the Nile as far as the cataracts.

Humpless shorthorns are not represented in rock art to the same degree as longhorns despite their extremely broad distribution. Epstein (1971) shows clearly that longhorns were the dominant breed in Egypt, and presumably north Africa, as early as 4000 BC and they were gradually replaced by shorthorns from the third millennium onwards. This makes for a paradox, as the degree of adaptation of longhorns to extreme environments is not matched by that of any other subspecies – which tends to support the speculation that they were the first cattle to cross the desert.

This suggests a controversial speculation – that humpless shorthorns spread into west Africa from the Nile valley and their dispersal through west-central Africa was parallel to but probably earlier than the diffusion along the north African coast. This would explain how they came to be resident when the longhorns were brought across the desert from the Maghreb.

Muturu populations were spread over most of west Africa until the coming of zebu cattle to the semi-arid regions. Their elimination from Chad, Sudan and Ethiopia was probably much earlier and associated with the primary westward expansion of the zebu. It is usually considered that the morphological characteristics of zebu in eastern and southern Africa derive from crossing with resident humpless shorthorns. In west Africa, the *muturu* has come under pressure from the expansion of zebu populations and survives only in pockets in the savannas and in the humid zone forests, where it has had the comparative advantage of trypanotolerance. It seems likely that the rinderpest epizootics that swept Africa in the late nineteenth and early twentieth centuries extinguished many regional *muturu* populations.

Humpless longhorns

The main present-day representative of the humpless longhorn in Africa is the *n'dama*, which flourishes between the Ivory Coast and the western seaboard (Starkey 1984). Humpless longhorn cattle present something of a paradox. They are by far the most common type of cattle in iconographic representations in the Sahara, ancient north Africa and Ethiopia and are also clearly more ancient than the shorthorns. Yet they are today confined to a very small region of western Africa (Fig. 5.2).

The humpless longhorns crossed the desert, perhaps via a western route, as their geographical dispersal was never as broad as the shorthorns. Nonetheless, they seem to have adapted to the derived savanna and the northern forest regions and to have spread between the Senegambia and northern Cameroon. They presumably interbred with the *muturu*, and the brown and white *muturu* types in semi-arid west Africa may be the descendants of these crosses. The humpless longhorns clearly illustrated in Ethiopian rock art have apparently vanished without trace, although they must have made some genetic contribution to present-day zebu races.

Apart from the flourishing *n'dama* populations, there is more fragmentary evidence for a wider distribution of humpless longhorns in west Africa. Rock paintings in Birnin

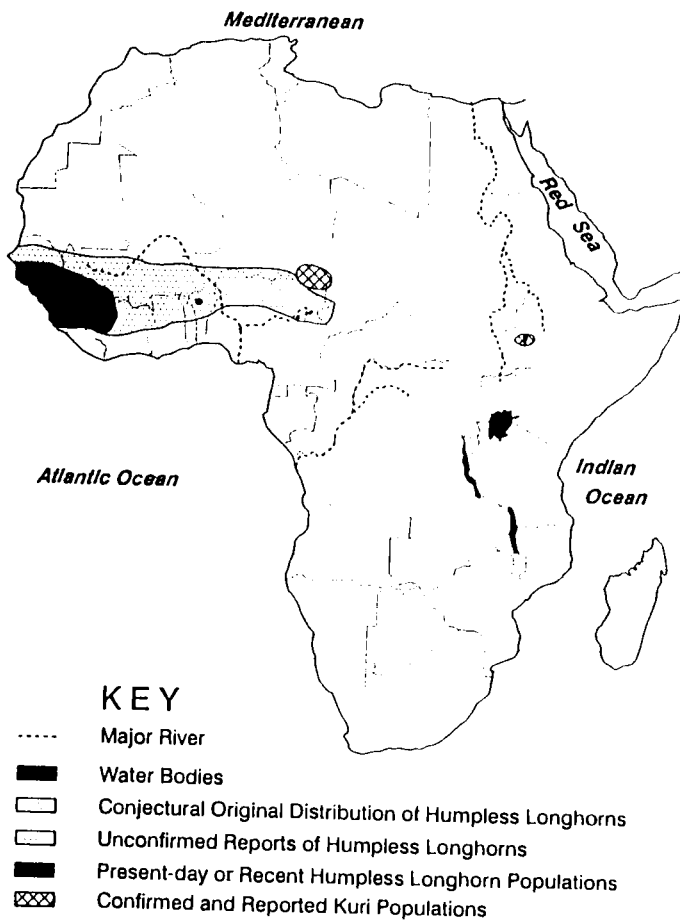


Figure 5.2 Humpless longhorn cattle.

Kudu, northern Nigeria, clearly represent humpless longhorn cattle, and near Zing, in northeastern Nigeria, are traces of a race that appears to be a humpless longhorn. They are kept by the Mumuye people, and are regarded as the 'traditional' type, although they have now almost disappeared on account of repeated crossing. Another residual population of these animals, locally known as *pabli*, has been recorded in northern Benin Republic (Troquereau 1961). Epstein (1971) cites existing populations among the Dowayo (Nanji) and Pape in northern Cameroon as well as a record of a population in the Atlantika mountains that became extinct before 1939.

Kuri cattle

A pair of kuri horns had reached the British Museum by the 1820s, but the large-bodied humpless kuri cattle of Lake Chad, with their distinctive bulbous horns, were first recorded by the traveller Heinrich Barth in 1851. He records, 'I saw the first specimen of the "kuri", a peculiar kind of bull of immense size and strength, with proportionately large horns of great thickness and curving inwards' (Barth 1857-8, II, p. 200).

The nucleus of the kuri cattle population is within the region of the former Lake Chad, and along its eastern shores (Fig. 5.2). In Nigeria, kuri are found not only on the lake but along all its shores and along the Yobe valley, as far west as Gashagar. This massive-bodied breed, whose distinctive, inflated, spongy horns are unknown in any other breed, has not been extensively researched. The most comprehensive study of the kuri is that of Queval, Petit, Tacher, Provost & Pagot (1971), which synthesized almost all the available materials up to 1970. Kone (1948), Mason (1976) and Adeniji (1983) contain useful additional materials on the kuri.

The origin of the kuri is unknown. As a humpless longhorn, it resembles the *n'dama* more closely than other subspecies, yet it is remote from the residual humpless longhorns of northern Cameroon, such as the *pape* (Epstein 1971). Alberro & Haile-Mariam (1982a; 1982b) report the discovery of a relict population of kuri in Illulabor Province of southwest Ethiopia. Their report is somewhat invalidated by their accompanying photograph (Fig. 3) which is *not* from Ethiopia but is simply a copy of the photograph of Lake Chad kuri published in Epstein (1971, I, p. 209, photo 220) with the background cut out.

The kuri is not clearly represented in any rock art sites so far discovered, which does argue that it is a local development in the Lake Chad region. It is so significantly different from other humpless longhorns and also highly adapted to an extreme environment, suggesting that it is the relict of a quite separate introduction, possibly earlier than the *n'dama* and related races.

Zebu

The distinctive feature of the zebu is the presence of a fatty hump, a morphological feature that leaves no direct archaeological trace. Zebu can sometimes be detected from skeletal features if the right bones are present. The zebu originates in India and was probably brought to Africa at least 2500 years ago (and see below for the problem of earlier identifications in Egyptian art). Whether it was carried along the 'Sabaeen Lane' and spread from the Horn of Africa or via the Nile valley is disputed, but the presence of zebu in southern Arabia tends to argue for the Indian Ocean route. Today zebu are by far the most widely distributed breed of cattle in sub-Saharan Africa (Fig. 5.3).

The discussion is complicated by the many representations of cattle in the ancient Middle East, Egypt and in Saharan rock art that show cattle with some sort of hump. Traditionally, zebu have been identified on this basis in Theban paintings of c. 1500 BC. However, Muzzolini (1983; Ch. 11, this volume) has undertaken an extremely detailed investigation of the representations of cattle in Saharan rock art. He concludes that there are some apparently early images of humped cattle that do not fit with the late introduction of zebu and therefore advances the hypothesis of an independent evolution of humpedness in the Sahara.³ In fact, the identification of humps is by no means self-evident; some humps can simply be high withers. The Danielta bulls of the Nile delta (Epstein 1971, I, Fig. 296) have pronounced withers which could hardly be distinguished from humps in most forms of representation.

Whatever the cause, the zebu must have reached semi-arid west Africa before AD 1000 (Epstein 1971). Zebu would have spread westwards in the early period carried by unknown pastoral groups, until their herders encountered FulBe pastoralists with

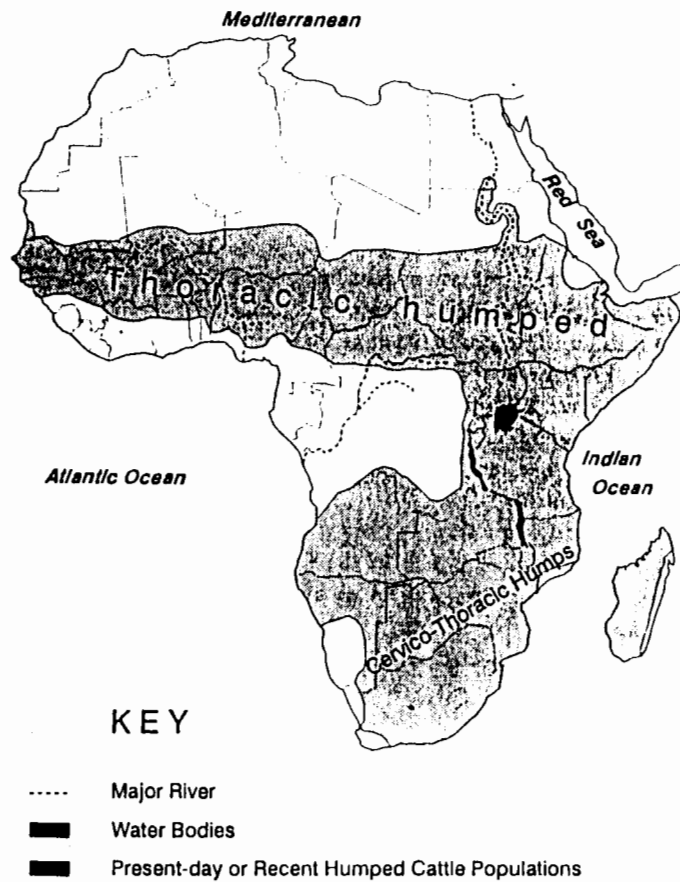


Figure 5.3 Humped cattle.

n'dama cattle in the extreme west. Some FulBe would then have exchanged their *n'dama* for zebu and begun to move eastwards in search of grazing. Zebu appear to have a comparative advantage in the arid zone, and this may have been the element that supported the move eastward. At the same time, zebu would also have spread southwards, colonizing most of central and southern Africa. It is likely that they would have encountered and crossed with humpless cattle, generating the 'Sanga' types.

Sheep

Introduction

There are four basic types of sheep in Africa: thin-tailed hair and wool sheep, fat-tailed and fat-rumped sheep (Epstein 1971; Ryder 1984). All the sheep must originally have come out of central Asia, although they reached Africa by diverse routes.

Linguistic evidence for the antiquity of sheep in Africa is less clear than for cattle and

goats and sheep. In the Niger-Congo languages, there are no convincing reconstructions for 'sheep' further back than Proto-Volta-Congo, i.e. Bantu plus Kwa and Benue-Congo. At this level, a form such as **gwani* can probably be reconstructed. Bender (1982) has reviewed the evidence for goats and sheep in Nilo-Saharan and Afroasiatic and finds a variety of roots that suggest multiple introductions after the nuclei of these language families were established.

Thin-tailed hair sheep

Hair sheep are the most widespread race in Africa (Fig. 5.4) and almost certainly were the first to be introduced as they are the only type well adapted to high-rainfall tropical forest (ILCA 1979; Adu & Ngere 1979). Hair sheep are also present in Saudi Arabia and south India and it is most likely that they were introduced along the same route as zebu cattle, i.e. via the Horn of Africa (Ryder 1984). A Nile valley route is also possible, though there is no immediate ethnographic evidence to support this. The adaptation of hair sheep to humidity argues that they were brought in well before zebu cattle or that they were partly preadapted in India.

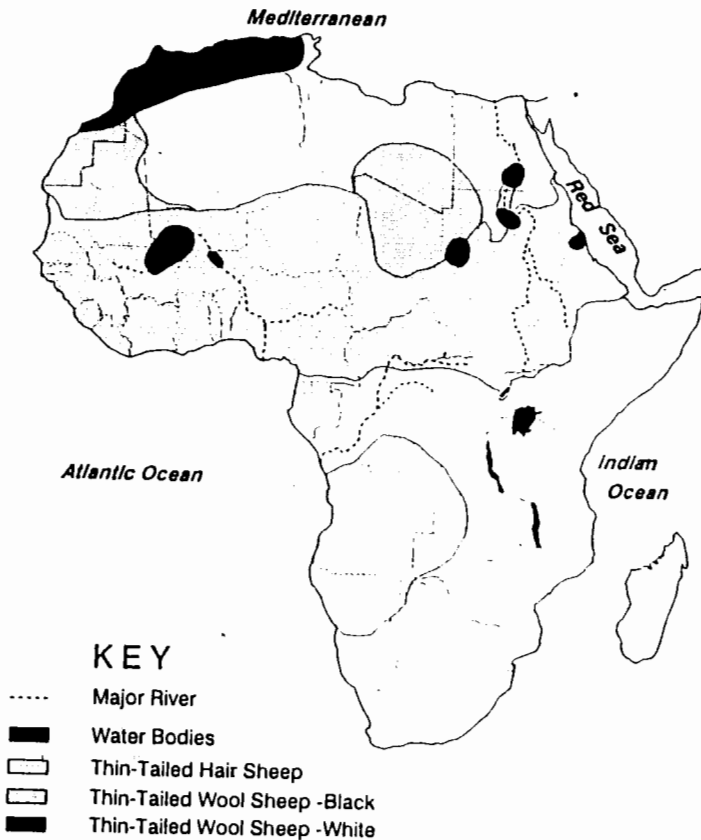


Figure 5.4 Thin-tailed hair and wool sheep.

Thin-tailed wool sheep

Figure 5.4 shows the African distribution of thin-tailed wool sheep. They have a stronger association with urbanization and the development of long-distance trade than hair sheep, which were predominantly developed by pastoralists. Wool is attested in Egypt by 1400 BC and it is probable that coarse-woolled sheep were spread along the north African coast at this period (Ryder 1984). Thin-tailed wool sheep were subsequently replaced by fat-tailed sheep throughout eastern north Africa.

Small numbers of wool sheep were presumably carried across the desert to the inland Niger delta and to Lake Chad. Wool sheep were also taken up the Nile, resulting in isolated populations in Upper Egypt and Sudan. Some pure populations remain but crosses with local varieties also resulted in the black-fleeced sheep currently present in these regions.

Fat-tailed sheep

The third wave of sheep to reach Africa was the coarse-woolled fat-tailed sheep. Epstein (1971, II, p. 111) gives a map of the most important races of fat-tailed sheep in Africa (see Fig. 5.5). The distribution suggests that fat-tailed sheep were introduced independently via the Horn of Africa and into Egypt and north Africa from the Middle East. Fat-tailed sheep are first shown in Egyptian art about 2000 BC. Differences in wool type between these two populations also confirm their separate history.

The most problematic aspect of the distribution of fat-tailed sheep is their penetration into northern Angola. This has given rise to some rather wild and unsupportable speculations about the movement of populations of Khoisan speakers from east Africa. It is simpler to suppose that the fat-tailed sheep were brought by Bantu speakers and then transferred to Khoisan speakers *in situ*. Ehret (1968) has argued that speakers of Central Sudanic languages have to be evoked as intermediaries in the transmission of sheep to southern Africa.

Fat-rumped sheep

The traditional distribution of fat-rumped sheep is limited to a small region of eastern Africa (Fig. 5.5). These are not as clearly defined morphologically as other sheep races and their origins are disputed. Fat-rumped sheep are present in central Asia proper, but there are no populations on the periphery of the African continent and they are not represented. The pocket of fat-rumped sheep shown north of Lake Chad in the map accompanying Ryder (1984, Fig. 9.5) is almost certainly an error [for fleece sheep?]. The fleece sheep in southern Africa on the same map presumably represent European introductions in historical times. Epstein (1971, II, p. 190) proposed that fat-rumped sheep were an independent development within Africa and probably arise from crossing fat-tailed and hair sheep.

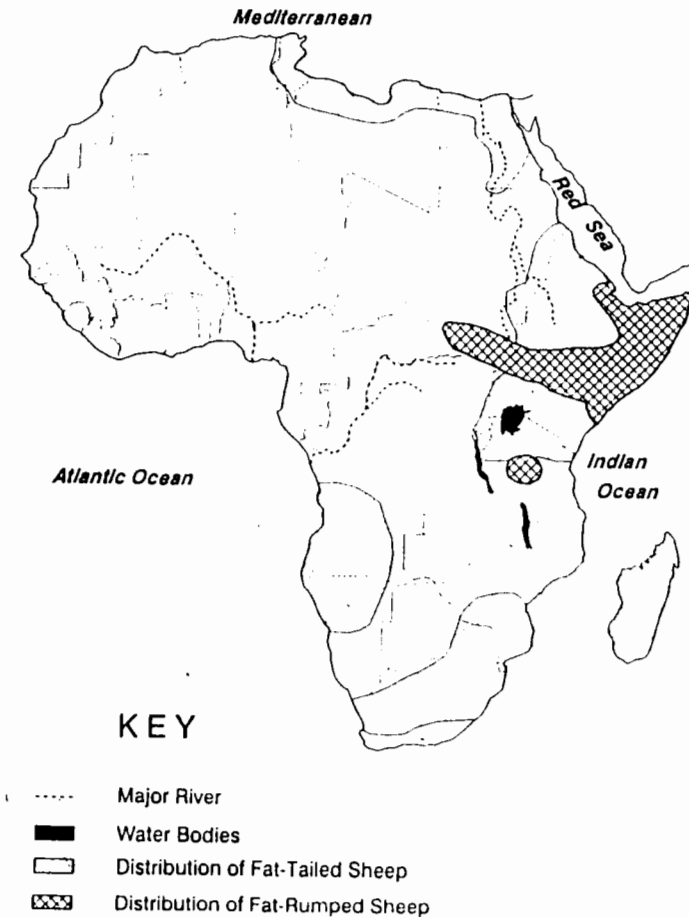


Figure 5.5 Fat-tailed and fat-rumped sheep.

Goats

Introduction

African goats can be divided into three basic types: dwarf goats, savanna goats and milking goats. Whether these can genuinely be distinguished in archaeological contexts remains to be seen. The dwarf goat, often known as the West African Dwarf (WAD), is relatively homogeneous throughout its range. Savanna goats are much more various in both coat colour and body type. There is a clear distinction between prick-eared and lop-eared types, although these may have evolved from the same basic stock. The milking goats are divided into two basic types again, the Nubian or Zaraibi and the Maltese goat. The main sources on African goats are Doutressolle (1947), Epstein (1971), I.L.C.A. (1979), Mason (1984) and Ngere, Adu & Okubanjo (1984).

Linguistic evidence

As with sheep, words for goat in Nilo-Saharan and Afroasiatic present a complex picture (Ehret 1968; Bender 1982). There appears to be no evidence for very early domesticated small stock in Ethiopia and eastern Africa, which would be consonant with the multiplicity of terminology.

The situation in west Africa is quite different, as terms for goat in west-central Africa can be reconstructed to a considerable apparent time depth. Greenberg (1966, p. 19) cites cognate forms from all the major branches of Niger-Congo and Williamson (1989a, p. 117) proposes *bhodhi for Proto-Niger-Congo. As with cattle, there appear to be no cognates in Kordofanian, arguing that goats spread to west Africa after the Kordofanian speakers broke away from the main body of Niger-Congo. This puts the introduction of the goat into west Africa well before the introduction of agriculture.

West African dwarf goats

The distribution of WAD goats in Africa is shown on Fig. 5.6. Apart from 'islands' in Morocco and on the Red Sea coast, WAD goats form a continuous group from

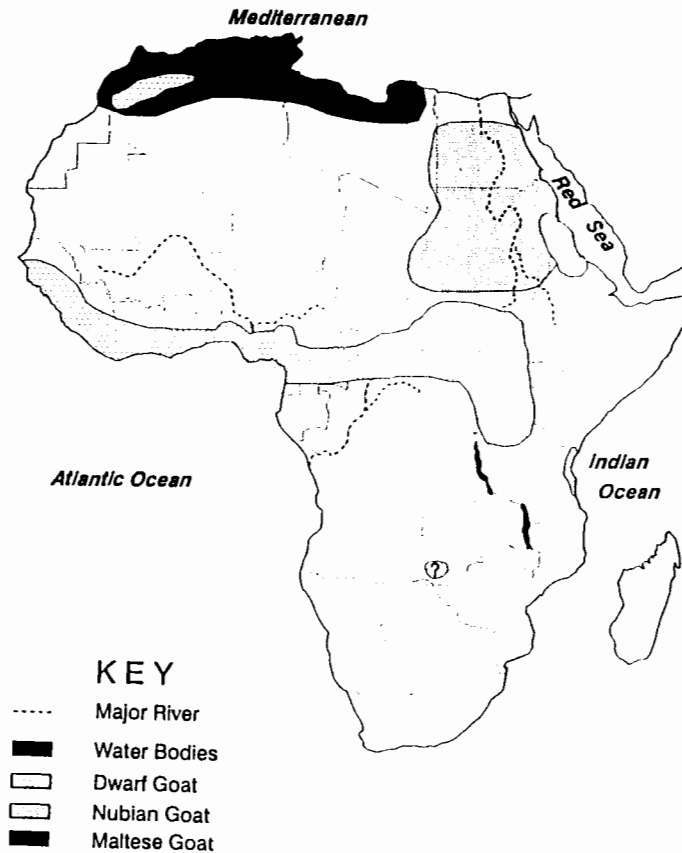


Figure 5.6 Dwarf and milking goats.

Senegambia to the region of Lake Victoria. The WAD goat is usually black, although patched, pied and occasionally all-white animals can be seen. There has been some debate about whether the few archaeological records of early goats in north Africa were dwarfed (Clutton-Brock, Ch. 4, this volume). Whatever the case, there seems little doubt that contact with extreme environments in west-central Africa accelerated the process.

WAD goats are generally associated with the humid zone in animal production literature (e.g. ILCA 1979). However, recent research in Nigeria has recorded 'islands' of WAD goats well into the semi-arid regions (RIM 1991). Like *muturu* cattle, the smaller-bodied goats have been driven into refuge areas with the expansion of larger savanna animals, in this case the Sokoto Red goat.

There are no very early records of goat bones in west Africa, but goats seem to be as ancient as 8000 BP in north Africa and they could well have spread to sub-Saharan Africa by this time, which would be consonant with the linguistic evidence. The late appearance of goats in east Africa is puzzling and can perhaps be explained by the dominance of specialized cattle producers who did not have sufficient labour to allocate them to mixed herds.

Savanna goats

Savanna goats are broadly divisible into the Sahel, Desert or West African long-legged goat, and the Sokoto Red. They are by far the most widespread and significant type of goat in Africa, although their lack of trypanotolerance suggests that they arrived considerably later than the West African Dwarf (Fig. 5.7). The destruction of humid zone vegetation in west-central Africa is permitting them to move further south each year, gradually displacing the West African Dwarf.

Although the Sahel goat is kept mostly in villages today, it is strongly associated with pastoralism. One of the most useful descriptions is by Dumas (1980) whose *chèvre Arabe* of Chad corresponds to the Sahel goat. The most complete overview of the Sokoto Red is Robinet's (1967) comprehensive survey which integrates data from Nigeria and Niger.

The original savanna goat was presumably brought to sub-Saharan Africa by a series of introductions all across its range. Its distribution and diversity of coat colours make it unlikely that it spread outwards from a single nucleus within Africa. Lop-eared goats were probably brought later still, as they are more specialized in arid zone vegetation and have never penetrated very far south. Their distribution suggests an introduction from the northeast, perhaps along the Nile valley to Lake Chad (Fig. 5.7).

Milking goats

Generally speaking, goats are rarely milked in Africa, and the milk is less favoured than that of sheep and cattle. Even in the pastoral regions of the Sahel, the milk is often given to children or drunk by herdsmen in the field rather than taken to market. However, there are two types of goat in Africa that have been brought in especially for their milk-producing qualities, the Nubian or Zairibi goat and the Maltese goat. According to Mason (1984b, p. 94), the Nubian goat is 'not so much a breed as an idea', as it is phenotypically extremely diverse.

Figure 5.6 shows the distribution of Nubian and Maltese goats. The period of their introduction into Africa is unknown, but their failure to spread into the interior of the

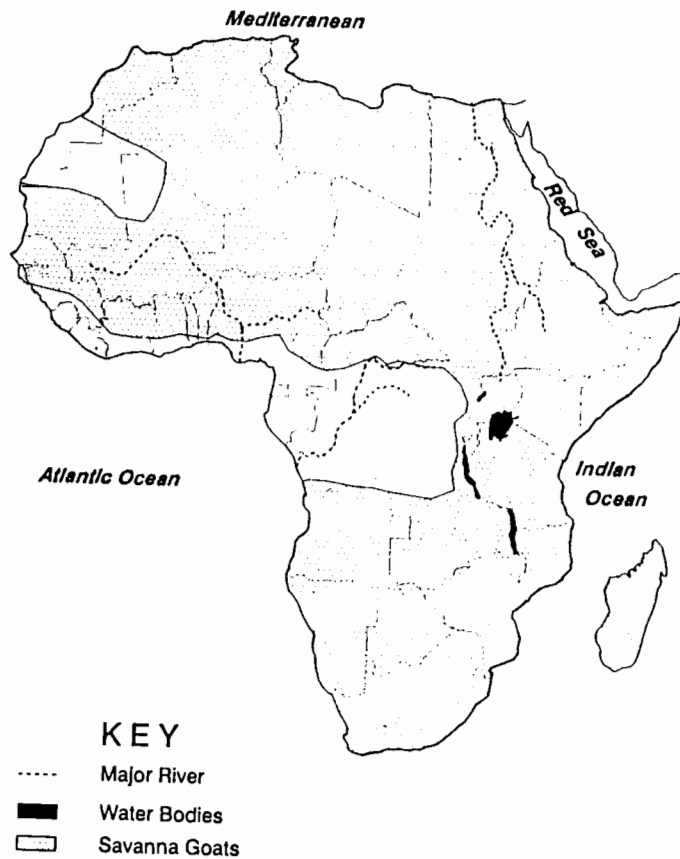


Figure 5.7 Savanna goats.

continent argues that it is relatively recent and probably associated with Islam. Even so, Islam has spread farther than the milking goats – so they may only have been introduced in the late medieval period.

Summary and conclusion

1. All ruminant livestock must have reached west-central Africa far earlier than any present dated site if degree of adaptation and comparative linguistics are accepted as evidence.
2. There is no need to assume that domestic stock were constrained to move 'around' the Sahara as the arrows on most maps imply. Rock paintings and other evidence suggest that all livestock species could have been carried directly across the desert in earlier periods.
3. The earliest introductions of stock were probably the result of movement by occupationally specialized pastoralists. Livestock were subsequently adopted by village producers and gradually moved into ecological zones outside the orbit of pastoralists.

4. The development of local races similar to the European concept of 'breeds' is particularly associated with pastoralism, where the ancestry of animals is often controlled in various ways. Village producers usually allow free mating, leading to rather indeterminate types spread over vast geographical areas.
5. A later phase was associated with the introduction of races with particular economic interest – for example, wool sheep and dairy goats. This was related to the growth of urban society and long-distance trade.

Cattle

Humpless shorthorns

1. The first wave of cattle to reach sub-Saharan Africa was probably the ancestors of West African Shorthorns, to judge by their degree of adaptation to humid environments. Their closest relatives are north African humpless shorthorns. They would have been introduced from north Africa by occupationally specialized pastoralists in a series of separate introductions. West African Shorthorns were originally spread across the entire continent and also to Socotra and present-day Yemen.
2. The present-day distinction between savanna and coastal races would have developed within Africa, as would trypanotolerance. The red/brown coloration and larger size of savanna races may reflect some genetic input from the now-vanished humpless longhorns.
3. The virtual elimination of the WAD type over the eastern part of its range reflects the incoming zebu populations from the east. WAD cattle only survived in significant numbers in forest regions where they had the comparative advantage of resisting humidity-related diseases.

Humpless longhorns

1. The humpless longhorn or *n'dama* type was probably the second subspecies of cattle to be brought to sub-Saharan Africa, either contemporary with or not long after the humpless shorthorn. It undoubtedly developed from the humpless longhorns of the ancient Middle East.
2. Its date and route of introduction are less easy to determine as its distribution is more limited today than the humpless shorthorns. However, the fact that it only marginally penetrated the high-rainfall regions of the forest zone suggests that it came after the humpless shorthorns. There appear to be no ethnographic examples of humpless longhorns east of northern Cameroon, although they are well attested in rock art in Ethiopia and Kenya.
3. Placing humpless longhorns second in the sequence of introductions makes for a historical paradox: why should there be humpless shorthorns and no longhorns in north Africa if the latter are more recent? The solution proposed here is that the humpless shorthorns spread through west-central Africa from the Nile valley before they diffused along the coast of north Africa. Humpless longhorns then moved across the Sahara and were subsequently displaced in north Africa.
4. The kuri is most unlikely to be a direct development from the *n'dama* type of

humpless longhorn – its conformation and adaptation to environment are too remote from its nearest geographical relatives. It is presumably a descendant of a separate stream of humpless longhorns from the north African region. Whether it developed in isolation in the Lake Chad region depends on the truth of the report of its presence in Ethiopia.

Zebu

1. The zebu was introduced into Africa by sea from India via the Horn of Africa but may also have spread down the Nile valley.
2. Muzzolini's hypothesis of the independent development of humps in the Saharan cattle is possible – but it may also be explained by representations of high withers rather than true humps. Whatever the truth of this hypothesis, African zebu today are largely the result of a movement of stock from further east.
3. Cattle types in eastern and southern Africa reflect crossbreeding with early populations of humpless cattle.
4. Zebu spread into west Africa along the southern fringes of the desert avoiding regions of high tsetse challenge. The present distinctive zebu types in west Africa arose from crosses with the resident humpless cattle.
5. Zebu cattle became a specialized holding of the FulBe people in Guinea who either became pastoralists or switched their herds to zebu. They then began to move eastwards and most of the zebu races in west Africa were developed and introduced from the west. Some of the types bred by the FulBe have spread as far east as Sudan and western Ethiopia.

Sheep

1. Linguistic evidence suggests that sheep were brought to sub-Saharan Africa subsequent to cattle and goats. Nonetheless, the high degree of adaptation to humid tropical forest in west Africa points to the earliest point of introduction via the Sahara in central Africa. Hair sheep are the most widespread race and almost certainly were the first introduced.
2. Hair sheep are also recorded from Saudi Arabia and south India and it is most likely that they were also introduced along the same route as zebu cattle, i.e. via the Horn of Africa.
3. The second sheep race to be introduced was the thin-tailed wool sheep, which probably displaced hair sheep in north Africa and was then carried to a few isolated points south of the Sahara, in some cases producing mixed, black-fleeced races.
4. Coarse-woolled fat-tailed sheep were introduced independently via the Horn of Africa and into Egypt and north Africa from the Middle East. They spread throughout the whole of southern and eastern Africa.
5. The final development of sheep in Africa is the appearance of fat-rumped sheep, which have remained confined to a small region of eastern Africa.

Goats

1. Goats in sub-Saharan Africa probably reflect several waves of introduction: first dwarf goats and then savanna goats. Lop-eared savanna goats may be a subsequent introduction.

2. WAD goats appear to have a circum-Saharan distribution, if the Moroccan and Red Sea populations are true relatives of the black goats of west-central Africa. However, the high degree of adaptation and trypanotolerance of the WAD goat presumably marks an antiquity also suggested by linguistics. If so, it is at least possible that the present outlying population in north Africa was carried in the reverse direction, northwards, across the Sahara.
3. Isolated populations of WAD goat still exist in regions dominated by the brown savanna goats, suggesting that their distribution once covered a broader span of ecological zones. Savanna goats were probably introduced many times through a variety of entry points and developed local races such as the Sokoto Red *in situ* in western and southern Africa. These goats probably have more in common with the progenitors of the WAD goats than with lop-eared goats and may have sprung from the same basic Middle Eastern/north African stock developed by different pastoral groups at a slightly later period.
4. The expansion of 'red' races in west Africa is strongly associated with Islam and this is probably a secondary expansion caused by the value of the skins and their consequent importance in trade. As with cattle, savanna goats are gradually pressing further towards the forest as the habitats for tsetse are gradually cleared in west-central Africa.
5. It is unclear whether the lop-eared white goats are distinct from the short-eared brown goats. They have a much more limited distribution and a much stronger association with semi-arid regions. Their epicentre is generally east of the coloured savanna, suggesting that they were brought in by a further wave of pastoral expansion. The centre of the lop-eared goats appears to be in central Africa, implying a movement down the Nile valley to the Lake Chad area.
6. The Maltese and Nubian goats are likely to have been introduced in association with Islam in the last millennium.

General

One of the most striking aspects emerging from the study of current ethnography relevant for the interpretation of prehistoric data is the speed at which change can occur over large regions of livestock production. For example, within this century, West African Dwarf shorthorn cattle have been completely eliminated from many parts of Africa as a result of vegetation clearance and population shifts. The almost complete disappearance of humpless longhorn cattle from most parts of their former range seems less surprising in the light of documented present-day processes.

The combination of evidence from rock art and the current distribution of ruminant breeds provides tantalizing hints of past processes but only the evidence of archaeological sites can confirm or refute the hypotheses they suggest. Unfortunately, many of the morphological features that are so significant to present-day producers, such as coat, horn conformation and milking ability do not leave traces that are preserved in sub-Saharan sites. Only further work on the relationship between these features and what can be excavated, i.e. bones, may make it possible to elucidate the prehistory of African livestock.

The history and distribution of horses and ponies in west-central Africa

The Native Horse of the countries above enumerated [Hausa, Nupe, Borgu, Yoruba, Kontagora, Kebbi] is particularly small and shaggy; it is generally of a mouse colour, with hair as soft and fine as silk; and, like an ass, has a black streak placed transversely on the back and shoulders. (Richard Lander 1830, II, p. 13)

Introduction

In recent years, much has been written on the role played by the horse in the dynamics of west African history. Goody (1971) argued for the importance of cavalry in the formation of a number of the post-medieval savanna states of west Africa, and set up an opposition between the 'horse states' of the savanna and the 'gun states' of the forest. A survey of documentary references to the horse was prepared by Fisher (1972a; 1972b), who argued that the traditional role of the horse in west Africa was more significant as a representation of conspicuous consumption than in terms of military advantage. Law (1976; 1980) has published both an article and a full-length book on the subject of the horse in west African history, constituting an exhaustive compilation of source material on this topic. All of these writers have assumed that all horses are a single species and thus in some sense functionally equivalent. Only a recent publication by Seignobos (1987), focusing on the pony in Chad, has indirectly questioned this consensus.

These discussions concern the medieval and pre-modern period; however, archaeological data may point to an early date for the horse in west-central Africa. In the light of this, it is appropriate to re-evaluate the role of equines in African history and prehistory. Assessments of the distribution and use of the races of horse and the role it may have played in state formation may need to be reconsidered.

This chapter puts forward the hypotheses that:

- a domestic horse has been present in west Africa at least as early as 2500 BP.
- west Africa has a distinct race of dwarfed horses or ponies, deriving from a variety of north African breeds, and that this dwarfing is a response to local conditions.
- horses crossed the desert as domesticates, but may possibly have become feral. They came into the possession of a large number of different ethnic groups, and were consistently inbred. They thereby acquired partial resistance to the trypanosomiasis [sleeping-sickness] and the capacity to survive on a broadly-based diet. This in turn allowed them to exploit a substantially larger ecological zone than they occupy at present.
- in the hands of acephalous, non-Muslim peoples, ponies were redomesticated (if feral) and subsequently developed diverse local usage patterns. A particularly characteristic formation was the raiding band – the purpose of which was strictly military.
- conventional models of the relation of horses to state formation must be re-examined in the light of our knowledge of the capacity of non-Muslims for mounted warfare, particularly in the Plateau area of Nigeria and Adamawa.

Horses in sub-Saharan Africa

The biological evidence

The races of horse and pony in west Africa

The most comprehensive review of the breeds of horses and ponies in Africa is Epstein (1971, II, pp. 401–541). Largely following Doutressolle (1947), he distinguishes the ponies of west-central Africa as a race, quite distinct from the Oriental, Barb and Dongola horses of the north African littoral, the principal horses bred south of the desert today. African ponies have 'a heavy head, thick short neck, [and] . . . may be either bay or chestnut in colour' (Epstein 1971, II, p. 467). A number of different breeds are recognized, with varying characteristics that suggest a derivation from several races of north African horse. Doutressolle's map schematizes various populations according to multiple degrees of *dégénérescence* from supposed original types (Doutressolle 1947, p. 240); few authors would support this type of classification today.

The recognized races of pony in north equatorial Africa, listed from east to west are: Somali, Borana, Kordofani, Kirdi or Laka, Kotokoli, Torodi, Songhai, Kaminiandougou, Minianka, Bobo, Koniakar, M'Bayar, M'par, Cayar and an unnamed breed from the Senegal/Mali border. Figure 5.8 shows the approximate locations of these populations. The pony was evidently widespread and was known in most areas of the savanna with the significant exception of the region corresponding to present-day Ghana.

The dwarfing of the horse in west Africa

Some of these breeds are very small, standing only 90–110 cm high at the withers in the case of the Bariba pony (Meniaud 1912). There would appear to be a general correlation between degrees of latitude south and the height of the pony. Thus the smallest ponies, as with the similarly dwarfed taurines, are found along the edge of the forest.

If the west African pony is of north African origin, then there are two possible explanations for its present reduced size. Either:

- at the period when it was introduced from north Africa it was already small in size, and the large north African horses are the result of later introductions of Arab breeds, or
- it has undergone dwarfing in west Africa.

Spruytte (1971, pp. 171–6), who experimented with Egyptian chariots to establish the type of horse required to pull them, used ponies in his simulations. This replicated the apparently small size of horse depicted in Egyptian wall paintings, and might be advanced as an argument for a dwarf north African horse. However, Epstein observes (1971, II, p. 428) that 'Egypt is a poor horse-breeding country' and that 'throughout the whole of Lower Egypt . . . native horses are generally small and poor-looking'. Large horses have had to be continually imported throughout the history of the country, because of the humid climate and marshy environment.

Egypt therefore cannot be taken as representative. The original horse of the Berber-

speaking peoples of north Africa, the Barb, survives, according to Epstein (1971, II, p. 441) 'with little or no trace of Arabian blood in their appearance'. Barb horses are larger than Oriental horses, standing 135–65 cm at the withers. No archaeological or iconographic material can be unambiguously interpreted to show that the Barb was of the same stature 3000 years ago. Large horses existed in pleistocene Europe, but it is unclear whether or not the horses of the ancient north African littoral were dwarfed.

It cannot be definitely established whether the horse crossed the desert already dwarfed or became dwarfed in west Africa. The most likely solution is a combination of both factors. There is some evidence for the processes that may have been at work. Epstein (1971, II, p. 230) says

Adverse environmental conditions generally favour domestic animals of diminutive size. Under unfavourable conditions, dwarfed individuals are more highly adapted than the bulk of ordinary stock, the pressure of selection bringing about a gradual alteration of the stock by the slightly higher survival and reproduction rate of small animals.



Figure 5.8 Current or recent pony populations.

Moreover, the inbreeding characteristic of many African domestic mammals kept by isolated communities can further contribute to dwarfing. When the British colonial authorities began to move stock around Nigeria in their quest to improve stock-breeding practices, they rapidly discovered that the resistance of ponies and other domestic stock to disease was highly geographically specific. Although immune in their home range, local stock transported elsewhere rapidly died from fly-borne diseases.

In Africa, both wild animals and domestic livestock have undergone dwarfing. The forest zone has pygmy elephants, hippos, chimpanzees and buffalo, while cows, pigs, sheep, goats and horses all exist in dwarf forms (Epstein 1971, II, p. 231). The evidence suggests strongly that this is a response to inbreeding in an adverse environment. The only animal that has shown no signs of dwarfing is the large Fulani humped cattle – but these cattle are not kept in the humid zone. Intriguingly, these are the only domestic stock in west Africa that are out-bred on a regular basis. Exchanged on a regular basis to minimize losses through epizootics, used to make bridewealth payments, these cows have a broader genetic make-up than the dwarf cattle kept by west African agriculturists.

Dwarfing has been observed in horses in other parts of the world subject to climatic extremes. In the Pacific, horses introduced in the seventeenth century became quickly reduced in size (Hesse 1937). In Mesoamerica, the horse went through a feral stage. Introduced by the Spanish, it spread as an adventive to the southwest, where it was re-domesticated by the Apache and other groups, who rode bareback, as did certain west African peoples.

North African horses may also have become feral in west Africa – selection pressure would then have produced disease resistance and the ability to digest a broad diet. Evidence for feral horses in west Africa is sparse, for by the period when written records begin, most such horses had either been hunted out or recaptured. In the sixteenth century, Leo Africanus (1956, II, p. 558) reported wild horses in the Sahara, and at the end of the eighteenth, Mungo Park (1954, p. 79) saw them at Kaarta on the upper Niger. Although Law (1980, p. 47) concluded that feral horses made no contribution to the supply of horses in west Africa, his remarks only apply to the north African horses introduced across the desert in the medieval period.

Disease resistance and fodder

A feature that seems to have been particularly characteristic of west African pony breeds is resistance to sleeping-sickness. Kumm (1910, p. 252) observed: 'the Bantu [This use of the word "Bantu" appears to refer to speakers of Plateau languages in central Nigeria. At this period, all languages with noun classes were referred to as "Bantu"] mountain tribes ride small ponies which, in spite of their insignificant size are sturdy and very useful. They do not fall as easy a pray to the tsetse fly as the Arab Barb.' Haywood (1912, p. 140), who travelled through modern Mali early in the century, refers to 'large horses showing distinct signs of Arab blood' as especially prone to sleeping-sickness, presumably in contrast to the smaller local horses.

Forde (1934) observed that the dwarf goats of the forest zone have a much greater resistance to fly-borne diseases than their savanna relatives. The dwarfing of some African goats is thought to be an autochthonous development (Epstein 1971, II, p. 231)

and such dwarfing is considered to be related to their resistance to disease. The same explanation of dwarfing may well hold for ponies and humpless shorthorned cattle, especially as they appear to become smaller as they approach the equatorial forest.

Some writers (e.g. Fitzpatrick 1910, p. 51), discussing the 'native horse', make the point that it can be grazed anywhere. This contrasts with the Arab horse, that had to be fed on special grasses. Considerable provision had to be made for the collection and supply of such grasses, and tribute in the nineteenth century was often in horse fodder. This suggests an extended period for the adaptation of the pony to west African conditions.

Evidence for the antiquity of the horse in west Africa

Archaeological and iconographic evidence

Law (1980, p. 3) observes that archaeozoological material for equids in west Africa is sparse. Excavations at the rock shelter at Rop in northern Nigeria have yielded a single equid tooth, so far without a radiocarbon result, but dated on stratigraphic grounds to >2000 BP (Law 1980, p. 3). More recently, work by Allsworth-Jones (1982, p. 8) at Kariya Wuro, a rock shelter near Bauchi, has yielded four equid teeth. Again no scientific dating is yet available, but the teeth are associated with the earliest ceramic layer and a date similar to Rop seems appropriate.

In conjunction with other material, these finds may be supplementary evidence for the antiquity of the pony in west Africa. Other confirmation comes from the rock paintings found right across the Sahara. Herodotus first observed that the inhabitants of the Fezzan, the enigmatic Garamantes, used four-horse chariots in 2500 BP (*Histories*, Book IV, p. 183) and this was strikingly confirmed by rock paintings (Lhote 1959, pp. 124-33). Mauny (1978, p. 281) charts some of the most significant rock paintings depicting chariots and demonstrates their increasingly schematic nature further south. By mapping the representations of horses, Mauny (1978, p. 282) can trace the ancient trans-Saharan routes. These seem to have had two distinct starting points, one in the west, leading from present-day southern Morocco to Tegdaoust and Tondia, and the other from the Fezzan, passing by several routes to Gao and the region of Agadez.

Herodotus (*Histories*, Book IV, p. 183) has a reference to the hunting of 'Ethiopian troglodytes' by the Garamantes in their four-horse chariots. Most scholars consider these people may have been the Teda of the Tibesti, who still today use caves as refuges. Their language is Nilo-Saharan, and would be thus unrelated to the Afroasiatic languages used by their pursuers. This may be at the root of Herodotus' unkind comment that they 'squeak and gibber like bats'. Slaving was not the only purpose of these north African ventures into the Sahara: in the south there are also hunting scenes.

In the forest belt of west Africa, there is no archaeological evidence until much later. Equid bones have been uncovered in sites in the area of Nsukka in south-central Nigeria. The site of Igbo Richard, excavated by Shaw (1970, I, pp. 193-5), contains a bronze hilt in the form of a man on horseback. Other material at the site has given a radiocarbon date of 1100 ± 120 BP. Such a date for the representation of a horse seemed so unlikely that Shaw thought it might be occasion to question the dating of the site as a

whole. However, more recent archaeological work in this area has confirmed the presence of equid bones in early contexts (Keith Ray, *pers. comm.*, from notes in the possession of Thurstan Shaw). Excavations by Hartle in the Nsukka area of the Ukpo Eze mound, at Unukete near Agaleri, gave horse bones in a context suggesting a date of 750 BP.

Linguistic evidence

If the pony was indeed an early introduction into west Africa, this should be reflected by terminology concerning horses. The first author to approach the problem from this angle was Köhler (1953/4), who examined the distribution of words for 'horse' in Gur languages. Manessy (1972) completed this material with a map of roots in 'Voltaic' languages. Skimmer (1979) compiled roots for 'horse' in Chadic and most recently Tourneux (1987) has studied words for 'horse' in central Africa. Most languages do not distinguish horse from pony, especially in the non-Muslim areas.

Law (1980, p. 6) combined Köhler's material with the list of words for 'horse' in Koelle (1854a) to compile a map of the principal roots for 'horse' in west Africa. Two points are clear: an almost complete absence of loan-words from either European languages or Arabic, and the lack of any really widespread roots such as are found for 'goat' and 'cattle'. Some roots cover considerable areas, and they 'jump' the boundaries of language families, suggesting that equine terminology began to spread after the significant divisions in the language families of west Africa were already established.

This scattering of roots matches the polyphyletic racial origin of the west African ponies, suggesting that the horses from which they are descended came across the Sahara along a number of different trade routes. They arrived in prehistoric times, but well after the principal differentiation between the major branches of Niger-Congo and Nilo-Saharan had been established.

Ethnographic records

The archaeological and linguistic data point to an early introduction of horses into sub-Saharan Africa. Classical and Arabic sources are useful to confirm the antiquity of the trade in horses. Ethnographic sources complete the picture by showing the importance and degree of cultural embedding of ponies in various African societies.

Classical and Arabic sources

In discussing the Numidians of north Africa, Strabo (*Geographia*, xvii, 3.7) noted that they rode bareback. Nothing more is heard of horses until references begin to appear in the early Arab geographers. A number of these have been collected together by Fisher (1972, pp. 369-88). The earliest reference appears to be that by Al-Muhallabi in c. AD 985 (Levtzion & Hopkins 1981, p. 174). He noted that the people of Gao rode horses bareback. Al-Bakri, writing in 1067 (Levtzion & Hopkins 1981, pp. 80-1), observed that the ruler of Ghana gave audience surrounded by ten horses caparisoned in gold, but remarks that the horses of Ghana were very small, compared, presumably, with those of north Africa.

Al-Idrisi, writing in 1154 (Levtzion & Hopkins 1981, p. 110), has a story that the ruler of Ghana tethered his horse to a gold brick. Al-Maqrizi (Palmer 1928, p. 6)

writing c. 1400 mentions the small size of horses in Kanem. References multiply as time goes on, and Ibn Fartua's chronicle of Kanem (Ibn Fartua 1926, p. 85) describes the twelfth-century Sultan Dunama as having 100,000 horses. The chronicle of the Bulala Girgam (Palmer 1928, pp. 29ff) records an episode in the political history of sixteenth-century Kanem, when the ruler, Abd el Jalil, defeated the oppressive ruler of neighbouring Kuka, Ali Dinar, fighting with 'small horses'. The text suggests that both large and small varieties of horse coexisted at this period and that different military strategies may have been associated with each type.

A feature of these early accounts that is particularly noteworthy is the casual acceptance of the presence of horses; their introduction is nowhere mentioned – although military innovations are often described in the Kano chronicle and related documents. The reason for not treating horses as an innovation at this period is simple: they had been there since 'neolithic' times. Neither were horses associated with new military strategies, because they were already too widespread. Al-Umari mentions the fourteenth-century ruler of Mali, Mansa Musa, riding out against mounted bowmen who rode gelded horses (Levtzion & Hopkins 1981, p. 268). As gelding horses is a practice normally frowned on by Islam, it may well be that these groups were non-Muslim. Leo Africanus, writing in the early sixteenth century, suggests that only small horses were bred at Kawkaw, for the Songhai empire, and that large animals had still to be brought across the desert.

Evidence from accounts of travellers

Nigeria

Early written sources support the contention that the 'Middle Belt' of present-day Nigeria was occupied by non-Muslim peoples with a 'pony culture'. The pony is usually referred to in the Nigerian literature as the 'Plateau' pony as it first came to the notice of colonial officials on the Jos plateau, although it was actually more widespread in the lowlands. A variety of references from the colonial period and more occasional recent descriptions make it possible to build up a picture of the place of ponies in the traditional societies of this region. Figures 5.9 and 5.10 show the names and locations of peoples and places mentioned in this section.

Some rare photographs survive of traditional pony riders. Isichei (1982a, Plate 13) illustrates an armed Mwahavul [Sura] rider photographed in 1931, while Raphael (n.d., c. 1915) gives two pictures of barebacked riders from 'Northern Nigeria' (to judge by the accompanying text, Berom). The pony was formerly favoured by the Berom because of its agility in a rocky environment and ponies were clubbed to death when their owner died and the corpse wrapped in the skin (Davies n.d., p. 179).

The fullest account of the Plateau pony is by Barbara Frank (1981), who was able to photograph a number of riders and animals among the Ron-speaking peoples of the Bauchi area, despite the fact that, by the period of her fieldwork, they had almost disappeared from everyday life. Berthoud (1965, pp. 25–6) describes the elaborate preparations made by the Ten [Ganawuri] before setting off for war on their ponies. Armed with a variety of lances and wicker shields, they used their ponies not only to defend themselves against Hausa slavers, but also to raid their neighbours, the Sholio

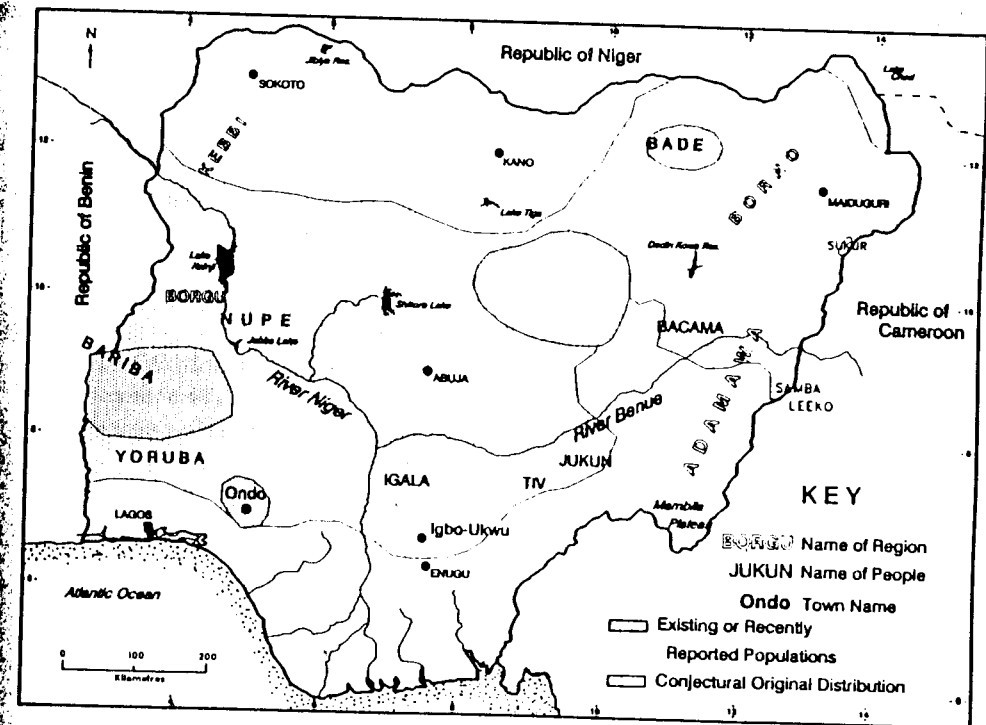


Figure 5.9 Peoples and places mentioned in the text.

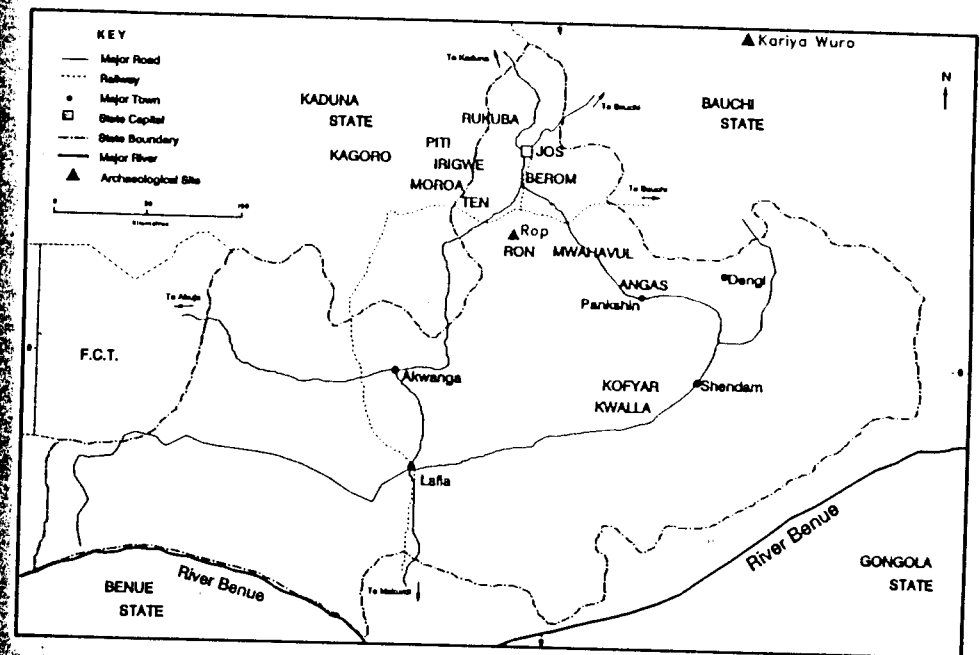


Figure 5.10 Peoples and towns in the Plateau State mentioned in the text.

[Moroa], Irigwe and Berom. The Irigwe themselves, according to Morrison (1982, p. 142), could place as many as a thousand horses in the field, and they apparently used these both for raiding their neighbours and defending themselves against the raids of the FulBe.

Smith (1968, p. 104) describes the 'small lull ponies' of the Piti, who rode bareback with a single piece of cord round the muzzle of the animal to control it. Apart from transport, the principal use of ponies among the Piti was for collective spear hunting of savanna game. Netting (1968, p. 93) mentions the use of ponies by the Kofyar on the plains for war and hunting, while the account in Koelle (1854b, pp. 211–12) of the Bedde shows them using ponies to raid and mount attacks on towns and villages.

One feature of the use of Plateau ponies to excite considerable comment is the cutting of the animal's back before riding it. Kumm (1910, pp. 26–7) describes the Angas thus:

The natives ride their mountain-ponies bare-backed, and as they themselves wear no clothing, with the exception of a weird loin-cloth of plaited grass, riding the frisky ponies is somewhat difficult. So they scratch the backs of their animals until the blood exudes, and glue themselves onto the beasts with their blood.

If this were the only account of this curious and rather cruel practice, it would be easy to dismiss it as a traveller's tale. But it is also mentioned by Koelle (1854b, p. 211), Barth (1857–8, IV, p. 35), Fitzpatrick (1910, p. 51) and Daniel (1936) with further references in Seignobos (1987, pp. 98ff).

Migeod (1924, p. 88) says, 'In parts of the Bauchi Plateau the pagans who ride bareback and are themselves naked, cut and make great sores on the horse's back. This glues them on, so they run less risk of coming off.' The explanation may be found in some remarks by Tremearne (1912, pp. 298–9) concerning the Kagoro district:

The saddle, if any, is a goat-skin tied on the back, but some of the pagans in the district make a cut in the skin of the backbone about a foot long, and open it out so that the flesh of the animal swells up and forms a pad, which, after a time, seems to become callous.

The hard pad thus created would provide sufficient friction to keep the rider on his mount.

A number of writers testify to the close relation between the ponies and their owners. Kumm (1910, p. 26) mentions the agility of the mountain ponies and the way they would answer their masters' calls 'like dogs'. Isichei (1982b, pp. 23–4) quotes an account by a Berom man concerning his pony:

A horse is like a man; you send it out to bring a tired man home, you give it water to drink, you walk miles to find it grass to eat, it carries you to hunt and to war, when it is tired you dismount and carry your loads on your own head. When you die, and they lead it towards your grave, its spirit may fly out of its body in its anxiety to find you.

Frank (1981) makes similar points, if less lyrically, in her description of the relation of the Ron to their ponies. Never used as pack animals, ponies were ridden in war, for

communal hunting and displays on festive occasions. They were significant elements in the status of married men and were used for bridewealth payments. Wives could show especial affection for their husbands by taking care of their horses. Fitzpatrick (1910, pp. 50–1) points out that ponies rarely seemed to need special feeding and emphasizes how agile the ponies were in the rocky areas southeast of the Plateau.

The pony is now rare in central Nigeria. In the communities that previously kept ponies, only a few remain as prestige possessions, to be brought out on ceremonial occasions. For example, among the Ten [Gauawuri], southwest of the Jos plateau, in 1987 the warriors were able to muster four to take part in a procession for the installation of the ruler. Among the Challa, near Bokokos, ponies are still ridden to market in small numbers. A survey in 1990 uncovered only three ponies still in use. However, in general, competition from other prestige goods, particularly motor vehicles, has tended to eliminate the residual function of ponies as prestige transportation.

Despite their disappearance in reality, the ponies have risen to prominence as symbols of a newly developing ethnic consciousness. Peoples such as the Berom and the Mwahavul, who can no longer muster ponies even for ceremonial occasions, have begun to use old photographs of mounted warriors on locally printed literature. Thus community almanacs and other posters may often reproduce an image of their military past as a rebus to signify present unity.

Ponies on the Niger

The widespread use of the pony survived in the Middle Belt well into the colonial era, and has persisted up till the present in some isolated regions. This is in contrast to the situation along and south of the river, where, despite a wealth of references in early writers, the pony has completely disappeared. In some cases, such as among the Nupe, it has been replaced by the horse. Reconstructing the role it played in these societies is correspondingly more difficult.

A remarkable reference to Ondo in the early colonial period suggests that ponies still remained in use in Yorubaland during this century. Dudgeon (1911, p. 113) says, 'there is also said to be a stunted variety of horse, which is bred for use at Ondo'. Ondo is at approximately 7° latitude and well within the equatorial rainforest. Investigations in 1990 suggested that these ponies have now disappeared, but their recent occurrence makes the data from Igbo-Ukwu more credible.

Apart from its significance among the Igbo-Ukwu bronzes, the early importance of the horse in Igbo areas is argued by its ritual role. The 'horse sacrifice' is one of the most important components of the funeral obsequies of titled men (Isichei 1977, pp. 32ff) in some parts of Igbo territory. Until well into the colonial period, there was an extensive horse market in Nsukka, mostly selling broken-down horses brought from further north, for the sacrifice. Laird and Oldfield (1837, II, p. 180) record the trade in 'horses of a small breed' by 'Eboes' who controlled the river trade down to Bonny.

This sacrifice remains important: the Igbo are still the principal traders in horses within Nigeria. They scour the markets of the far north, especially Borno and Sokoto, for exhausted horses, which are then sent in trailers to the entrepôts at Abakaliki and

Onitsha. There is also a certain trade in horses bred on the grassy uplands of the Mambila plateau and adjacent parts of Cameroon. These are trekked by Igbo to the foot of the plateau and then carried in lorries to Igboland.

Oral tradition also gives the horse a significant role among the Yoruba. Law (1977a, p. 43), in his book on the Oyo Empire, recounts traditions that attribute the introduction of cavalry warfare to the Alafin Orompoto in the sixteenth century. According to the traditions, the Alafin could raise a thousand horsemen, and when they went to war branches were tied to the tails of the horses to trail in the dust and conceal their passing. As the Nupe are supposed to have sacked Oyo just previous to this, it is possible that this enterprise on the part of Orompoto was stimulated by the Nupe use of horses.

Apart from oral tradition, there are records dating from the nineteenth and early twentieth centuries. Following Mungo Park's demise at Jebba, a series of travellers visited Nupe and Borgu and later penetrated the Emirates further north. Almost all these authors comment on the livestock kept by the peoples in this area, and most mention, normally with disparagement, the small size of the horses. Lander, for example, in the reference quoted above, distinguishes Fulani horses, large in stature, from small but hardy local animals.

Other writers suggest the character and importance of the pony south of the Niger. Clapperton (1829, p. 56), passing through Yoruba in 1826, mentioned that their horses were 'of a very small breed' and slightly further north, in Borgu, described the 'native breed' as 'small, like the Shetland ponies, hardy, active, and generally of a brown or mouse colour'. Bowen (1957, p. 263), in Yoruba in the 1850s, described the Yoruba pony as 'compact' and 'sturdy' and noted the contrast with the large imported animals, either from the coast or further north, then sold in Ilorin for very high prices. The Igala also reserved an important role for the pony in their royal traditions, for mention of it occurs in a number of 'charter-myths' of their clans and kingdoms (Boston 1968, pp. 66, 94, 105). Lander's observations quoted in the epigraph complete the picture.

Among the Nupe at least, no ponies remain. It seems that the replacement of 'small horses' took place at the beginning of the century since even old men retain no memory of them. There are no reports of ponies in either Borgu or Yorubaland in recent years, and it is likely that they were replaced by motor vehicles relatively early.

The pony in central Africa

There are no clear ethnographic records of ponies in the region immediately east of central Nigeria, in Adamawa, although there were ponies in the semi-arid region immediately due north. Ponies were bred in the Mandara mountains and in adjacent Sukur, but they have now all disappeared from this region. However, in the basin of the Chari-Logone region and further east, references to ponies are again abundant and some ponies are still in use. This section reviews the most significant references and oral historical records compiled by Seignobos (1987).

The 'Sara' or 'Laka' pony

A breed closely related to the Plateau pony is described in a number of early texts referring to Adamawa, the Logone and further east. Barth (1857-8, II, p. 374) pictures a Musgu pony rider from present-day northern Cameroon. The rider is armed with a

large spear and two of the iron throwing axes common in this area. The horse appears to have no saddle, and there is only a single bridle without a bit. Brunache (1894, p. 267) pictures a 'Gaberi' pony rider from Lai in the Logone region, riding bareback, but with a wicker shield and a throwing axe. Earlier in his text he describes Tumak[?] horsemen. 'Nos trois cavaliers ont encore le type Sara . . . sur leurs petits chevaux nerveux dont on n'aperçoit que la croupe.' He then refers to the Barth account of slashing the back of the pony and remarks that this practice is unknown in the Logone area.

The most complete account of the use of ponies in this area is by Maistre (1895), whose plates (pp. 193, 203, 207 & 211) depict the role of the pony in Gaberi society. The Gaberi are described as 'une tribu de pillards' and they seem to have made a profession of mounted raiding. The engravings show that they rode with a piece of skin as a saddle, wearing only a leather loin-cloth. Their weapons appear to have been the throwing axe and the spear, and some riders also carried wicker shields. There are leather straps around the mouth of the ponies, and these may have been bits corresponding to those described for the Plateau. Certainly only a single rein is depicted. The plate on Maistre's page 203 has a remarkable image of the Gaberi crossing the Logone in canoes on a raiding expedition, pulling the horses behind the canoes. Maistre (1895, p. 209) saw an army of three to four thousand and he estimated that perhaps one third were mounted, so the Gaberi were clearly able to put considerable forces in the field.

Guillard (1965, p. 312) in his ethnography of the Tupuri, based on research in the 1950s, says, 'Les équins sont de race mélangé mais chez un certain nombre on relève des traces nettes d'origine Laka (vulgairement appelée "poneys").' Tupuri ponies were equally ridden bareback and were connected with status and wealth. Tessmann (1929, p. 342) refers to the Laka ponies, and this type of animal clearly played an important part in the economy of this area in pre-Islamic times.

The Chamba pony

One of the most poorly documented military expansions in the history of central Africa in the nineteenth century is the Samba Leeko [Chamba] expansion (Fardon 1988). By comparison with their fragmented neighbours in Adamawa, and the adjacent areas of the Cameroon Grassfields, the Chamba cover a considerable area. Yet they never developed any sort of large-scale polity. Early ethnography of the Chamba is limited to a few pages in Meek (1931a, II, pp. 500-3). Fardon's researches show that the Chamba had an aggressive, militarized society, and that their expansion extended into central Cameroon and back into modern-day Nigeria.

The contributors to Tardits (1981a), writing on the ethnohistory of Cameroon, record the traditions of many grasslands peoples of raids by mounted bowmen, in some cases described as the 'People of the Red Mouth'. In a chronological synthesis, Chilver (1981, pp. 460ff) dates the beginnings of the Chamba expansion to the end of the eighteenth century. The Chamba moved into the Benue valley and began raiding the Tiv and associated peoples under leaders whose names are remembered as Gangkwol and Damashii. This finds striking confirmation in the oral traditions of the Tiv collected by Jones (n.d., p. 487), as yet unpublished. The Tiv record that they were scattered by 'Ugenyi' horsemen while they lived in the Obudu region, and that these were followed

by FulBe some years later. It is possible that the Chamba were forced to expand their raiding economy by the attacks of the FulBe. They next appear raiding into the Cameroon Grassfields, a decade later. Muhle (1981, p. 392) records the scattering of the We chiefdom in the 1830s by Chamba raiders. Tardits (1981b, p. 405) records their presence in Bamoum in the early nineteenth century.

The pony west of Borgu

The ponies north and west of present-day Nigeria are probably continuous with the Bariba ponies noted by Clapperton. The most well-known representative of this group is the Kotokoli (Doutressolle 1947, p. 252), described in more detail by Schulken (1922). The Kotokoli pony, exceptionally, was used as a pack animal, negotiating the steep mountains. The town of Sansannémango is today controlled by the Anufo people, originally from the eastern side of the Ivory Coast. They arrived in the eighteenth century, originally mercenaries, and their conquest of this area is traditionally bound up with their possession of horses. When the German colonial authorities reached this area, they found them riding very small ponies, bought from local horse traders to replace the large Arab horses they had previously purchased from the Mossi kingdoms to the northwest.

West of Togo the evidence is sparser, for lack of the detailed ethnographic accounts available for the Nigerian area. However, the stock-breeding literature (Pierre 1906; Schulken 1922; Doutressolle 1947) suggests, by the location of the breeds they describe, that conditions for ponies among the traditional peoples of Togo and eastwards may have resembled those on the Jos plateau and in Adamawa. There is no conclusive evidence for recent bareback riding west of the Jos plateau.

References in Arabic sources suggest similar practices to those on the Jos plateau further west. For example, Al-Muhallabi mentions the people of Gao riding bareback, and Al-Umari refers to the mounted bowmen fought by Mansa Musa of Mali. Rodney (1970, p. 12) quotes an account by Almada written in 1594, showing that when the FulBe moved into the Futa Jallon in the 1470s they already had horses. Chronicles from Timbuktu show that cavalry were used in the invasion of the Songhai Empire in 1512. The eighteenth-century empire of Shehu 'Umar Watara based on Kong in the north of the Ivory Coast seems to have been based on both cavalry and firearms. At these late dates, these may have well been large horses, and the techniques of warfare more closely associated with Islam.

The role of horses and ponies in the development of west African state systems

The introduction referred to scholarly discussion of the part played by horses in the formation of west African state systems. First mooted by Goody (1971), it was further amplified in an article by Law (1976), 'Horses, firearms and political power in pre-colonial west Africa'. Goody (1971, p. 36) asserts: 'unlike military technologies based upon the bow and arrow or upon iron infantry weapons, there is a built-in stratification between the horse-soldier and foot-soldier.' From this he argues that the long investment in time required to produce a trained horseman meant that it was likely to be the product of a system geared to the exploitation of surplus production. Part of the

response would be the development of a 'knightly ethic'. Consequently, 'the investment of skill and capital was not a free gift to the nation' but had to be paid for by raiding and the resulting booty. The consequent necessity for centralizing authority over horsemen actually put the cavalry in a position to demand a share of political power.

Evidence for this is drawn from the foundation of states like Gonja, in northern Ghana. Tradition states that Gonja was founded by a group of Mande horsemen perhaps in the sixteenth or seventeenth century, and that their possession of horses enabled them to terrorize the surrounding area. Their Mande origin was a matter of tradition, as, before their arrival, they had been at Bondoukou, where they had exchanged their original speech for a Guan language. The state they established was powered by an almost permanent quest for booty and tribute. Acephalous peoples are pictured as having no effective defences against the speed and mobility of even lightly armoured cavalry. As a result, it was argued, some of the peoples in the area attempted to invoke ritual protection against horses, and thus arose a number of 'anti-horse' shrines described in the chapter subtitled 'The opposition of horse and earth'.

This picture has a pleasing logic to it and may well be true as far as Gonja is concerned. However, elsewhere in west Africa, booty-seeking mounted raiders had the inverse effect on their victims. Most interesting is the case of Mankon in the grasslands of Cameroon (Warnier 1981, p. 427), where the Samba began their raids in c. 1825. Warnier argues that the formation of a centralized polity in Mankon was actually a response to raiding by Samba horsemen. The dispersed lineages that previously characterized Mankon were unable to mobilize military defence against mounted raiders, and thus the following years saw a coalescence of the lineages into a political unit familiar from the ethnography of other groups in the Cameroon Grassfields.

The significant feature is its inversion of the model for the relation between the possession of horses and state formation in west Africa. Here, large groups of mounted acephalous raiders attack settled agricultural peoples without horses. The agriculturalists respond by forming a centralized polity, but without gaining access to the horses that would make their arm longer. Meanwhile, the raiders fail to evolve any political structure more elaborate than the raiding band, except perhaps in the case of Bali-Nyonga, a single chiefdom founded in the grasslands some time in the 1830s (Chilver 1981, p. 463). In the main, as Chilver (1981, p. 458) says, 'It must be stressed that the Bani [Samba] were not a single raiding federation but formed of a number of different semi-nomadic bands . . . which combined for particular raids and then dispersed to different camps.' This recalls the Irigwe in central Nigeria who terrorized other Plateau peoples with mounted acephalous raiding bands.

Another exceptional feature of Gonja was that the raiders did not encounter ponies in the hands of non-Muslim groups. However, elsewhere in west Africa, where these were well established, they could mount effective opposition to the freebooters, often by partly adopting their methods. Morrison (1982), in his discussion of resistance to the FulBe jihad in northern Nigeria of the early-mid nineteenth century, shows that the non-Muslim peoples of the Jos plateau were well able to protect themselves against the incursions of slavers such as the Emir Yakubu (1805-45), who operated out of Bauchi. The Anaguta, the Mwahavul and the Berom seem to have used a variety

of military technologies, including the bow and arrow, the spear, and the sword. Their defeat of FulBe cavalry (Hayward 1921, pp. 12–13; Morrison 1982, p. 146) suggests that their response was very different from the acephalous groups of the Volta basin.

This variety of weapons makes it difficult to construct a simple opposition of military technology based upon 'the bow and arrow and iron infantry weapons' to one based on horse-soldiers. Morrison concludes: 'as with all broad definitions, neither of these can really be considered politically or militarily significant in regard to the Plateau.' Similarly, in relation to the stratification argument, the example of the Irigwe cited by Morrison (1982, p. 142) suggests that there is no necessary connection between the evolution of an effective cavalry and a hierarchical polity. The Irigwe were (and are) an acephalous, decentralized people living southwest of modern Jos. In the nineteenth century, they controlled an extensive trade network on the Plateau, operating through Zangon Katab. They exchanged their ponies for larger north African-type horses during the course of the century and used them both for defence and raiding, remaining both undefeated and acephalous.

Such societies, with strong individualist ethics, can retain the social patterns even after they gain access to the 'means of destruction'. The Samba example similarly implies that there is no necessary connection between the possession of armed cavalry and state systems, and even that the incursions of such acephalous groups can lead to the formation of centralized polities in reaction to such attacks.

In this context, it is instructive to look again at a classic debate in African historiography. The Kano chronicle mentions the 'Koroafa', a group of mounted raiders who several times inflicted serious damage on the Hausa Emirates, laying waste the hinterland of Kano in the reign of Muhammad Zaki (1562–1618) and in the reign of Kukuna (1652–60), even burning the town. The implication in the chronicle is that these people were non-Muslims. Historians, taking the lead from Palmer, cast around for a large non-Islamic polity to take responsibility for this uncivil act, and identified the Koroafa with the Jukun, whose empire, based on Wukari, was of unknown extent and antiquity.

The underlying assumption was that a large force of mounted raiders must be the attribute of a centralized polity. This was the view of H. R. Palmer, who requested Meek to undertake an ethnographic survey of the Jukun, and wrote the introduction to the published study (Meek 1931b). Despite Meek's overt acceptance (Meek 1931b, pp. 24–9), his text hints at scepticism. For example, he comments on 'the comparative absence of any suggestion that the Jukun were anything but an unwarlike collection of peoples whose sole interest was the maintenance of innumerable religious cults' (Meek 1931b, p. 29). His elaborate comparative tables showing that the lexical bases of the Jukun language were solidly 'West Sudanic' is a covert demonstration that there is nothing exotic about the origin of the Jukun.

However, once it is accepted that mounted raiders do not have to be sent out from a centralized polity, the identification of the Jukun of the Benue valley with the Koroafa becomes irrelevant. It depends on their being breeders and users of horses on a large scale (Law 1980, p. 19), for which it is noticeable that Meek provides no evidence. The Koroafa raiders are more likely to have been raiding bands mounted on ponies like the

Samba and peoples on the Logone. Possible candidates might be the Bacama or the Bade [Bedde], both of whom were raiders in historical times.

Conclusions

This chapter proposes that the ponies of west Africa were produced by the dwarfing of horses brought across the Sahara in the last three thousand years. This contrasts with the large north African horses which seem to have been introduced (with donkeys) in the medieval period. The ponies became trypanotolerant and were able to digest a wide variety of plant foods. They may have become feral and then been redomesticated. A discontinuous band of such dwarfed horses stretches across the continent to Ethiopia.

The importance of ponies in west Africa has been seriously underestimated because the process of replacement by the larger and more prestigious horses brought across the desert was already advanced during the period when the first observers were writing. Nevertheless, during a long period of west African history, raiders mounted on ponies probably terrorized large regions of the savanna, reaching down well into the forest on occasion.

Notes

¹ What follows are two originally distinct papers which the series editor has insisted on combining.

² Lake Chad has deliberately been excluded from the base map as it no longer existed as an open body of water in 1990.

³ This suggestion appears to gain support from recent research on the DNA of west African cattle (D. Bradley, *pers. comm.*).

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Abbreviations:

CASWAH = Levtzion, N. & Hopkins J.F.P. (1981) Corpus of early Arabic sources for West African history' Cambridge, Cambridge University Press.

CREHCC = Tardits, C. (1981a) Contribution de la Recherche Ethnologique à L'Histoire des Civilisations du Cameroun. 2 Vols. Paris. CNRS.

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