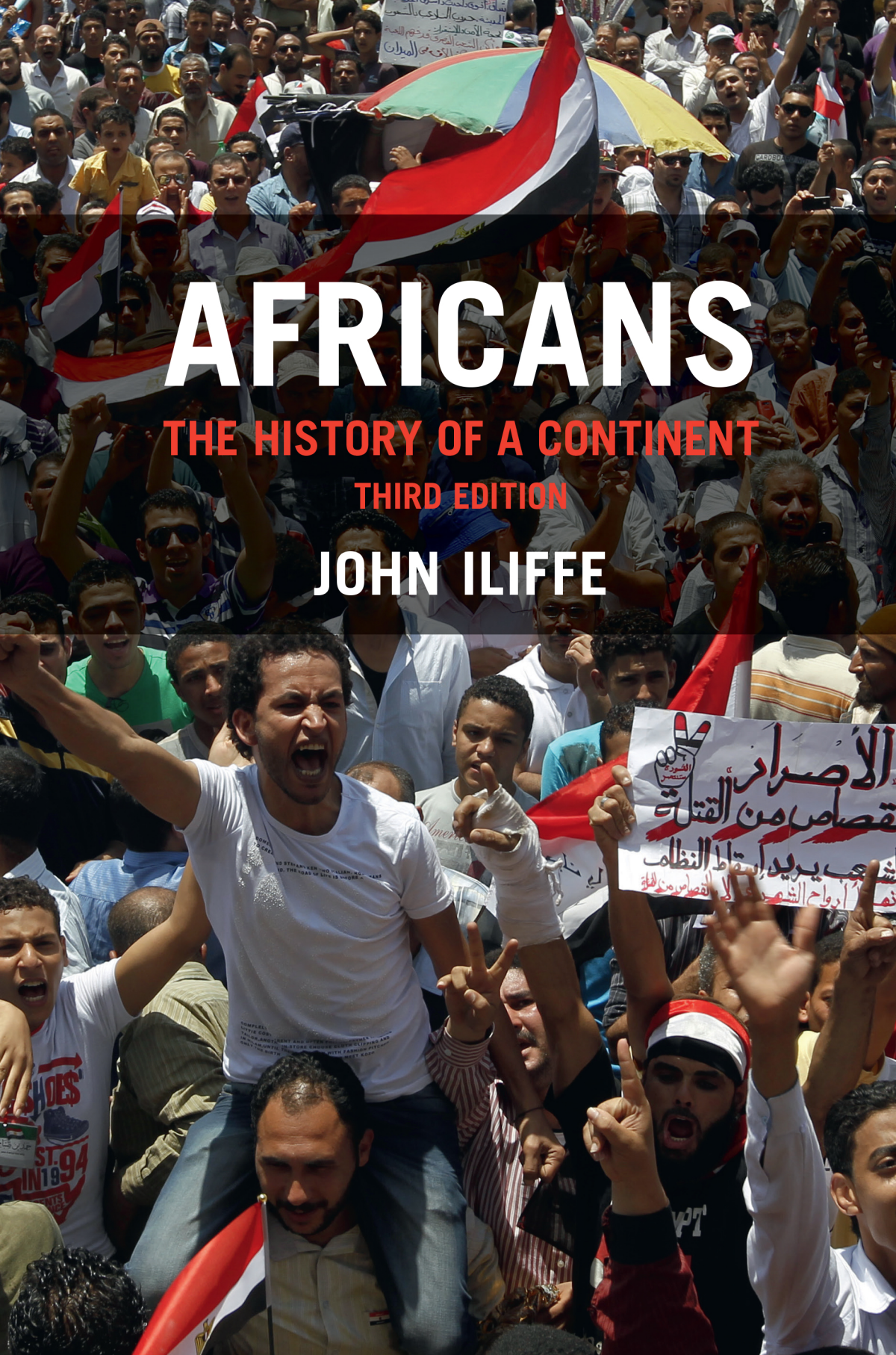

AFRICANS

THE HISTORY OF A CONTINENT

THIRD EDITION

JOHN ILIFFE

AFRICANS

The History of a Continent

In a vast and all-embracing study of Africa, from the origins of humankind to the present day, John Iliffe refocuses its history on the peopling of an environmentally hostile continent. Africans have been pioneers struggling against disease and nature, but during the past century their inherited culture has interacted with medical progress to produce the most rapid population growth the world has ever seen.

This new edition incorporates genetic and linguistic findings throwing light on early African history, summarises research that has transformed study of the Atlantic slave trade, and examines the consequences of a rapidly growing youthful population, the hopeful but uncertain democratisation and economic recovery of the early twenty-first century, the containment of the AIDS epidemic, and the turmoil within Islam that has produced the Arab Spring. *Africans: The History of a Continent* is thus a single story binding living Africans to their earliest human ancestors.

John Iliffe was Professor of African History at the University of Cambridge and is a Fellow of St John's College. He is the author of several books on Africa, including *A Modern History of Tanganyika* (Cambridge University Press, 1979) and *The African Poor: A History* (Cambridge University Press, 1988), which was awarded the Herskovits Prize of the African Studies Association of the United States.

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JOHN ILIFFE
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In memory of

Charles Ross Iliffe

and

Joy Josephine Iliffe

Contents

List of Maps

Preface to the Third Edition

David Fieldhouse suggested this book. In writing it, I have strayed far from my expertise as a documentary historian. John Sutton is partly to blame for that because he first interested me in African prehistory through his lectures at Dar es Salaam. David Phillipson kindly read and commented on my initial typescript, as did John Lonsdale, who has taught me so much. John Alexander and Timothy Insoll helped with books. I am very grateful to Carol Fellingham Webb for the care and skill she has exercised in converting my untidy typescript into a printable and electronic form.

In this new edition, I have recast the final chapters, now current to early 2016, extensively revised the sections on prehistory and the Atlantic slave trade, and made substantial changes to take account of recent scholarship on other periods. In doing so, I have relied heavily on the magnificent resources of the Cambridge University Library and have been grateful for the support and companionship of the members of my College.

1

The Frontiersmen of Mankind

THE LIBERATION OF THEIR CONTINENT MADE THE SECOND HALF OF the twentieth century a triumphant period for the peoples of Africa, but it ended in widespread disappointment with the fruits of independence. The new millennium has revived growth and optimism, reinforcing the need to understand the place of recent events in the continent's long history. That is the purpose of this book. It is a general history of Africa from the origins of mankind to the present, but it is written with the contemporary situation in mind. That explains its organising theme.

Africans have been and are the frontiersmen who have colonised an especially hostile region of the world on behalf of the entire human race. That has been their chief contribution to history. It is why they deserve admiration, support, and careful study. The central themes of African history are the peopling of the continent, the achievement of human coexistence with nature, the building up of enduring societies, and their defence against aggression from more favoured regions. As a Malawian proverb says, 'It is people who make the world; the bush has wounds and scars.' At the heart of the African past, therefore, has been a unique population history that links the earliest human beings to their living descendants in a single story. That is the subject of this book.

The story begins with the evolution of the human species in Africa, whence it spread to colonise the continent and the world, adapting and specialising to new environments until distinct racial and linguistic groups emerged. Knowledge of food production and metals permitted concentrations of population, but slowly, for, except in Egypt and other favoured regions, Africa's ancient rocks, poor soils, fickle rainfall, abundant insects, and unique prevalence of disease composed an environment hostile to agricultural communities. Until the later twentieth century, therefore, Africa was an underpopulated continent. Its societies were specialised to maximise numbers and colonise land. Agricultural systems were mobile, adapting to the environment rather than transforming it, in order to avert extinction by crop failure. Ideologies focused on fertility and the defence of civilisation against nature. Social organisation also sought to maximise fertility, especially through polygyny, which made generational conflict a more important historical dynamic than class conflict.

Sparse populations with ample land expressed social differentiation through control over people, possession of precious metals, and ownership of livestock where the environment permitted it, especially in the east and south. Scattered settlement and huge distances hindered transport, limited the surplus the

1. Main physical features.

powerful could extract, prevented the emergence of literate elites and formal institutions, left the cultivator much freedom, and obstructed state formation, despite the many devices leaders invented to bind men to them.

Northern Africa first escaped these constraints, but the Sahara isolated it from the bulk of the continent until the later first millennium AD, when its expanding economy and Islamic religion crossed the desert, drew gold and slaves from West Africa's indigenous commercial system, and created maritime links with eastern and central Africa. Yet this path of historical development was aborted by a population catastrophe, the Black Death, which threw North Africa into nearly five centuries of decline.

Instead, for most of tropical Africa the first extensive involvement with the outside world was through the slave trade, by whose brutal irony an underpopulated continent exported people in return for goods with which elites sought to enlarge their personal followings. Slaving probably checked population growth for two critical centuries, but it gave Africans greater resistance to European diseases, so that when colonial conquest took place in the late nineteenth century, its demographic consequences, although grave, were less catastrophic than in more isolated continents. African societies therefore resisted European control with unusual vitality and made state formation no easier for colonial rulers than for their African predecessors. Yet Europeans introduced vital innovations: mechanical transport, widespread literacy, and especially medical advances that, in societies dedicated to maximising population, initiated demographic growth of a scale and speed unique in human history. This growth underlay the collapse of colonial rule, the destruction of apartheid, and the instability of successor regimes. It was the chief reason for the late twentieth-century crisis and remained the chief threat to subsequent recovery.

That population should be the central historical theme is not unique to Africa. Every rural history must have at its core a population history. Frontiersmen were key historical actors in medieval Europe and Russia, China and the Americas. The modern histories of all Third World countries need to be rewritten around demographic growth. Yet some African circumstances were unique. Africa's environment was exceptionally hostile, for the evolution of human beings in Africa meant that their parasites had also evolved into unique profusion and variety there. Whereas Russians, Chinese, and Americans colonised by pressing forward linear frontiers and extending cultures formed in nuclei of dense population, Africa's colonisation was mainly an internal process, with innumerable local frontiers, and its cultures were chiefly formed on the frontiers – an experience compounded by Egypt's failure to export its culture to the rest of the continent in the way that the culture of the Ganges Valley permeated India. Africa had land-rich cultural traditions even where land was scarce; India had land-scarce cultural traditions even where land was ample.

Most important of all, the peopling of Africa took place within a unique relationship to the Eurasian core of the Old World. This is the book's first subtheme. Until climatic change created desert conditions in the Sahara during the third millennium BC, Africa held an equal place within the Old World. Thereafter sub-Saharan Africa occupied a unique position of partial isolation. It was more isolated than Eurasian fringes like Scandinavia or Southeast Asia, which gradually adopted Eurasian cultures. But it was less isolated than the Americas, which developed unique cultures unaffected by the iron-using technology, domestic animals, disease patterns, trading relationships, religions, and alphabetic literacy that sub-Saharan Africa partially shared with the Eurasian core. Partial isolation meant that cultural phenomena took distinctively African forms. Partial integration meant that Africans were receptive to further integration, which helps to explain both their receptivity to Islam and Christianity and their disastrous willingness to export slaves, just as the slaves themselves gained value because they possessed unique resistance to both Eurasian and tropical diseases.

The slave trade also illustrates a second subtheme. Suffering has been a central part of African experience, whether it arose from the harsh struggle with nature or the cruelty of men. Africans created their own ideological defences against suffering. Concern with health, for example, probably loomed larger in their ideologies than in those of other continents. But generally Africans faced suffering squarely, valuing endurance and courage above all other virtues. For ordinary people, these qualities were matters of honour; the elites devised more elaborate codes. Historians have neglected the notions of honour that frequently motivated Africans in the past and are still essential to understanding political behaviour today. To restore these beliefs to their proper place in African history is one purpose of this book.

Several general histories of Africa have appeared since serious study began during the 1950s. The earliest emphasised state-building and resistance to foreign domination. A second, disillusioned generation of historians focused on market exchange, integration into the world economy, and underdevelopment. More recent work has concentrated on environmental, social, and cultural issues and on the historical reasons for the continent's relative poverty. All these approaches have contributed to knowledge, especially to appreciation of Africa's diversity. All are utilised here, but within the framework provided by Africa's unique population history. The argument is not that demography has been the chief motor of historical change in Africa. That may have become true only during the second half of the twentieth century. Population change is not an autonomous force; it results from other historical processes, above all from human volition. But precisely for that reason it is a sensitive indicator of change, the point at which historical dynamics fuse into

an outcome that expresses not merely the actions of elites, as politics may do, nor merely a surface level of economic activity, as market exchange may do, but the most fundamental circumstances and concerns of ordinary people. Nor is the choice of population as the central theme merely a concession to current preoccupations or propaganda for birth control. Rather, population change is the thread that ties African history together at all its different periods and levels.

Yet to choose this theme presses the sources for African history to their limits, and perhaps beyond. Reliable demographic data scarcely exist before the Second World War, except in privileged regions. The general history of the twentieth century can rely chiefly on written sources and the historian's standard techniques. In Egypt, written materials go back beyond 3000 BC. Arabic references to West Africa begin in the eighth century AD. But parts of equatorial Africa have no written records before the twentieth century. In their absence, knowledge of the past must rely chiefly on archaeology, which advanced dramatically during the second half of the twentieth century, especially its geophysical methods of dating by radiocarbon and other sophisticated techniques. Yet archaeology is so laborious and expensive that it has scarcely touched many areas of the African past. It has long been supplemented by analysis of oral traditions, folklore, ethnographic materials, and art. More recently two additional techniques have become especially rewarding: the comparative study of surviving languages in order to reconstruct the ancestral languages and cultures of the past; and the analysis of biological evidence surviving both in living bodies and in human remains. Genetic research is beginning to illuminate the earliest African history in a manner inconceivable when the first edition of this book appeared in 1995. Yet these techniques must often serve as surrogates for archaeological research not yet undertaken. One of the most exciting things about African history is that much of it still waits beneath the earth.

2

The Emergence of Food-producing Communities

HUMAN EVOLUTION

AFRICA IS IMMENSELY OLD. ITS CORE IS AN ELEVATED PLATEAU OF ROCKS formed between 3,600 million and 500 million years ago, rich in minerals but poor in soils. Unlike other continents, Africa's rocks have experienced little folding into mountain chains that might affect climate. Lateral bands of temperature, rainfall, and vegetation therefore stretch out regularly northwards and southwards from the equator, with rainforest giving way to savanna and then to desert before entering the belts of winter rainfall and Mediterranean climate on the continent's northern and southern fringes. The great exception is in the east, where faulting and volcanic activity between about 23 million and 5 million years ago created rift valleys and highlands that disrupt the lateral climatic belts.

This contrast between western and eastern Africa has shaped African history to the present day. At early periods, the extreme variations of height around the East African Rift Valley provided a range of environments in which living creatures could survive the climatic fluctuations associated with the ice ages in other continents. Moreover, volcanic activity and the subsequent erosion of soft new rocks in the Rift Valley region have helped the discovery and dating of prehistoric remains. Yet this may have given a false impression that humans evolved only in eastern Africa. In reality, western Africa has provided the earliest evidence of human evolution, a story still being pieced together from surviving skeletal material and the genetic composition of living populations. The story begins some 6 to 8 million years ago with the separation of the hominins (ancestral to human beings) from their closest animal relatives, the ancestors of the chimpanzees, perhaps when a cooler and drier climate privileged walking over climbing. The skull of the earliest candidate for hominin status, *Sahelanthropus tchadensis*, was discovered in 2001 by an African student examining the shores of an ancient Lake Chad. Apparently some 6–7 million years old, its small brain – no bigger than a chimpanzee's – and disputed upright stature have left its hominin status uncertain.[1] Similar doubts surround the earliest fossils found in the East African Rift Valley, but there is wide agreement that some of the

Australopithecines, who appeared there about 4.4 million years ago, were human ancestors. They ate a wide variety of foods, had brains intermediate in size between chimpanzees and later humans, probably did much climbing but increasingly walked upright – as is demonstrated by their footprints astonishingly preserved from more than 3.5 million years ago in beds of volcanic ash at Laetoli in Tanzania – and at about the same time shaped the earliest known stone tools.[2] Their diversity and adaptability to climatic change may explain their success. Human beings are probably descended from lightly built Australopithecines or an ancestor shared with them.

The transition from Australopithecine to human (the genus *Homo*) probably began slowly. To date (2016) the earliest fossil contender is a partial lower jawbone from the Ethiopian Rift Valley dated to 2.8 million years ago.[3] As is common in periods of major evolutionary change, many early hominin strains coexisted thereafter and possibly interbred, their remains proliferating in the Rift Valley and in South African cave sites. Not until about 1.9 million years ago did a dominant human lineage emerge, perhaps again as a result of the cooling and drying of the environment. This was an early form of *Homo erectus*, which was to survive for more than a million years. Of modern human height with an easy walking posture and a larger, more complex brain, these creatures were adapted to life in open woodlands, probably learned to use fire at least occasionally, and made the more sophisticated stone tools known as hand-axes that were to remain the chief human implements in durable materials until some 250,000 years ago. The earliest examples of *Homo erectus* and hand-axes come from lakeside sites in eastern Africa, but similar stone tools have been found widely across the continent, although seldom in tropical forest. At an early stage in its history, *Homo erectus* began a series of expansions into Eurasia. Each Old World continent now became an arena for evolution. Europe produced the Neanderthals, with brains of modern size but distinctive shape. In Africa a similar transition, beginning perhaps 600,000 years ago in Ethiopia, gradually produced anatomically modern people. The earliest, still with many archaic features, have been found in the Ethiopian Rift Valley from about 195,000 years ago. Alongside this physical evolution went changes in technology and culture as hand-axes gave way to smaller and more varied stone tools, often designed to exploit local environments.

At this point, the story of human evolution has interacted with research into the genetic composition of living populations. The first researchers concentrated on mitochondrial DNA (deoxyribonucleic acid), one of the bodily substances transmitting inherited characteristics. Because this passes exclusively (or almost exclusively) from the mother, its lineage can be traced back without the complication of mixed inheritance from two parents at each

generation. The researchers also believed that mitochondrial DNA experiences numerous small changes at a relatively regular pace that could be estimated. They therefore compared the mitochondrial DNA of living people to estimate the point in the past at which human beings shared a single

2. The emergence of food-producing communities.

female ancestor. Most researchers believed that this was between 250,000 and 150,000 years ago, or in the broad period when anatomically modern people appeared in the fossil record. Initially these ancestral modern humans spread within the African continent, where the oldest lineages of mitochondrial DNA are those of the San ('Bushmen') of southern Africa and the Biaka Pygmies of the modern Central African Republic. About 100,000 years ago, some anatomically modern people expanded into the Middle East. Later expansions took them to many parts of Asia by at least 40,000 years ago and also to Europe. Gradually they absorbed or replaced earlier hominins throughout the world.[4]

The evidence for this 'Out of Africa' thesis was reinforced by a second line of genetic research. The Y-chromosome that determines male gender is inherited only from fathers and consequently can also be traced back to a common ancestor, variously estimated at between 200,000 and 100,000 years ago. The oldest surviving strains of the chromosome are confined to Africans, especially San, Ethiopians, and other groups of ancient eastern African origin. After a long period of differentiation, strains derived from these groups diffused through the continent before being carried beyond it. All men outside Africa have Y-chromosomes sharing a mutation that is estimated to have taken place in an African ancestor at some point between about 90,000 and 30,000 years ago.[5]

More recently, scientists have learned to analyse the entire genetic composition not only of living organisms but of those long dead, if the necessary genetic material survives. The immense implications of this for prehistory are only beginning to appear. Initial findings have reinforced the 'Out of Africa' thesis by demonstrating that genetic diversity is greater among Africans than among other populations, owing to the initial evolution of modern human beings within Africa in contrast to the relatively small founder-groups that colonised other continents. Such research also suggests, however, that genetic change has been slower than mitochondrial studies assumed, perhaps implying a somewhat earlier origin for modern humans. It has also shown that modern humans did not totally replace earlier populations but interbred to some extent with them, not only in Europe, where present-day populations have a small proportion of Neanderthal genes, but in Africa, where they have a residue of genes inherited from archaic African populations now extinct. There is also evidence of later return migrations from Asia, especially into the Horn of Africa.[6]

If anatomically modern people emerged in Africa and expanded to repopulate the world, a fundamental problem is to identify and explain their modernity, the advantage they enjoyed over other hominins. This is much debated but may have involved some combination of more complex brain

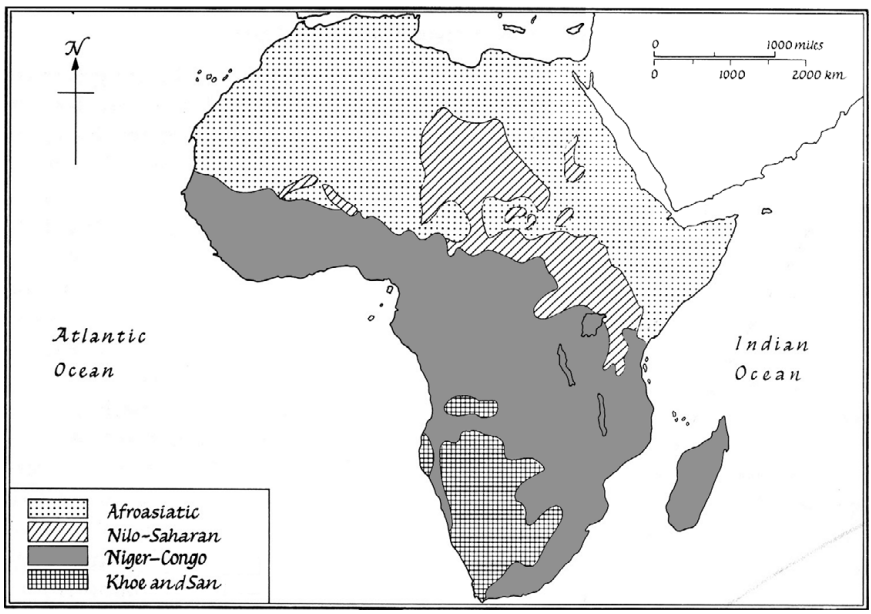
structure, a capacity to form larger social groups, and an accumulation of small cultural advances over a period of as much as 300,000 years. The best-documented accomplishment was the replacement of heavy, standardised hand-axes by smaller, specialised tools, eventually mounting tiny, sharpened stones (microliths) in shafts or handles. Such industries might use materials brought from scores or hundreds of kilometres away and establish distinct regional styles, the most remarkable being the Howieson's Poort Industry in southern Africa, perhaps some 60,000–80,000 years ago, whose makers collected fine-grained stones from long distances to shape the earliest known microlithic tools and possibly arrow–heads. The first bone tools appeared at much the same period, possibly as barbed fishing harpoons on the Semliki River in the eastern Congo, although the dates there are disputed. Marine environments were among the first specialised resources to be exploited, from at least 100,000 years ago in Eritrea and South Africa. Less tangible innovations included the deliberate collection of coloured pigments (found at a Zambian site from more than 170,000 years ago) and the use of red ochre and eggshell beads. Many archaeologists regard such ornamentation as an example of the symbolic behaviour that is a key component of human modernity. Another component is artistic decoration, which may have appeared in South Africa some 70,000 years ago in scratched engravings on bone and ochre at Blombos Cave. The most important innovation may have been language, but although some believe that human ancestors were physically capable of speech 500,000 years ago, it is not yet known – although it is widely suspected – whether the evolution of language was a crucial advantage enabling anatomically modern people to repopulate the world.[7]

These advances towards behavioural modernity progressed further within Africa during a period beginning about 40,000 years ago. Early in that period, humans in the Nile Valley undertook complex underground mining for the stone preferred for their tools, much the earliest industry of its kind known anywhere in the world. Microlithic tools were then in use on the fringes of the equatorial forest. They became common in the East African highlands by 20,000 years ago, spread into western and northern Africa during the next 10,000 years, and thereafter became ubiquitous. Forager-hunters, probably ancestral Pygmies, established themselves permanently in the equatorial forest. Fishing became an increasingly important activity. Human settlements were generally still transient, or at best seasonal, but the increasing care given to burials – common in southern Africa from about 11,000 years ago – suggests a growing territorial sense. The remains of some two hundred people of this microlithic period excavated from a cave at Taforalt in Morocco show few signs of violence, but they do show close interbreeding, high mortality among children and infants, and many routine miseries such as arthritis.

The most striking evidence of symbolic behaviour during the microlithic period is rock-painting, which dates back at least 28,000 years in southern Africa. For the future, however, the most important development was the formation of Africa's four or five language families. These are so distinct from one another that no relationship among them has been reconstructed, implying separate development over many millennia. They coincide to some extent with genetic differences and perhaps with physical characteristics arising from natural selection of those best fitted to survive and reproduce in particular environments. Thus the San forager-hunters of southern Africa possessing the oldest strains of Y-chromosomes and mitochondrial DNA speak distinctive 'click' languages, as do the neighbouring Khoe pastoralists, although whether these form a single language family or two families is disputed.[8] The only other speakers of these languages are small groups in eastern Africa, suggesting that they were once more widespread. San share the oldest surviving Y-chromosomes with some Ethiopians, whose languages belong to a second ancient family, Afroasiatic, which embraces Cushitic, the Semitic languages of Ethiopia, Arabic, Hebrew, the Berber tongue of North Africa, the Hausa language of northern Nigeria, and, in the past, ancient Egyptian. Afroasiatic probably originated in the broad Ethiopian region at least 8,000 years ago and possibly much earlier. Many of its speakers were of the lightly built, Afro-Mediterranean type depicted in ancient Egyptian art. In this they came to contrast with the characteristically tall and slender Nilotic peoples whose languages belonged to a third, Nilo-Saharan family, which may have originated in the broad Saharan region at least as early as Afroasiatic. Nilo-Saharan may be distantly related to the remaining family, the Niger-Congo languages, which are spoken predominantly by negroid peoples and are thought to have divided into West Africa's modern languages over at least the past 8,000 years. As will be seen, three of these families were associated with centres of intensive food gathering and production, the exceptions being Khoe and San. Superior access to food may well have enabled speakers of the three families to expand demographically and absorb scattered forager-hunters whose distinct languages no longer survive.

SAVANNA HERDING AND AGRICULTURE

The addition of herding and agriculture to foraging and hunting economies permitted larger populations, but the change is difficult to identify in the archaeological record, especially in Africa where natural species were so numerous. What appear to be cattle bones may have belonged to wild rather than domestic beasts. Remains of root crops like yams rarely survive, while grain may have been collected from wild grasses rather than cultivated.



3. African language families in recent times. *Source:* Adapted from J. H. Greenberg, *The languages of Africa* (3rd edn, Bloomington, 1970), p. 177.

Pottery is no proof of agriculture, nor even are grinding-stones, which may have been used to crush wild grains or pigments such as ochre. The origins of African food production are therefore contentious and there is often a wide gap between the linguistic evidence, which generally suggests early origins for agriculture and herding, and archaeological research, which usually gives later dates. Nor is it even clear why people should have begun to produce food at all. The idea that food production originated in the Near East and spread through Africa where it was eagerly adopted by starving hunter-gatherers is untenable. Study of modern forager–hunters suggests that some can obtain more nutrients with less effort and more freedom than most herdsmen or agriculturalists. Skeletal evidence from the Nilotic Sudan suggests that one consequence of food production there was malnutrition. Another was probably disease, for several infectious human diseases were probably contracted from domestic animals, while the clearing of land for agriculture encouraged malaria and the larger populations of food-producing societies sustained diseases that could not have survived among scattered forager-hunters. Given Africa's abundant wild produce, the drudgery of food production can have been tolerable to prehistoric people only if it offered marked advantage over their previous lifestyle as a result of major change in their circumstances.

Most experts believe that the crucial changes stimulating food production in Africa, as in Latin America, were climatic changes, especially in the northern half of the continent. Africa has no single climatic pattern, but, broadly speaking, the period from about 30,000 to 14,000 years ago was exceptionally cool and dry in most of the continent except the south, partly owing to the angle of the earth's axis towards the sun. Most of Lake Victoria's floor was dry as recently as 13,000 years ago, when the Sahara and its environs were probably uninhabited. This may have concentrated population into favoured areas like the lower Nile Valley. There is evidence as early as 19,000–20,000 years ago of intensive exploitation of tubers and fish at waterside settlements in southern Egypt near the First Cataract, soon followed by the collecting of wild grain. Initially seasonal, these settlements grew larger during the following millennia; by 12,000 years ago some were permanent and had substantial cemeteries. Yet these developments did not lead to food production. Instead, the angle of the earth's axis shifted, temperature rose in all but southern Africa, and around 12,000 years ago the arid phase in the tropical climate gave way to exceptionally high rainfall. Devastating floods poured through the lower Nile Valley and drove its inhabitants into the surrounding plains.

From about 12,000 to 7,500 years ago, the northern half of Africa was much wetter than it is today. The Sahara contained relatively well-watered highlands, even the notoriously arid Western Desert of Egypt supported sparse grazing, and Lake Turkana in the East African Rift Valley rose about 85 metres above its present level. Across the width of Africa from the Niger to the Nile, cultures with a degree of similarity took shape. Archaeological research shows that their practitioners formed some permanent settlements; used stone, wood, and bone tools; and lived by fishing, hunting, and collecting vegetable foods, including wild grains, the exact mixture varying with each local environment. From the tenth millennium BC, they made Africa's earliest known pottery in a style, known as dotted wavy-line, which came to be used from southern Libya and the Dogon Plateau in modern Mali to Khartoum, Lake Turkana, and possibly as far south as Lake Victoria. Their most remarkable survival is an 8,000-year-old dugout canoe, eight metres long, excavated from the shore of Lake Chad, the second oldest boat known anywhere in the world.[9] These people were mainly negroid and were probably responsible for spreading Nilo-Saharan languages throughout the region, where they are still widely spoken.

Whether northeast Africans domesticated cattle independently or imported them from northwestern Asia is disputed, but such cattle remains have been found from about 9,000 years ago in what became the northern Sudan and less than 2,000 years later in the highlands of the central Sahara, together with pottery showing traces of milk. Domesticated sheep and goats were certainly imported, reaching the Red Sea coast of Egypt more than 7,000 years ago,

although indications also suggest attempts to control or domesticate North Africa's barbary sheep.[10] In the Saharan highlands this pastoral culture left magnificent rock-paintings.

By contrast, there is little if any archaeological evidence to support linguistic indications of the cultivation or domestication of crops during this high rainfall period, suggesting that Africa was distinctive in practising herding before crop production. In Egypt, domesticated wheat and barley, probably from southwestern Asia, were cultivated by about 5200 BC at the Fayum depression, west of the lower Nile, and slightly later at Merimde, a substantial village of tiny mud huts on the southwestern edge of the Nile Delta, and in the Nile Valley in northern Sudan.[11] Subsequently these imported cereals were grown widely in the Mediterranean coastlands of North Africa. Further south, however, summer rainfall prevented their adoption. Instead, increasingly settled populations in the Nile Valley and throughout the Saharan highlands first collected and then began to cultivate wild grains such as sorghum. By 8,000 years ago, people on the River Atbara, northeast of Khartoum, were collecting and grinding wild grass seeds. At Kadero, twenty kilometres north of Khartoum, a large settlement of the fifth millennium BC lived chiefly from cattle and great quantities of wild sorghum, to judge from grain impressions on pottery and 'tens of thousands of worn-out grindstones'. Sorghum appears to have been cultivated in these regions for several centuries without being domesticated. Domesticated cereals differ from wild varieties chiefly by retaining their grain in the ear until threshed, whereas wild plants disperse it profusely. Food collectors probably domesticated wheat and barley by cutting ears, taking them home, threshing them, and sowing part of the harvest as seed, thereby gradually selecting those strains that best retained the grain in the ear. Sorghum, however, had thick stalks easier to harvest by stripping the grain in the field, which would not have altered the species into a domesticated form. The earliest evidence of domesticated sorghum in the Sudan comes from nearly 4,000 years ago.[12]

Similar uncertainty surrounds the origins of food production in Ethiopia. Domesticated cattle existed there by the second millennium BC and perhaps as early as the fourth. Evidence from the local Cushitic languages also suggests early knowledge of millet, wheat, and barley, but there is no archaeological confirmation of this before the first millennium BC, although Cushitic speakers may well have cultivated these crops with the plough before Semitic-speaking immigrants from southern Arabia reached Ethiopia at that time, because the immigrants adopted Cushitic words for even these essentials of their culture. Moreover, Ethiopians may have domesticated several distinctive local crops: *teff* (a tiny grain), *noog* (an oil plant), and *ensete* (the banana-like staple of southern Ethiopia).

Meanwhile, food production had also spread southwards into East Africa. By at least the fifth millennium BC, the high-rainfall culture of fishing, foraging, and pottery was practised in the Lake Turkana region and had a southern variant in the Kansyore culture around Lake Victoria. When declining rainfall then reduced grazing lands further north and lessened the danger of cattle disease in East Africa, pastoralists speaking Nilo-Saharan and Cushitic languages also penetrated southwards, reaching Lake Turkana around 2500 BC and continuing southwards through the Rift Valley. Linguistic evidence suggests that the immigrants knew of cereals, although there is no archaeological evidence that they yet cultivated them. Isolated populations in north-central Tanzania still speak their languages, alongside others speaking the 'click' languages of forager-hunters, and it may have been here that pastoralists from the north transmitted knowledge of sheep-rearing to the click-speaking Khoe people whose migration then introduced pastoralism into southern Africa about 2,000 years ago.[13]

The desiccation that drove food-producers southwards into East Africa also impelled southward expansion in West Africa. During the third millennium BC, declining rainfall in the Sahara obliged its pastoralists either to concentrate in especially favoured areas or to drift southwards into the river valleys draining into Lake Chad and the Niger, no longer barred by dense bush supporting tsetse flies carrying trypanosomes fatal to cattle. By the first half of the second millennium BC, cattle were herded close to the top of the Niger bend and on the southern shores of Lake Chad. During the same period, the first strong archaeological evidence of crop domestication in West Africa had appeared at Dhar Tichitt in modern Mauritania, a large cluster of stone-built villages where domesticated pearl (or bulrush) millet was cultivated for more than a thousand years until that region in turn became too dry for agriculture. Domesticated millet had already diffused further southwards, reaching the Tilemsi Valley, leading down into the Niger, by about 2500 BC[14] and the southern shores of Lake Chad by 1200 BC.

At these latitudes, if not before, Nilo-Saharan and Afroasiatic speakers were in close contact with the Niger–Congo speakers of tropical West Africa. By the middle of the second millennium BC, domesticated millet, sheep and/or goats, small local cattle, and pottery with Saharan affinities were components of the economy at Birimi, a settlement close to the northern edge of the West African forest in modern Ghana. This was a northern outlier of the Kintampo culture, other sites of which, further south in the forest, show the exploitation of oil-palm and the use of ground-stone axes, probably for forest clearance. Savanna food production had met the distinct culture of the West African forest.

FOREST AGRICULTURE

The distinctions between food collection, cultivation, and domestication are even more difficult to trace in the forest than in the savanna. Animal bones survive poorly in forest soils. The staple crops that came to be used were not cereals but yams and bananas, which leave few archaeological traces. Foraging had a long history in the forest, but the first indication of more settled life is the appearance of pottery more than 7,000 years ago at Shum Laka in the Cameroon grassfields, close to the forest edge. This did not necessarily imply agriculture; neither did the appearance a millennium later of ground-stone axes or the exploitation of oil-palms from the fourth millennium BC. Linguistic evidence suggests that yams may also have been exploited, and possibly cultivated, throughout this period, but this has not yet been demonstrated archaeologically. By contrast, archaeologists claim to have discovered banana phytoliths (minute mineral particles found within plants) in southern Cameroon from the last millennium BC, implying that this Asian plant must have spread through the equatorial region during earlier centuries despite little evidence of its cultivation further east. This claim raises such difficulties that it awaits further confirmation.[15]

The forest margin of Cameroon and Nigeria was the region from which Bantu speakers gradually expanded throughout the southern half of Africa. All Bantu languages form only one sub-branch of the Niger–Congo family. Their most closely related languages cluster on the border between Cameroon and Nigeria, so that was almost certainly the Bantu homeland. It is likely that the Bantu languages were carried by colonists who also took agricultural skills into regions where they were hitherto unknown, probably often transmitting them to existing populations. Descendants of these colonists still possess considerable genetic as well as linguistic homogeneity. Theirs was one of the greatest migrations in human history, but it was an immensely complicated and gradual dispersal across the continent by families and small groups of cultivators, not a mass movement by organised bodies of pioneers.

The history of this dispersal is contentious and little understood. By about 3000 BC, Bantu speakers with stone tools, pottery, and common words for yam and oil-palm were probably moving slowly down the western equatorial coast. As they did so, some broke away inland through the forest to reach the middle Ogooue Valley by about 1600 BC. Most may have continued further southwards to the southern edge of the equatorial forest, where they spread inland to reach, by about 1000 BC, the eastern edge of that forest in the broad area of the great East African lakes. There they settled in well-watered valleys permitting cultivation of their forest crops.[16]

Yet this was only the first phase of Bantu dispersal. To the east and south of the equatorial forest lay savanna lands which Bantu speakers could colonise only if they first added grain cultivation to their agricultural techniques. Linguistic evidence suggests that they probably learned to grow cereals (chiefly sorghum) in the Great Lakes region from Nilo-Saharan speakers who had brought the skill southward from the Nile Valley. The Bantu probably also learned cattle-keeping from Nilo-Saharans and perhaps from the Cushitic-speaking pastoralists who had moved southwards into East Africa through the Rift Valley, although there is no firm archaeological evidence of either of these peoples in the Great Lakes region. And it was probably here that the Bantu learned a further skill: to work iron. To appreciate this innovation, we must return to Africa's wider history.

3

The Impact of Metals

EGYPT

STONE-USING PEOPLES HAD PIONEERED THE COLONISATION OF AFRICA. THEIR successors carried it forward with the aid of metals: first copper and bronze, then iron. Only northern Africa had a bronze age; agriculturalists used iron to colonise most of eastern and southern Africa.

The earliest evidence of metalworking in Africa comes from southern Egypt late in the fifth millennium BC. At first pure natural copper was probably used to make pins, piercing instruments, and other small articles. Smelting of copper ore to remove impurities probably began in the first half of the fourth millennium, either invented locally or imported from western Asia. It caused no discontinuity in Egyptian history, for stone tools were widely used until the first millennium BC, but the new technique spread until a fixed weight of copper became Egypt's standard unit of value. Moreover, the innovation coincided closely with the creation of Africa's first great agricultural civilisation in the Nile Valley. It was an African civilisation, for Egypt's peoples, although heterogeneous, contained a core of Afro-Mediterranean race and spoke an Afroasiatic language. Egyptian civilisation displayed many cultural and political patterns later to appear elsewhere in the continent, although Egypt also illuminated wider African history by means of contrast.

The contrast was rooted in the environment. Pioneers had practised agriculture in the Fayum depression and on the southwestern edge of the Nile Delta since about 5200 BC. During the following millennium, desiccation drove others from the eastern Sahara to settle on ridges bordering the Nile Valley, where lower floods made land available for pastoralism and agriculture. Dependence on the river made these settlers more amenable to political control than Africans who retained their ancient freedom of movement. During the fourth millennium BC, both Lower Egypt (the Delta) and Upper Egypt (the narrow valley southwards to Aswan) practised a culture characterised by exploitation of the floodwaters, use of copper as well as flint, weaving of linen cloth, trade with southwestern Asia, temples dedicated to deities like Horus and Seth (later prominent in the Egyptian pantheon), a social stratification displayed by the plain graves of commoners and the elaborate painted

tombs of the elite, and several small kingdoms with walled capitals of sun-dried brick. How these kingdoms were unified remains obscure, but the first kings to rule a united country gained power before 3100 BC and were buried at Abydos in Upper Egypt.

4. The impact of metals.

This state, which lasted until the end of the Old Kingdom in *c.* 2160 BC, was more centralised and authoritarian than its contemporaries in Mesopotamia. This owed more to an inherited culture of elite display than to control of an irrigation system, for the Nile Valley had no such system. It depended on the natural flooding of the world's most reliable river to produce a single annual grain crop, for multicropping probably became significant only in postdynastic times. Works were needed to control the flood's power, to remove obstacles to its expansion, and to retain it on the land, but these were purely local works, directed by local officials like the provincial 'canal-digger' who was among Egypt's earliest administrators. Pharaohs ceremonially inaugurated these works and their viziers claimed responsibility for them, but the Old Kingdom's records do not reveal a national bureaucracy dealing with irrigation; its natural tendency was rather to strengthen the forces of provincial autonomy, which remained powerful throughout Egyptian history and on three occasions – the so-called intermediate periods – triumphed temporarily over political unity.

The connections between irrigated agriculture and pharaonic rule were rather the system's productivity – it has been estimated that peasants could produce three times their domestic requirements – its capacity to support a ruling class, the peasants' need for order and their vulnerability to exploitation, the state's capacity to transport agricultural surplus by water and later to store it, and especially the temptation that the surplus offered to those greedy for wealth and power. Pharaohs exercised control by military, administrative, and ideological means. They were depicted as conquerors, but their agents were shown as scribes, using their monopoly of the newly invented skill of literacy to repress autonomy elsewhere in society. 'Be a scribe,' counselled an ancient text. 'Your limbs will be sleek, your hands will grow soft.' These officials collected tax, sometimes with much brutality; in later centuries the rate seems to have been one-tenth of the harvest. They propagated the royal culture whose gradual replacement of provincial traditions was the chief achievement of early dynasties. During the dry season, they managed the rotating gangs of conscripted peasants who built the gigantic public works of the Old Kingdom, not irrigation channels but the pharaohs' pyramid tombs. The largest, built by Pharaoh Khufu (Cheops) in the mid-third millennium BC, was 147 metres high and contained 2,300,000 stone blocks averaging some 2.5 tonnes. As the pyramids rose, so peasant tombs disappeared almost entirely from cemeteries, suggesting impoverishment by central power. Pharaohs were semidivine, could alone communicate directly with the gods, were responsible for the regular operation of the natural order, and had been preceded on their throne by gods in unbroken succession since the creation. Although modern research is revealing dynastic Egypt as a more

fluid society than official ideologies suggested, with a lively secular politics and extensive social and intellectual change, nevertheless Egyptian minds were confined by the uniqueness of their environment. The world outside the Nile Valley was long seen as chaotic, the afterlife was imagined as the Field of Reeds, and any innovation had to be presented as a restoration of flawless antiquity.

Although far more densely peopled than any other African region of the time, Old Kingdom Egypt was still an empty land, with perhaps only 1–2 million people, to judge from indications of the cultivated area. The number may have risen to between 2 million and 4.5 million in the late second millennium BC and to a peak of 4–5 million in the first centuries AD.[1] These figures imply extremely slow growth rates, well below 0.1 per cent a year, held down perhaps by the contraceptive effects of prolonged breastfeeding (of which there is evidence) and the high levels of mortality suggested by mortuary evidence and confirmed by later Roman census data, which show that in addition to appalling mortality before age fifteen, half of those surviving died in each subsequent decade. Literary evidence refers to fever (presumably malaria), while mummified remains show that Egyptians suffered from tuberculosis, cancer, bilharzia, arthritis, and probably smallpox, but not (on present evidence) leprosy or syphilis. Population was most dense where the Nile Valley was narrowest and most easily managed, but growth took place especially in the difficult Delta environment, a world largely of marshland and pasture in Old Kingdom times but the target of systematic reclamation. Colonisation and permanent cultivation demanded such an investment of labour that private landownership emerged during the Old Kingdom and a class of great proprietors with small tenant-cultivators gradually acquired much of the land. By *c.* 1153 BC temples alone owned approximately one-third of Egypt's cultivable area. The average peasant then cultivated about 1.25 hectares and showed more concern to bequeath his rights intact to his offspring than men elsewhere in Africa would display for another three thousand years.

Thanks in part to royal succession by primogeniture, which protected Egypt from the succession disputes so destructive to later African states, the Old Kingdom enjoyed great stability until it came to an end in *c.* 2160 BC. Under its later pharaohs, its suffocating authoritarianism weakened as provincial loyalties penetrated the bureaucracy, diffusing wealth away from the court, depriving the regime of its capacity to build on the earlier monumental scale, perhaps undermining its ability to relieve food scarcity in bad years, and generally robbing it of the Mandate of Heaven. The First Intermediate Period (*c.* 2160–2055 BC) came to be seen as a time of civil war, brief reigns, famine, and an influx of desert peoples. This was too negative a picture, for it was also

a time of provincial vitality, greater private wealth, and increased social concern, but it enabled the restored Middle Kingdom (*c.* 2055–1650 BC) to represent itself in a newly self-conscious way as the embodiment of social order and collective welfare. This regime temporarily collapsed during the Second Intermediate Period (*c.* 1650–1550 BC) only to give birth in turn to the New Kingdom (*c.* 1550–1069 BC), the most mature and expansive period of Egyptian civilisation.

The great pharaohs of the New Kingdom were principally warriors, employing bronze weapons and the horse-drawn chariots whose arrival during the Second Intermediate Period had introduced the wheel into Egyptian civilisation. Egypt's armies crossed the Euphrates, penetrated southwards into modern Sudan towards (or perhaps beyond) the Nile's Fifth Cataract, and made Egypt the greatest power in the known world. As often happened in later African history, conquest of an empire changed the central structure of the state. Under the New Kingdom, for the first time, Egypt had a militaristic ethos and a large professional army, mostly composed of foreign mercenaries, whose control became the key to the throne. There was also a small police force. Pharaohs re-established strong central power, aided by the resources in manpower and material that empire provided. Yet this was also an ancient, wealthy, urbane, and pluralistic society, for which the Old Kingdom pyramids were already tourist attractions. Institutions were no longer merely emanations of royal will but had lives of their own; temple priests, for example, were now hereditary specialists practising an ascetic code, although their appointment still required royal approval. Wider experience of the outside world enabled Egyptians to see at least some foreigners as human beings like themselves. They contemplated the possibility that the future might surpass the present. Some even doubted the utility of elaborate provision for death. Their artists grew more adventurous, without losing the superb balance and dignity of the past. The profound contempt for the poor found in earlier elite writings had given way to the paternalistic social awareness that the fifteenth-century vizier Rekhmire proclaimed on the wall of his tomb:

> I judged both [the insignificant] and the influential; I rescued the weak man from the strong man; I deflected the fury of the evil man and subdued the greedy man in his hour . . . I succoured the widow who has no husband; I established the son and heir on the seat of his father. I gave [bread to the hungry], water to the thirsty, and meat, oil and clothes to him who had nothing . . . I was not at all deaf to the indigent. Indeed I never took a bribe from anyone.[2]

Social historians seeking to liberate ancient Egypt's complexity from the weight of its official ideology have found two New Kingdom sources especially

valuable. One consists of papyrus documents and notes written on potsherds and stone flakes by a community of sculptors, painters, and plasterers living for several centuries in a village named Deir el-Medina and working on the tombs in the Valley of the Kings near Thebes. They were state employees, transmitting skills and jobs from father to son (often with the help of bribery) and earning a wage in food sufficient to supply their families and provide a surplus to exchange for other necessities – for Egypt had no currency and trade was by barter. These skilled craftsmen defended their interests vigorously. They worked eight hours a day and only about half the days in a year, enjoying frequent festivals and often undertaking private commissions on the side. Towards the end of the New Kingdom, they went on strike several times and once organised a sit-in at the royal tomb when the administration failed to pay their food wages. The community usually contained between forty and sixty workers and employed up to sixteen female slaves who did the heavy housework for each family in turn. Several households also had domestic slaves who were sometimes buried in the family tomb, for Egyptians sought to acculturate the slaves amassed by New Kingdom conquests – Rameses III claimed to have given 81,322 to the temple of Thebes alone and there was an active market in slaves, although they were less important in relatively populous Egypt than elsewhere in the ancient world. In this mature and settled society, family organisation differed in some respects from most later African patterns. Elementary households averaging five or six people were the norm at Deir el-Medina, as elsewhere: husband, wife, two or three unmarried children, and perhaps the husband's sister or widowed mother. Such households maintained close ties with relatives elsewhere, the family tomb symbolising collective identity, but Egypt had no powerful clans or lineages collectively controlling property, which was held within the elementary family. Marriage was mainly monogamous, descent was largely bilateral from both father and mother, and women had a relatively high status, with full rights to inherit property, preserve the dowry brought into marriage, and receive one-third of jointly acquired property in case of divorce, which was easy and common. Conjugal love was a familiar literary and artistic theme. People of both sexes married early and established independent households, although so long as children remained under their parents' roof, they and the family servants were subject to patriarchal authority. 'The entire household is like [my] children, and everything is mine,' the rich peasant Hekanakht of Thebes reminded his family in letters of 2002 BC. 'Be energetic in cultivating! Take care! My seed must be preserved; all my property must be preserved. I will hold you responsible for it.'[3] Although there is little evidence of countercultures in pharaonic Egypt, the materialism and commercialisation so vigorous in the New Kingdom threatened to overwhelm its ostensible changelessness.

A second entry into ordinary life in the New Kingdom is through religion and literacy. The unification of Egypt had been accompanied by the gradual formation of a common pantheon. Often drawn from the local divinities of a hunting past, the gods were frequently pictured as human beings with animal heads symbolising their distinctive natures. Egypt's extreme concern with death and regeneration, possibly linked to the regenerating annual flood, also pre-dated unification; it grew more reflective with time. The formation of a countrywide cult was aided by the adoption of literacy at the end of the predynastic period (*c.* 3200 BC). The idea of writing may have come from Sumer (in modern Iraq) where it first evolved, but the invention of Egyptian scripts was independent, rapid, and probably encouraged by the state authorities, for whom they became a major source of power. The state first used writing to label possessions. It was confined to administrative notation and royal display for five hundred years before it was separated from oral communication to record complete sentences. Two scripts were invented almost simultaneously. Hieroglyphic script, the 'words of the god' with inherent magical power, was used for formal documents and inscriptions; it employed a simplified picture of an object to represent both the word for that object and other words with the same consonant sequence, a procedure especially suited to an Afroasiatic language. Hieratic script, used in daily life, was a greatly simplified version of hieroglyphic. The two scripts symbolised the two levels so sharply distinguished in Egyptian culture, the one arcane and formal, the other mundane and flexible. Yet knowledge of either script required training. Probably no more than one ancient Egyptian in a hundred was literate, so that the skill had a less radical impact on Egyptian thought, religion, and society than alphabetic literacy had in Greece and in later African cultures. Egyptian thought retained many pre-literate characteristics: it was concrete rather than abstract; each moral quality was personified as a deity; no truly historical sense emerged; learning consisted of a gigantic catalogue of names and attributes; and the law was not codified. The state was a mass of individual officials, tasks, and institutions; unlike the Greek state, it was justified by antiquity and divine creation, not by reason. There were no scriptures; the core of Egyptian religion was ritual veneration of disparate gods never reduced by abstraction to systematic theology. Religion remained tolerant and eclectic, adding new gods to its pantheon especially during the New Kingdom's imperial expansion. Ritual was seen in magical terms.

Yet significant religious change did take place. Among the many gods of the Egyptian pantheon, the sun god was chiefly responsible for the maintenance of cosmological order and gradually gained pre-eminence. Early in the New Kingdom, the sun god became associated with an invisible and ubiquitous deity, Amun, around whom the priests at the great temple at Thebes

began to construct a theology. Both drawing on this and reacting against it, the Pharaoh Akhenaten (*c.* 1352–1336 BC) instituted a monotheistic state cult of the sun-disc (Aten), a worship of light to be approached only by sharing the king's vision. Other gods were erased, rituals banned, temples closed, and priests dismissed in a persecution unique in Egyptian history. Such was royal power that this did not provoke overt resistance. Akhenaten's successors abandoned his programme and eradicated his memory, but the impact lasted. In place of the old polytheism, Amun came to be seen as the supreme divinity of whom other gods were manifestations. Both kings and commoners sought Amun's intervention in a new mode of personal piety that exemplified the slowly increasing importance of the individual during the long course of Egyptian history.

These developments supplemented previous patterns of popular religion. Parents at all periods had named most children after major gods. Symbols and figures of divinities originally confined to tombs of the great had gradually appeared in those of their inferiors. Votive offerings to temples by ordinary people multiplied under the New Kingdom, as did the practice of seeking oracles from gods when carried in procession. Animal worship was immensely and increasingly popular. Scribes wrote amulets, letters to the dead seeking aid, and (from late New Kingdom times) letters to the gods themselves. To compensate for the lack of direct contact with divinity and consolation in misfortune offered by the official cult, laymen and especially laywomen devised their own remedies. At Deir el-Medina, for example, workmen erected monuments recording their humility before the gods and their repentance of sins for which they had been punished by misfortune. Their houses contained shrines of lesser, popular divinities, often in grotesque shapes. They consulted 'wise women' when their children died or they suffered divine 'manifestations'. Evidence of these practices multiplied as the dynasties passed.

Like many later African states, the New Kingdom owed its decline to its empire, which brought overexpansion, militarism, and internal division. Incursions by western nomads from Libya appear to have begun in the thirteenth century BC. The Asiatic empire was lost under Rameses III (1184–1153 BC) and Nubia followed a century later. Royal succession became unstable, reigns shortened, political authority declined, and offices increasingly became hereditary. Real grain prices rose rapidly in the later twelfth century, perhaps owing not only to somewhat diminished rainfall but to weaker agrarian administration, suggested also by growing evidence of peculation. Power lay increasingly with commanders of the mutually hostile Libyan and Nubian mercenaries. When Rameses XI (1099–1069 BC) summoned the Viceroy of Kush and his Nubian troops from modern Sudan

to reassert royal control over Upper Egypt, Herihor of Thebes – who was simultaneously vizier, generalissimo, and high priest of Amun – used Libyans to repel them. During the ensuing Third Intermediate Period (1069–664 BC), general militarisation took place, the rural population frequently took refuge behind walled defences, and Egypt was divided into regional units – there were eleven in *c.* 730 BC, several under Libyan control – until the Kushitic rulers of Nubia established a military occupation in the late eighth century BC, only to be expelled themselves during the 660s by forces from Assyria, the dominant state in western Asia.

Assyrian power rested on cavalry (rather than chariots) and iron, smelted in western Asia since early in the second millennium. Egypt had neither iron ore nor wood fuel and its closely regulated craftsmen were slow to adopt the new metal; the first evidence of iron-smelting in Egypt comes from Naukratis, a town in the western Delta founded by Greek colonists in *c.* 620 BC. Greek mercenaries enabled the Libyan rulers of Sais in the rich central Delta to reunite Egypt, first as Assyrian vassals and then as independent rulers from 664 to 525 BC in the last great age of pharaonic civilisation. The Saites consciously recreated past glories, decorating their many new temples in Old Kingdom style. But change continued beneath the archaic surface: the colonisation of the Delta, the acquisition of land by foreign mercenaries, the use of weighed silver as a quasi-currency, and reliance on office and family origin rather than royal will as sources of local authority. Egypt was now a prize for great powers. Persian conquerors held it for two centuries after 525 BC, with one long interval of independence. Alexander the Great took it from them in 332 BC, and one of his generals created a Greek dynasty, the Ptolemies, who ruled until 30 BC, when Rome at last added Egypt to its empire. Much of the ancient order survived these political changes. Greek kings adopted pharaonic styles, patronised the temple priests who preserved the old elite culture, identified Egyptian gods with their own divinities, and were depicted in pharaonic poses on temple walls by an artistic tradition that survived until the third century AD. They replaced senior administrators with Greeks and made Greek the language of government, but they maintained the bureaucratic structure affecting ordinary people. Even the Romans followed their example, despite their normal preference for municipal rather than bureaucratic government. Both pressed forward the colonisation of the Delta, which, by Ptolemaic times, supported perhaps as many people as Upper Egypt and had supplanted it as the country's economic core, with a new capital at Alexandria. The animal-driven irrigation wheel (*saqia*) to lift water for dry-season cultivation reached Egypt from the Middle East in Ptolemaic times, bringing the first evidence of summer grains and extensive multicropping. Egyptian grain exports – 'the shipments', as they were known – were vital to

Ptolemaic finances and provided about one-third of Rome's wheat supply. Population and agricultural output both probably peaked at this time of favourable climate. But peasant society was threatened by growing commercialisation, owing in part to the Ptolemies' introduction of coinage, by the dominance of Greek-speaking cities, and by Roman encouragement of large estates on which tenants paid half their crop in rent, while a growing class of poor peasants, agricultural labourers, and urban paupers joined the 10 per cent of the population who were slaves. In addition to rural revolts in AD 152 and 172–3, protest found millenarian expression in ancient cultural terms:

> [Justice] will return, transferred back to Egypt, and the city by the sea [i.e. Alexandria] will be but a place for fishermen to dry their catch, because Knephis, the Tutelary Divinity, will have gone to Memphis, so that passers-by will say, 'This is the all-nurturing city in which live all the races of mankind.' Then will Egypt be increased, when . . . the dispenser of boons, coming from the Sun, is established there by the goddess [Isis] most great.[4]

NUBIA

'Egyptian antiquity is to African culture what Graeco-Roman antiquity is to Western culture,' wrote the Senegalese scholar Cheikh Anta Diop.[5] There is little evidence to support him, for Egypt was remarkably unsuccessful in transmitting its culture to the rest of the continent, partly because that culture was so particular to the Nile Valley environment, partly because Egypt's greatness coincided with the desiccation of the Sahara, which isolated the Nile Valley from most of Africa. Saharan rock-paintings show only slight traces of Egyptian influence, chiefly a fascination with chariots. Irrigation techniques, small pyramid tombs, and an oracular cult of Amun appeared in Saharan oases. Generally, however, the impact of Egypt's metalworking skills and notions of kingship was confined to the Nile Valley itself, first the floodplain immediately to the south, known as Lower Nubia, and then the narrow valley of Upper Nubia stretching southwards from the Second Cataract towards modern Khartoum. Perhaps no more than half a million people lived in this arid region in pharaonic times, with evidence of high death-rates among young adults. So small a population was vulnerable to near-extinction in adverse circumstances, especially political circumstances, for Nubia prospered when Egypt was weak but suffered when Egypt was strong. Yet Nubian society survived, with a longevity rivalling Egypt's and a marked continuity in the physical composition of its people, who inherited the Nilotic culture of fishing, pottery-making, grain-collecting, and early herding of the high-rainfall period.