THE OXFORD HISTORY OF ANCIENT EGYPT
THE EDITOR

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Edited by
Ian Shaw

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PREFACE

This book describes the emergence and development of the distinctive civilization of the ancient Egyptians, from their prehistoric origins to their incorporation into the Roman empire. In 1961 Alan Gardiner's *Egypt of the Pharaohs* presented a fresh and detailed view of Egyptian history, based on the textual and archaeological data then available. Gardiner's history was largely concerned with the activities of kings, governments, and high officials through the centuries, from the beginning of the pharaonic period until the arrival of the Ptolemies. *The Oxford History of Ancient Egypt*, however, is concerned not only with political change but also with social and economic developments, processes of religious and ideological change, and trends in material culture, whether in the form of architectural styles, techniques of mummification, or the fabrics of ceramics. This more wide-ranging historical picture draws on the new types of evidence that have become available as archaeologists have begun to survey and excavate types of sites that were previously neglected.

Each chapter describes and analyses a particular phase in ancient Egyptian history. The contributors outline the principal sequence of political events, traces of which have survived to varying degrees in the textual record. However, against this backdrop of the rise and fall of ruling dynasties, they also examine the cultural and social patterns, including stylistic developments in art and literature. This allows them to compare and contrast purely political phases with archaeological and anthropological evidence ranging from the changing styles of pottery to human mortality rates. Each contributor seeks to explore not only which aspects of culture change at different points in time, but also why some change more rapidly than others or remain surprisingly stable at times of political disruption. A major influence on all of the chapters, however, is the patchiness of the archaeological record, which means that some sites and periods can be viewed through a huge number of different types of sources, while others can be only tentatively reconstructed, because of a lack of certain kinds of evidence (through poor preservation, inadequate excavation, or a combination
of both). Because each of the periods in Egyptian history is no more or less than the sum of its archaeological and textual parts, the individual chapters in this history are direct reflections of such abundance or inadequacy, and the differences in authors' style, emphasis, and content can largely be traced back to the nature of the evidence with which they are dealing.

Although the sequence of chapters takes the form of a relatively straightforward historical progression from the Palaeolithic to the Roman period, the various sections incorporate critical approaches to each of the phases, sometimes questioning whether they deserve to be regarded as discrete chronological units, or whether there are broader trends in material culture that transcend (or even conflict with) the perceived political framework. It has been pointed out, for instance, that the decreasing size of royal pyramid complexes after the 4th Dynasty need not be evidence of a decline in royal power, as most historians have tended to assume, but might, on the contrary, indicate a more efficient use of resources in the late Old Kingdom and First Intermediate Period.

The pace of change in such aspects of Egyptian culture as monumental architecture, funerary beliefs, and ethnicity was not necessarily tied to the rate of political change. Each of the authors of this history has set out to elucidate the underlying patterns of social and political change and to describe, with due regard to the dangers of archaeological and textual distortion and bias, the changing face of Egyptian culture, from the biographical details of individuals to the social and economic factors that shaped the lives of the population as a whole.

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Introduction: Chronologies and Cultural Change in Egypt

IAN SHAW

All history is clearly reliant on some form of chronological framework, and a great deal of time has been spent on the construction of such dating systems for ancient Egypt. Ever since the first Western-style history of Egypt was written by an Egyptian priest called Manetho in the third century BC, the ‘pharaonic period’, from c.3100 to 332 BC, has been divided into a number of periods known as ‘dynasties’, each consisting of a sequence of rulers, usually united by such factors as kinship or the location of their principal royal residence. This essentially political approach has served very well over the years as a way of dividing up Egyptian chronology into a series of convenient blocks, each with its own distinctive characteristics. It is, however, becoming increasingly difficult to reconcile this politically based chronology with the social and cultural changes revealed by excavations since the 1960s.

Chronology

As Egyptian historical and archaeological data have expanded and diversified, it has become apparent that Manetho’s system—simple, durable, and convenient though it is—often strains to contain the many new chronological trends and currents that can be perceived outside the simple passing of the throne from one group of individuals to another. Some of the new work shows that at many points in time Egypt was far less culturally unified and centralized than was previously
assumed, with cultural and political changes taking place at different speeds in the various regions. Other analyses show that short-term political events, which have often tended to be regarded as the paramount factors in history, may often be less historically significant than the gradual processes of socio-economic change that can transform the cultural landscape more overwhelmingly in the long term. Just as the long 'pre-Dynastic' periods of Egyptian prehistory are commonly understood as sequences of cultural rather than political developments, so the Dynastic Period (as well as the Ptolemaic and Roman periods) has begun to be understood not only in terms of the traditional sequence of individual kings and ruling families but also in terms of such factors as the types of fabric being used for pottery, and the painted decoration applied to wooden coffins.

Modern Egyptologists' chronologies of ancient Egypt combine three basic approaches. First, there are 'relative' dating methods, such as stratigraphic excavation, or the 'sequence dating' of artefacts, which was invented by Flinders Petrie in 1899. In the late twentieth century, as archaeologists have developed a more subtle understanding of the ways in which the materials and design of different types of Egyptian artefacts (particularly ceramics) changed over time, it has become possible to apply forms of seriation to many different types of object. Thus Harco Willems's seriation of Middle Kingdom coffins, for instance, has provided a better understanding of cultural changes in the various provinces of 11th–13th-Dynasty Egypt, complementing the information already available about national political change during the same period.

Secondly, there are so-called absolute chronologies, based on calendrical and astronomical records obtained from ancient texts. Thirdly, there are 'radiometric' methods (the most commonly used examples of which are radiocarbon dating and thermoluminescence), by means of which particular types of artefacts or organic remains can be assigned dates based on the measurement of radioactive decay or accumulation.

Radiocarbon Dating and Egyptian Chronology

The relationship between the calendrical and radiometric chronological systems has been relatively ambivalent over the years. Since the late 1940s, when a series of Egyptian artefacts were used as a benchmark in order to assess the reliability of the newly invented radiocarbon dating technique, a consensus has emerged that the two systems are broadly in line. The major problem, however, is that the traditional
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calendrical system of dating, whatever its failings, virtually always has a smaller margin of error than radiocarbon dates, which are necessarily quoted in terms of a broad band of dates (that is, one or two standard deviations), never capable of pinpointing the construction of a building or the making of an artefact to a specific year (or even a specific decade). Certainly the advent of dendrochronological calibration curves—allowing the spans of radiocarbon years to be converted into actual calendar years—represents a significant improvement in terms of accuracy. However, the vagaries of the curve and the continued need to take into account associated error mean that dates must still be quoted as a range of possibilities rather than one specific year.

The prehistory of Egypt, on the other hand, has benefited greatly from the application of radiometric dating, since it was previously reliant on relative dating methods (see Chapters 2 and 3). The radiometric techniques have made it possible not only to place Petrie's 'sequence dates' within a framework of absolute dates (however imprecise), but also to push Egyptian chronology back into the earlier Neolithic and Palaeolithic periods.

From Prehistory to History: Late Predynastic Artefacts and the Palermo Stone

There are only a small number of artefacts from the late Predynastic Period that can be used as historical sources, documenting the transition into full unified statehood. These are funerary stelae, votive palettes, ceremonial maceheads, and small labels (of wood, ivory, or bone) originally attached to items of élite funerary equipment. In the case of the stelae, palettes, and maceheads, it was clearly the intention that they should commemorate many different kinds of royal act, whether the King's own death and burial or his act of devotion to one of the gods or goddesses. Some of the smaller, earlier labels (particularly those recently excavated from the late Predynastic 'royal tomb' U-j at Abydos, see Chapter 4) are simply records of the nature or origins of the grave goods to which they were attached, but some of the later labels, from the Early Dynastic royal graves at Abydos, employ a similar repertoire of depictions of royal acts in order to assign the items in question to a particular date in the reign of a specific king.

If the purpose of this mobiliary art of the late fourth and early third millennia BC was to label, commemorate, and date, then their decoration has to be seen as resulting from the desire to communicate the 'context' of the object in terms of event and ritual. Nick Millet has
particularly demonstrated this in his analysis of the Narmer macehead, which was part of a group of late Predynastic and early pharaonic votive items (including the Narmer Palette and Scorpion Macehead) excavated by Quibell and Green in the temple precinct at Hierakonpolis. The analysis of the scenes and texts on these objects is complicated by our modern need to be able to distinguish between event and ritual. But the ancient Egyptians show little inclination to distinguish consistently between the two, and indeed it might be argued that Egyptian ideology during the pharaonic period—particularly in so far as it related to the kingship—was reliant on the maintenance of some degree of confusion between real happenings and purely ritual or magical acts.

With regard to the palettes and maceheads, the Canadian Egyptologist Donald Redford suggests that there must have been a need to commemorate the unique events of the unification at the end of the third millennium BC, but that these events were 'commemorated' rather than 'narrated'. This distinction is a crucial one: we cannot expect to disentangle 'historical' events from scenes that are commemorative rather than descriptive—or, at least, if we do so we may often be misled.

One of the most important historical sources for the Early Dynastic Period (3000–2686 BC) and the Old Kingdom (2686–2160 BC) is the Palermo Stone, part of a 5th-Dynasty basalt stele (c.2400 BC) inscribed on both sides with royal annals stretching back to the mythical prehistoric rulers. The main fragment has been known since 1866 and is currently in the collection of the Palermo Archaeological Museum, Sicily, although there are also further pieces in the Egyptian Museum, Cairo, and the Petrie Museum, London. The slab must originally have been about 2.1 m. long and 0.6 m. wide, but most of it is now missing, and there is no surviving information about its provenance. This document—along with the 'day-books', the annals and 'king-lists' inscribed on temple walls, and the papyri held in temple and palace archives—was doubtless the kind of document that Manetho consulted when he was compiling his history or Aegyptiaca.

The text of the Palermo Stone enumerates the annals of the kings of Lower Egypt, beginning with the many thousands of years that were assumed to have been taken up by mythological rulers, until the time of the god Horus, who is said to have given the throne to the human king Menes. Human rulers are then listed up to the 5th Dynasty. The text is divided into a series of horizontal registers divided by vertical lines that curve in at the top, apparently in imitation of the hieroglyph
for regnal year (*renpet*), thus indicating the memorable events of individual years in each king's reign. The situation is slightly confused by the fact that many Old Kingdom dates appear to refer to the number of biennial cattle censuses (*hesbet*) rather than to the number of years that the king had reigned; therefore the number of 'years' in the Old Kingdom dates may well have to be doubled to find out the actual number of regnal years.

The types of event that are recorded on the Palermo Stone are cult ceremonies, taxation, sculpture, building, and warfare—that is, precisely the type of phenomena that are recorded on the protodynastic ivory and ebony labels from Abydos, Saqqara, and various other early historical sites. The introduction of the *renpet* sign on the labels, in the reign of Djet, makes this comparison even closer. There are two differences, however: first, the labels include clerical information, while the Palermo Stone does not, and, secondly, the Palermo Stone includes records of the Nile inundation, whereas the labels do not. Both of these types of information seem to have occupied the same physical part of the document's format—that is, the bottom of the record. Redford suggests that this shows that the Old Kingdom *genut* (the royal annals that are assumed to have existed at this date, but have not survived except in the form of the Palermo Stone) were concerned with hydraulic/climatic change, which, with its crucial agricultural and economic consequences, was potentially the most important aspect of change as far as the reputation of each individual king was concerned. This kind of hydraulic information would, however, have perhaps been regarded as irrelevant to the function of the labels attached to funerary equipment.

**King-Lists, Royal Titles, and the Divine Kingship**

Apart from the Palermo Stone, the basic sources used by Egyptologists to construct the traditional chronology of political change in Egypt are Manetho's history (which, unfortunately, has survived only in the form of excerpts compiled by the later authors Josephus, Africanus, Eusebius, and George Syncellus), the so-called king-lists, dated records of astronomical observations, textual and artistic documents (such as reliefs and stelae) bearing descriptions apparently referring to historical events, genealogical information, and synchronisms with non-Egyptian sources, such as the Assyrian king-lists. For the 28th–30th Dynasties, the Demotic Chronicle (*Papyrus 215* in the Bibliothèque Nationale, Paris) serves as a unique early Ptolemaic source concerning
political events in this last phase of the Late Period, compensating to some extent for the dearth of historical information provided by the papyri and monuments of this date (as well as the fact that Manetho gives only the names and reign lengths of the kings). Wilhelm Spiegelberg and Janet Johnson have shown that careful translation and interpretation of the ‘oracular statements’ in this pseudo-prophetic document can shed new light not only on the events of the period (such as the suspected co-regency between Nectanebo I and his son Tachos) but also on the ideological and political context of the fourth century BC.

Like most other ancient peoples, the ancient Egyptians dated important political and religious events not according to the number of years that had elapsed since a single fixed point in history (such as the birth of Christ in the modern Western calendar), but in terms of the years since the accession of each current king (regnal years). Dates were, therefore, recorded in the following typical format: ‘day 2 of the first month of the season peret in the fifth year of Nebmaatra (Amenhotep III)’. It is important to be aware of the fact that, for the Egyptians, the reign of each new king represented a new beginning, not merely philosophically but practically, given the fact that dates were expressed in such terms. This means that there would probably have been a psychological tendency to regard each new reign as a fresh point of origin: every king was, therefore, essentially reworking the same universal myths of kingship within the events of his own time.

One important aspect of the Egyptian kingship throughout the pharaonic period was the existence of a number of different names for each individual ruler. By the Middle Kingdom, each king held five names (the so-called fivefold titulary), each of which encapsulated a particular aspect of the kingship: three of them stressed his role as a god, while the other two emphasized the supposed division of Egypt into two unified lands. The birth name (or nomen), such as Rameses or Mentuhotep, introduced by the title ‘son of Ra’, was the only one to be given to the pharaoh as soon as he was born. It was also usually the last name given in inscriptions identifying the king by his whole sequence of names and titles. The other four names—Horus, nebty (‘he of the two ladies’), (Horus of) Gold, and nesu-bit (‘he of the sedge and the bee’) — were given to him at the time of his installation on the throne, and their components may sometimes convey something of the ideology or intentions of the king in question. As far as the rulers of Dynasty 0 and the beginning of the Early Dynastic Period were concerned, we know only their ‘Horus names’, typically written inside a serekh frame
(a kind of diagram of the palace gateway), upon which a Horus-falcon was perched. It was the late 1st-Dynasty ruler Den (c.2900 BC) who was the first to hold a *nesu-bit* name (Khasty), but it was not until the reign of Sneferu, 2613–2589 BC, in the 4th Dynasty, that this name was first framed by the familiar cartouche shape (an encircling loop that perhaps signified the infinite extent of the royal domain).

The title *nesu-bit* has often been translated as ‘King of Upper and Lower Egypt’, but it actually has a much more complex and significant meaning. *Nesu* seems to be intended to refer to the unchanging divine king (almost the kingship itself), while the word *bit* describes the current ephemeral holder of the kingship: the one individual king in power at a specific point in time. Each king was, therefore, a combination of the divine and the mortal, the *nesu* and the *bit*, in the same way that the living king was linked with Horus, and the dead kings, the royal ancestors, were associated with Horus’ father Osiris. It was primarily because of the Egyptians’ sense of each of their kings as incarnations of Horus and Osiris that the tradition of the worship of divine royal ancestors developed. This convention, whereby the current ruler made obeisance to his predecessors, is the reason for the creation of the so-called king-lists, which were lists of royal names mainly recorded on the walls of tombs and temples (most notably the 19th-Dynasty temples of Sety I and Rameses II at Abydos), but also in the form of papyri, only one example of which survives (the so-called Turin Canon), or remote desert rock carvings, as with the list at the Wadi Hammamat siltstone quarries in the Eastern Desert. The continuity and stability of the kingship were preserved by making offerings to all those kings of the past who were regarded as legitimate rulers, just as we see Sety I doing in his cult temple at Abydos. It is usually presumed that king-lists were among the sources used by Manetho in compiling his history.

The Turin Canon, a Ramessid papyrus dating to the thirteenth century BC, is the most informative of the Egyptian king-lists. From the Second Intermediate Period (1650–1550 BC), it stretched back with reasonable accuracy to the reign of the 1st-Dynasty ruler Menes (c.3000 BC), and even beyond that into a mythical prehistoric time when the gods ruled over Egypt. Each king’s reign was recorded in terms of years, months, and days. It also provides some support for Manetho’s system of dynasties by incorporating a break at the end of the 5th Dynasty (see Chapter 5).

The king-lists were not concerned so much with history as with ancestor worship: the past is presented as a combination of the general
and the individual, and the constancy and universality of the kingship are celebrated through the listing of specific individual holders of the royal titulary. In his commentary on *Herodotus Book II*, Alan Lloyd writes, ‘Since all historical study involves general and particular, attempting to place particular phenomena against a background of general principle or law, there is always a tension between the two, and this tension is resolved in Egypt overwhelmingly in favour of the latter.’ The conflict between the general and the particular is undoubtedly an important factor in ancient Egyptian chronology and history. The texts and artefacts that form the basis of Egyptian history usually convey information that is either general (mythological or ritualistic) or particular (historical), and the trick in constructing a historical narrative is to distinguish as clearly as possible between these types of information, taking into account the Egyptians’ tendency to blur the boundaries between the two.

The Swiss Egyptologist Erik Hornung describes Egyptian history as a kind of ‘celebration’ of both continuity and change. Just as the living king could be regarded as synonymous with the falcon-god Horus, so his individual subjects (from at least the First Intermediate Period onwards) eventually came to identify themselves with the god Osiris after their deaths. In other words, the Egyptians were used to the idea of portraying human individuals as combinations of the general and the particular. Their own sense of history therefore comprised both the specific and the universal in equal measure.

**The Role of Astronomy in Traditional Egyptian Chronology**

The task of the modern historian of ancient Egypt is usually to attempt to tie together all the strands of evidence in the form of individuals’ biographies on the walls of tombs, lists of kings on temple walls, stratigraphic evidence of archaeological excavations, and a whole range of other pieces of information. In the pharaonic, Ptolemaic, and Roman periods, the ‘traditional’ absolute chronologies tend to rely on complex webs of textual references, combining such elements as names, dates, and genealogical information into an overall historical framework that is more reliable in some periods than in others. The so-called intermediate periods have proved to be particularly awkward phases, partly because there was often more than one ruler or dynasty reigning simultaneously in different parts of the country. The surviving records of observations of the heliacal rising of the dog-star Sirius serve both
as the linchpin of the reconstruction of the Egyptian calendar and its essential link with the chronology as a whole.

The goddess Sopdet, known as Sothis in the Graeco-Roman period (332 BC–AD 395), was the personification of the ‘dog-star’, which the Greeks called Seirios (Sirius). She was usually represented as a woman with a star poised on her head, although the earliest depiction, on an ivory tablet of the 1st-Dynasty king Djer (c. 3100 BC) from Abydos, appears to show her as a seated cow with a plant between her horns. Since a depiction of a plant is used as the ideogram meaning ‘year’ in the pharaonic writing system, the Egyptians may have already been correlating the rising of the dog-star with the beginning of the solar year, even in the early third millennium BC. Along with her husband Sah (Orion) and her son Soped, Sopdet was part of a triad that paralleled the family of Osiris, Isis, and Horus. She was therefore described in the Pyramid Texts as having united with Osiris to give birth to the morning star.

In the Egyptian calendrical system, Sopdet was the most important of the stars or constellations known as decans, and the ‘Sothic rising’ coincided with the beginning of the solar year only once every 1,460 years (or, more accurately, 1,456 years). We know that this rare synchronization of the heliacal rising of Sopdet with the beginning of the Egyptian civil year (or ‘wandering year’, as it is sometimes described, given that it gradually falls behind the solar year at a rate of about a day every four years) took place in AD 139, during the reign of the Roman emperor Antoninus Pius, because the event was commemorated by the issue of a special coin at Alexandria. There would have been earlier heliacal risings in 1321–1317 BC and 2781–2777 BC, and the period that elapsed between each such rising is known as a Sothic cycle.

Two Egyptian textual records of Sothic risings (dating to the reigns of Senusret III and Amenhotep I) form the basis of the conventional chronology of Egypt, which, in turn, influences that of the whole Mediterranean region. These two documents are a 12th-Dynasty letter from the site of Lahun, written on day 16, month 4, of the second season in year 7 of the reign of Senusret III, and an 18th-Dynasty Theban medical papyrus (Papyrus Ebers), written on day 9, month 3, of the third season of year 9 in the reign of Amenhotep I. By assigning absolute dates to each of these documents (1872 BC for the Lahun rising in year 7 of Senusret III, and 1541 BC for the Ebers rising in regnal year 9 of Amenhotep I), Egyptologists have been able to extrapolate a set of absolute dates for the whole of the pharaonic period, on the basis
of records of the lengths of reign of the other kings of the Middle and New kingdoms.

It is not possible, however, to be totally confident of the absolute dates cited above, since the precise dating is dependent on our knowledge of the location (or locations) where the astronomical observations were made. It used to be assumed—without any real evidence—that such observations were made at Memphis or perhaps Thebes, but Detlef Franke and Rolf Krauss have argued that they were all made at Elephantine. William Ward, on the other hand, suggested that they are all more likely to have been separate local observations, which would have resulted in a time lag in terms of the various ‘national’ religious festivals (that is, both the observations and the corresponding festivals may actually have taken place at different times and in different parts of the country). This continuing uncertainty means that our astronomical linchpins are in reality somewhat floating, although it should be noted that the differences between the ‘high’ and ‘low’ chronologies (based largely on assumptions concerning different observation points) are usually only a few decades at most.

Co-Regencies

One of the peculiarities of Egyptian chronology, provoking both confusion and debate, is the concept of the ‘co-regency’, a modern term applied to the periods during which two kings were simultaneously ruling, usually consisting of an overlap of several years between the end of one sole reign and the beginning of the next. This system seems to have been used, from at least as early as the Middle Kingdom, in order to ensure that the transfer of power took place with the minimum of disruption and instability. It would also have enabled the chosen successor to gain experience in the administration before his predecessor died.

It seems, however, that the dating systems during co-regencies may have differed from one period to another. Thus 12th-Dynasty co-regents may have each used separate regnal dates, so that overlaps occurred between the kings’ reigns, producing examples of so-called double dates, when both dating systems were used to date a single monument (see Chapter 7). In the New Kingdom, there are no certain instances of double dates, therefore a different system seems to have been used. In the reigns of Thutmose III 1479–1425 BC and Hatshepsut 1473–1458 BC, for instance, year dates appear to have been counted with reference to Hatshepsut’s accession, as if Hatshepsut
had become ruler at the same time as Thutmose III. It is a moot point as to whether separate dates were used by two kings during the possible co-regencies of Thutmose III–Amenhotep II and Amenhotep III–Amenhotep IV. The arguments for and against a co-regency between the two latter kings have been carefully reviewed by Donald Redford and later by William Murnane. However, there is still considerable controversy over the question of which co-regencies actually took place and how long they lasted. There are also some scholars (including Gae Callender in Chapter 7 of this volume) who argue that co-regencies may never have occurred at all.

'Dark Ages' and Other Chronological Problems

Some of the problems encountered in Egyptian chronology have already been mentioned, such as the potential confusion of links between astronomical observations and specific dates, the uncertainty as to which co-regencies (if any) actually occurred, and the assumption that the Egyptians of the pharaonic period and later continually dated events according to an artificial 'wandering' civil year of 365 days, which was rarely synchronized with the real solar year.

There are also, of course, a number of other Egyptian historical problems, ranging from unreliability of sources (for example, Manetho's history, given that we neither know his sources nor have his original text) and frequent uncertainty regarding lengths of kings' reigns (for example, the Turin Canon says that Senusret II and III have reigns of nineteen and thirty-nine years respectively, whereas their highest recorded regnal years on documents that are actually contemporary with their reigns are only six and nineteen).

Egypt, like other cultures, has periods in history that are more or less documented than others, and it is primarily this patchiness in the survival of archaeological and textual records from different dates that has led to the assumption that there were 'intermediate periods', when the political and social stability of the pharaonic period appeared to have been temporarily damaged. Thus, those periods of political and cultural continuity described as the Old, Middle, and New kingdoms were each thought to be followed by 'dark ages', when the country became disunited and weakened by conflict (either civil war between provinces or invasion by foreigners). This scenario was both denied and bolstered by Manetho's history. First, Manetho created a misleading air of continuity in the succession of kings and dynasties through his assumption that only one king could occupy the throne of Egypt at
any one time. Secondly, his descriptions of some of the dynasties corresponding to the times of the intermediate periods suggest that the kingship was changing hands with alarming rapidity.

The study of the Third Intermediate Period has become one of the most controversial areas of Egyptian history, particularly during the 1990s, when it has been subjected to intensive study by a number of different scholars. Three areas of investigation have blossomed. First, several aspects of the culture of the period (for example, ceramics and funerary equipment) have been analysed in terms of changes in such factors as style and materials. Secondly, anthropological, iconographic, and linguistic studies have been undertaken with regard to the ‘Libyan’ ethnic identity of many of the 21st–24th-Dynasty rulers. Thirdly, and most crucially from the point of view of the history of the pharaonic period as a whole, it was argued by a small number of scholars that the period of 400 years occupied by the Third Intermediate Period (and numerous other, roughly contemporaneous, ‘dark ages’ elsewhere in the Near East and the Mediterranean) may have been artificially inflated by historians. They suggested that the New Kingdom might have ended not in the eleventh century but in the eighth century BC, leaving a much smaller gap of about 150 years between the end of the 20th Dynasty and the beginning of the Late Period. Such a view, however, has been widely dismissed, not only because Egyptologists, Assyriologists, and Aegeanists have been able to refute many of the individual textual and archaeological arguments for chronological change, but also, more significantly, because the scientific dating systems (that is, radiocarbon and dendrochronology) almost always provide solid independent support for the conventional chronology. Indeed, the irrelevance of such tinkering with the conventional chronological framework, given the overwhelming and increasing significance of scientific dates, has been memorably described by the classical archaeologist Anthony Snodgrass as ‘a bit like a detailed scheme for re-organizing the East German economy, produced in 1989 or early 1990’.

On a more cultural, rather than chronological level, the significance of the most basic historical divisions (that is, the distinctions between the Predynastic, pharaonic, Ptolemaic, and Roman periods) have begun to be questioned. On the one hand, the results of excavations during the 1980s and 1990s in the cemeteries of Umm el-Qa’ab (at Abydos) suggest that before the 1st Dynasty there was also a Dynasty stretching back for some unknown period into the fourth millennium BC. This means that, at the very least, the last one or two centuries of the
'Predynastic' were probably in many respects politically and socially 'Dynastic'. Conversely, the increasing realization that Naqada III pottery types were still widely used in the Early Dynastic Period shows that certain cultural aspects of the Predynastic Period continued on into the pharaonic period (see Chapter 4).

Whereas there are definite political breaks between the pharaonic and Ptolemaic periods, and between the Ptolemaic and Roman periods, the gradually increasing archaeological data from the two latter periods have begun to create a situation where the process of cultural change may be seen to be less sudden than the purely political records suggest. Thus it is apparent that there are aspects of the ideology and material culture of the Ptolemaic Period that remain virtually unaltered by political upheavals. Instead of the arrival of Alexander the Great and his general Ptolemy representing a great watershed in Egyptian history, it might well be argued that, although there were certainly a number of significant political changes between the mid-first millennium BC and the mid-first millennium AD, these took place amid comparatively leisurely processes of social and economic change. Significant elements of the pharaonic civilization may have survived relatively intact for several millennia, only undergoing a full combination of cultural and political transformation at the beginning of the Islamic Period in AD 641.

**Historical Change and Material Culture**

There has been an enormous growth in the study of Egyptian pottery in the late twentieth century, both in terms of the quantity of sherds being analysed (from a wide variety of types of site) and in terms of the range of scientific techniques now being used to extract more information from ceramics. Inevitably the improvement in our understanding of this prolific aspect of Egyptian material culture has had an impact on the chronological framework. The excavation of part of the city of Memphis (the site of Kom Rabi'a) in the 1980s provides a good instance of the ways in which more sophisticated approaches to pottery have enabled the overall process of cultural change to be better understood.

Pottery vessels can be arranged in terms of relative date by such traditional techniques as seriation of cemetery material and the analysis of large quantities of stratified material at domestic or religious sites, but they can also be given fairly precise absolute dates either by the conventional method of association with inscribed or artistic
material (particularly in tombs) or by the use of such scientific techniques as thermoluminescence dating. Some scholars have begun to study the ways in which vessel and fabric types change over the course of time. Thus, the form of pottery bread moulds, for instance, underwent a dramatic change at the end of the Old Kingdom, but it is not yet clear whether the source of this change lies in the social, economic, or technological spheres of life, or whether it is merely the result of a change in ‘fashion’. Such analyses show that processes of change in material culture took place for a whole variety of reasons, only some of which were linked to the political changes that tend to dominate conventional views of Egyptian history. This is not to deny the many connections between political and cultural change, such as the correlation between centralized production of pottery in the Old Kingdom and resurgence of local pottery types during the more politically fragmented First Intermediate Period (and then the renewed homogenization of pottery during the more unified 12th Dynasty).

In the study of certain phases of Egyptian history, such as the emergence of the unified state at the beginning of the pharaonic period or the decline and demise of the Old Kingdom, scholars have sometimes examined numerous environmental and cultural factors in order to explain sudden important political changes. One of the problems with this selective attention to non-political historical trends, however, is the fact that we still know so little about environmental and cultural change during periods of stability and prosperity, such as the Old and Middle kingdoms, that it is much more difficult to interpret these factors at times of political crisis. The increased study of pottery vessels and other common artefacts (as well as environmental factors such as climate and agriculture) are beginning to create the basis for more holistic versions of Egyptian history, in which political narratives are viewed within the context of long-term processes of cultural change.

**Egyptian ‘History’**

Art and texts throughout the pharaonic period continued to maintain the Predynastic and Early Dynastic tension between recording and commemorating, which might be characterized as the distinction between, on the one hand, the utilitarian labels attached to grave goods, and, on the other hand, such ceremonial votive items as palettes and maceheads, described above. We know that the purpose of the early funerary labels was to use history as a means of dating particular things, and that the purpose of such mobiliary art as the palettes and
maceheads—as well as of stelae and temple reliefs in the pharaonic period—was not to record historical events but primarily to use them as a means of commemorating universal acts undertaken by specific rulers or by royal officials.

In the mortuary temple of Rameses III at Medinet Habu there is a scene in which the Libyan chieftain Meshesher is brought into the presence of the king. This is obviously intended to be a record of the surrender of a particularly important foreign individual, whose personal humiliation encapsulates the defeat of his people, but to the left-hand side we can also see the careful assembling and counting of a pile of Libyans' hands—this alerts us to one of the ways in which the scene differs from a more modern Western historical tableau. It is part of a relief in a mortuary temple and as such it is fulfilling the king's piety to the gods. Just as private individuals in the New Kingdom inscribed 'autobiographical' texts on the walls of their tomb chapels to remind the gods of their piety and beneficence, so the reliefs in royal mortuary temples were intended to symbolize a kind of accounting procedure, a visual quantification of the success achieved by the king both for and through the gods.

The Egyptian sense of history is one in which rituals and real events are inseparable—the vocabulary of Egyptian art and text very often makes no real distinction between the real and the ideal. Thus the events of history and myth were all regarded as part of a process of assessment, whereby the king demonstrated that he was preserving Maat, or harmony, on behalf of the deities. Even when an Egyptian monument appears to be simply commemorating a specific event in history, it is often interpreting that event as an act that is simultaneously mythological, ritualistic, and economic.
It has become a truism that ancient Egypt was a gift of the Nile because the river’s flooding brought new life into the valley in the late summer of every year. Egypt was, therefore, essentially a rich oasis amid the very extensive expanse of the Sahara. This, however, has not always been the case: the very earliest inhabitants of Egypt lived in a different kind of environment. First, the climate was not always as arid as it is now (modern Upper Egypt being one of the most arid regions in the world), oscillating instead between the present hyperaridity and a dry sahelian condition. Secondly, the river itself was not always a meandering river in a wide floodplain, with its late summer high floods. During some periods, the Nile was either reduced to a series of independent ephemeral wadi basins or had a generally low discharge, choked by its own huge floodplain deposits. It brought its rich alluvia into Egypt only when its headwaters reached back to Ethiopia. Finally, although the river clearly brought life to Egypt, it has also brought about the erosion of older archaeological deposits—we should, therefore, not be surprised to find that only very scarce remains from the earliest occupation have been preserved.

Because of its geographical position, Egypt certainly served as an important conduit for early humans migrating from East Africa towards the rest of the Old World. We know that early *Homo erectus* left
Africa and arrived in Israel as early as 1.8 million years ago. There is, therefore, no reason to doubt that small bands of *Homo erectus* visited and probably stayed in the Nile Valley. Unfortunately, only very sparse evidence of this event is available and, worse still, it cannot be dated, because circumstantial evidence is also very poor. In some Early and Middle Pleistocene deposits, isolated choppers, chopping tools, and flakes, similar to those associated with early hominids in East Africa, have been recovered in gravel quarries at Abbassiya, as well as in Theban gravel deposits. However, most of these published 'artefacts' are probably not of human origin and all of them are from secondary deposits.

**The Lower Palaeolithic**

Many Lower Palaeolithic artefacts, including numerous handaxes of Acheulean type, have been found in and on local gravel deposits. No human bones have been found in Egypt in association with this Acheulean phase, but *Homo erectus* can probably be assumed to have been the maker of these artefacts. Misunderstanding of the desert geomorphology has led many researchers to believe that the Acheulean can be correlated with a Nile terrace chronology, but this is unfortunately not the case. We can presume, however, that *Homo erectus* at least passed by regularly and left his handaxes at numerous sites. Pedimentation and fluviatile erosion led to the dispersal of most of the handaxes and their related artefacts. It is, therefore, not exceptional to find Acheulean handaxes on the present surface of the desert areas in the Nile Valley. In the early twentieth century, the hills over which a path leads from Deir el-Medina to the Valley of the Kings, overlooking the western side of Luxor, were particularly popular for 'collecting' handaxes; although these stray finds cannot be dated, they are probably all that remain, after intensive erosion, of large Acheulean sites. At some locations, such as Nag Ahmed el-Khalifa, near Abydos, it has proved possible to observe that artefacts remained grouped together, even when they were no longer in their original context. There, and in other parts of the Qena region, such handaxe concentrations occur on top of the first clay deposits that attest the connection of the river Nile with its headwaters in Ethiopia. We presume that the age of those concentrations should be set at about 400,000–300,000 BP, but this is only a guess. In order to document the Acheulean occupation properly, we would need more information about such factors as the original spatial distribution and the associated faunal remains.
Our knowledge of prehistoric Nubia is comparatively well documented as a result of the rescue excavations carried out in the 1960s, before most of the area was flooded by Lake Nasser. Acheulean handaxe concentrations occurred mainly on 'inselbergs' (eroded hilltops), where it was possible to extract a good raw material: ferruginous sandstone. Since such sites remained exposed on the surface for many hundred thousands of years, we should not expect any remains to have survived apart from lithics. Even in the case of the lithics, we have only limited information and no secure means of dating except by typological approaches. According to these typologies, the sites can be assigned to Early, Middle, and Late Acheulean respectively. It is remarkable that cleavers, so characteristic for the rest of Africa, are lacking in the assemblages, suggesting that, in Acheulean times, Nubia probably constituted a particular province, an original enclave, in the African interior.

In the Western Desert, several Final Acheulean sites are known, especially at the oases of Kharga and Dakhla and at Bir Sahara and Bir Tarfawi. These sites are located on the scarps surrounding the oases, but the most important finds are associated with fossil springs in the floor of the oasis depressions or in the playa deposits. All of these sites are clearly related to wetter conditions, when life as hunter-gatherers was possible. Most of the known sites are in a bad state of preservation, but it has been suggested that ancient channels in the Western Desert, discovered by radar from the space shuttle, are rich in well-preserved Acheulean sites, none of which has yet been excavated.

The Middle Palaeolithic

The picture that emerges for the Egyptian Middle Palaeolithic is rather complex. It originated in the Late Acheulean, when handaxes became associated with bifacial foliates and a typical Nubian knapping method. Such assemblages may date from before 250,000 BP. The fate of sites with such assemblages is similar to that of the Acheulean: all over the desert one can collect scattered artefacts which once belonged together in a site that is now destroyed. Judging from the high number of such artefacts, it is tempting to assume that the population density was high.

As in many areas of the Old World, the Egyptian Middle Palaeolithic is characterized by the introduction of the Levallois method, a special technique designed to produce flakes and blades of fixed dimensions from a flint nodule. In addition to the classical Levallois approach, the Nubian Levallois knapping method was introduced for the production of pointed flakes. In the Egyptian Middle Palaeolithic, several artefactual
'entities' can be distinguished. The chronology is still unclear, but research, especially in the Western Desert and in the Qena area, provides some clues.

The Nubian Middle Palaeolithic is characterized by the Nubian Levallois technique and by bifacial foliates and pedunculates. It is mainly known from Nubia, where several sites have been discovered. Although it is certainly also present in Egypt, no well-preserved sites have yet been found there. Lastly, important information has been disclosed in relation to the mid-Middle Palaeolithic. At Bir Tarfawi and Bir Sahara in the Western Desert, numerous well-preserved sites from the Saharan Mousterian were excavated. It is clear that sites in this area were accessible only during wet phases, which should probably be regarded as short spells punctuating a mainly dry climate.

During most periods of occupation, there were permanent lakes in the Western Desert, or, in some intervals, seasonal playas, fed by local rainfall of up to 500 mm. per annum. In some phases the lakes could be more than 7 m. deep. The area was abandoned during the periods of hyperaridity that separated the lacustrine events. Side-scrapers, points, and denticulates are the best-represented tools. The lake and playa environments were probably rich in floral resources that could easily be exploited, but unfortunately there is no archaeological evidence available. The fauna apparently exploited by people at this date consist of hare, porcupine, and wild cat, at one end of the size spectrum, and buffalo, rhinoceros, and giraffe, at the other end. Small gazelles, mainly the dorcas species, dominate the assemblage. The presence of such animals suggests that selective—perhaps seasonal—hunting of small gazelles was combined with more opportunistic meat procurement from bigger game.

The apparent differences in content among sites in different settings may reflect variations in activities carried out at the sites. Sites embedded in fossil hydromorphic soils, characterized by low artefact densities, indicate limited use, probably comprising several brief phases and these only during very dry years. Sites embedded in beach sands were accessible for a greater part of the year, but probably not during the season of highest water, presumably in summer. Sites associated with dry lake bottoms reflect unusually arid episodes when the lakes dried up and their beds were exposed.

Excavations in the Sodmein cave near Quseir in the Red Sea mountains disclosed similar wet conditions during part of the mid-Middle Palaeolithic, with the presence of crocodile, elephant, buffalo, kudu, and other large mammals. The cave was apparently visited over
a long period but always for a short time. Sometimes, large hearths were utilized.

A comparable way of life may have existed in the Nile Valley, but no sites from the floodplain have yet been disclosed. On the other hand, the Nile Valley has furnished us with many sites that document the extraction of raw material. Sites that are contemporaneous with the Western Desert occupation occur at Nazlet Khater and Taramsa, where mid-Middle Palaeolithic groups were in search of raw material, mainly comprising chert cobbles from terrace deposits. These groups differ in terms of the knapping methods they used: Egyptian group K utilized the classical Levallois method, in addition to flake production from single and double platform cores, while Egyptian group N frequently used the Nubian Levallois method. Tools are always rare at such quarrying sites, because the artefacts produced at such sites were meant to be exported to the living sites, which were probably situated on the Nile floodplain. Unfortunately, such floodplain sites have probably been covered by recent alluvia and remain unknown.

Late Middle Palaeolithic material, along with Halfan and Safahan (Levallois Idfuan) artefacts, has been recovered from extraction sites, such as Nazlet Safaha, near Qena, as well as from living sites near Edfu. The Halfan industry, however, was mainly restricted to Nubia. In comparison with the earlier mid-Middle Palaeolithic, the Nubian Levallois technique was disappearing, and, in addition to flake and blade production from single and double platform cores, only an evolved classical Levallois was utilized for production of thin Levallois flakes. At living sites, burins, notches, and denticulates were being used. Meanwhile, the climate had again become arid to hyperarid and continued to be such. The evolution of the climate changed the living conditions completely, in that food resources were now almost entirely restricted to the floodplain. This climatic development must have obliged people living in the Sahara to leave the area, resulting in a concentration of human population in the Nile Valley.

During the last period of the Middle Palaeolithic (the Taramsan) there was a clear tendency towards blade production from large cores, where, instead of obtaining a few Levallois flakes from each individual core, a virtually continuous process of blade production made it possible to create a large number of blades from each core. At Taramsâ-1, an impressive extraction and production site of this date near Qena, it can be observed that there was increasing interest in blade production, a system that was later to be generalized during the Upper Palaeolithic. Similar assemblages have been identified in the Negev, where the
transition from Levallois flaking to blade production has been documented at the site of Boker Tachtit, around 45,000 BP. A burial of an ‘anatomically modern’ child at Taramsa-1 is associated with the late Middle Palaeolithic. This burial is probably the oldest grave that has so far been identified in Africa.

Map of Egypt showing the principal Paleolithic, Neolithic, and Badarian sites
The techniques employed at the extraction sites were simple but well adapted to the natural chert occurrences. The chert cobbles were removed from the terrace deposits by means of open-trench and pit systems with a maximum depth of about 1.7 m. Only the uppermost part of the cobble terrace was mined, and the pits and trenches are characterized by a very irregular planimetry, with many tentacles and bulges. They have vertical walls with only minor undercutting, and their widths vary from about 1 m. to nearly 2 m. Since the chert cobble deposit was not consolidated, only simple extraction tools were required. Depressions in the trenches were often used as workshops for the fabrication of Levallois products. Extraction was very extensive and, in the region of Qena, affected areas covered many square kilometres. The search for good-quality chert and the use of specialized tool production demonstrate the complex organization of the inhabitants of the Nile Valley at that time. It also indicates that Middle Palaeolithic humans were not only capable of tridimensional reasoning but also had developed a knowledge of geology and geomorphology.

If the 'out-of-Africa' theory of human origins is true (and it is still contested by some good anthropologists), anatomically modern *Homo sapiens* should have passed through the Nile valley on its way out of East Africa to Asia. However, it remains unclear as to whether archaeological data can confirm that there were similarities between the Middle Palaeolithic in Egypt and in south-west Asia. Finally, it is to be noted that the Aterian industry, which is so important for the rest of North Africa, is present only in some oases in the Western Desert.

**The Upper Palaeolithic**

Upper Palaeolithic sites are rare in Egypt. The oldest site of this date is Nazlet Khater-4 in Middle Egypt, where chert was extracted not only by trenches and mining pits (with a maximum depth of 2 m.) but also by underground galleries starting from the trench walls or from the bottom of a pit. In this manner, underground galleries covering an area of more than 10 sq.m. were obtained. Hearths found in the fill of the trenches where flaking activities took place suggest that mining activities were spread over a long period extending from about 35,000 to 30,000 BP, which would make Nazlet Khater-4 one of the oldest examples of underground mining activity in the world. The lithic assemblage from Nazlet Khater-4 no longer showed any trace of the Levallois technique. Production aimed at obtaining simple blades
from single platform cores. Among tools, some end-scrapers, burins, and denticulates but also some bifacial foliates and bifacial axes occur. As no other such sites have been disclosed in Egypt, it is difficult to establish its importance for the evolution of Egyptian prehistory. Next to the mine, and obviously in association with it, excavators revealed a grave in which the deceased was buried lying on his back with a bifacial axe next to his head.

The next oldest phase, after Nazlet Khater-4, was the Shuwikhatian industry, which is attested at several sites in the neighbourhood of Qena and Esna. The type site Shuwikhat-i has been dated to around 25,000 BP. The study of the environment and the animal remains shows that the site, which was located within the floodplain at that time, functioned as a hunting and fishing camp. It is possible that the Shuwikhatian is contemporaneous with a short wetter spell, but this climatic change was not important enough to bring about the repopulating of the Western Desert, which remained devoid of human occupation. The Shuwikhatian is characterized by robust blades obtained from opposed platform cores. Most common tools are denticulated blades, end-scrapers, and burins.

Within the framework of North Africa and south-west Asia, the Upper Palaeolithic of Egypt seems to be rather insular, although it is possible that there were some connections with the Dabban industry of Cyrenaica and the Ahmarian of southern Israel and Jordan.

**The Late Palaeolithic**

In contrast to the Upper Palaeolithic Period, many Late Palaeolithic sites have been found in Upper Egypt, dating between 21,000 and 12,000 BP. The climate remained hyperarid, as it had been during the Upper Palaeolithic, but the river Nile had begun to contain less water and more clays because of aridity in its headwaters and because of important erosion activity due to the late glacial coldness affecting the highlands of Ethiopia. These clays were deposited in the Nile Valley, filling it in Upper Egypt with thick alluvia and resulting in a floodplain that, in Nubia, was 25–30 m. higher than the modern one. No Late Palaeolithic sites have been recorded in Lower and Middle Egypt, apparently because this part of the Nile Valley was more deeply cut, due to a very low water level in the Mediterranean Sea, a little more than 100 m. below the present level. This resulted in regressive erosion along the Nile, creating a surface that has been covered by more recent alluvia, concealing the sites from archaeologists.
There is great typological variety among Late Palaeolithic sites, and, because of our limited knowledge of the Upper Palaeolithic, it is difficult to determine the origins of the Late Palaeolithic. Among the different groups, the Fakhurian (21,000–19,500 BP) and the Kubbaniyan (19,000–17,000 BP) are the oldest. Although the Kubbaniyan was defined at Wadi Kubbaniya, near Aswan, sites have also been found near Esna and Edfu. At Wadi Kubbaniya, the sites occur in three different physiographic settings, all of which are related to a temporary lake barred yearly after the Nile flood inundation by a dune in the mouth of the wadi. After the size of the dune became so significant that the entire wadi was blocked, the lake was fed by the water table, thus creating an extremely favourable environment for hunter-gatherers. Some of the sites are situated on a dune field that was occasionally flooded by the Nile; others are located on a flat silty plain of the wadi floor in front of the dunes; and finally there are sites on hillocks of fossil dunes in the flat area near the wadi mouth, which were surrounded by water during the period of inundation.

Most sites at Wadi Kubbaniya are the result of repeated use by small groups of people, perhaps several times a year, over a long period. The floral remains clearly reflect seasonality. Many edible plants, such as club-rush, camomile, and nut-grass tubers, must have been part of the diet. The presence of nut-grass tubers is particularly remarkable, since these would have had to have been thoroughly ground up in order to remove the toxins and break up the fibres. This might well explain the large number of grinding stones found at Wadi Kubbaniya. At Kubbaniyan and other Late Palaeolithic sites, fish were caught seasonally in large quantities, forming the major source of animal protein. One annual fishing season is indicated by an overwhelming frequency of catfish, indicating massive catches of spawning catfish, which appear with the rising floods of July and August. A second fishing season is characterized by the high frequency of surviving remains of yearling and adult *Tilapia* and numerous catfish. This spectrum suggests that fish were gathered in October or November in the shallow pools that remained after the inundation. In addition to fishing, hunting for hartebeest, wild cattle, and dorcas gazelle was an important aspect of the subsistence pattern. Lithics mainly consisted of bladelets obtained from opposed platform cores.

Four major tool classes are well represented in the Fakhurian. Backed bladelets, some with Ouchtata retouch, are the most frequent, followed by retouched pieces, perforators, notches, and denticulates. End-scrapers are present but less frequent, while truncations and
burins are rare and generally poorly made. The tool inventory of the Kubbaniyan is characterized by a predominance of backed bladelets, often with a non-invasive nibbling retouch, representing up to 80 per cent of all tools.

The kill-butchery camp site E71K12 near Esna belongs to the Fakhurian or is closely related to it. This site, which consists of a dune hollow in which a seasonal pond was fed by the rising groundwater during the summer floods, attracted animals that were driven from the floodplain by the rising water. This resulted in ideal hunting circumstances. There were three major prey animals: hartebeest, wild cattle, and gazelle. This site most probably represents the basic manner of subsistence during the late flood and the early post-flood period.

A distinctive feature of the Ballanan–Silsilian industry (16,000–15,000 BP) is debitage from single and opposed platform cores. Tools comprise backed bladelets and truncated bladelets. There was frequent use of the microburin technique, an innovation also found in the Negev and southern Israel and Jordan. While well-made burins are quite common, Ouchtata-retouch and geometric microliths are rare, while end-scrapers are never common.

Climatic changes by the end of the last Ice Age resulted in unusually high Nile water discharges around 13,000–12,000 BP, creating exceptionally high floods. This ‘Wild Nile’ stage was caused by climatic conditions in sub-Saharan Africa, but in Egypt itself there was no local rainfall. One site that was out of reach of the catastrophic inundations of the Wild Nile was Makhadma-4, an example of the Afian industry (12,900–12,300 BP), located about 6 m. above the modern floodplain, a little to the north of Qena. It was on the desert fringe, in a flat embayment resulting from the joining of different wadi bottoms, and its rich array of fish remains includes 68 per cent *Tilapia* and 30 per cent *Clarias*, the rest consisting of *Barbus*, *Synodontis*, and *Lates*. The high amount of *Tilapia* and the small size of both *Tilapia* and *Clarias* indicate that fishing must have been practised rather late within the post-flood season. The fish must have been caught in shallow basins through which the fishers were able to wade. The small size of the fish also suggests that sophisticated tackle, such as thrust baskets, nets, and scoop baskets, were used. The fish that were caught in large quantities were probably not all intended for immediate consumption, and the fact that the site includes pits containing a large amount of charcoal suggests that fish were being deliberately preserved by drying. The expansion of the site demonstrates that the locality was repeatedly used over a long period.
The Isnan industry has been attested on several sites between Wadi Kubbaniya and the Dishna plain. The assemblage is characterized by rough knapping techniques, resulting in thick and wide flakes, and the tool inventory is largely dominated by end-scrapers on flakes. At the site of Makhadma-2, fishing for *Clarias* seems to have been the economic basis. The occupation dates to 12,300 BP and therefore coincides with the Wild Nile floods.

The Qadan industry, between the second cataract and southern Egypt, is a microlithic flake assemblage, but its interest lies primarily in the fact that it is associated with three cemeteries. The most important is the cemetery at Gebel Sahaba, where fifty-nine skeletons were excavated. Each of them was in a semi-contracted position on the left side of the body, with the head to the east, facing south. The graves are simple pits, covered with slabs of sandstone, and the associated lithic material can be attributed to the final phase of the Qadan, around 12,000 BP. Out of the fifty-nine individuals, twenty-four showed signs of a violent death attested either by many chert points embedded in the bones (and even inside the skull) or by the presence of severe cut marks on the bones. The existence of multiple burials (including a group of up to eight bodies in one grave) confirms the picture of violence. Since women and children represent about 50 per cent of this population, it is most probable that the Gebel Sahaba cemetery represents an exceptionally dramatic event. It has been suggested that this may have been a consequence of the increasingly difficult conditions of living caused by the Wild Nile and the subsequent cutting down of the Nile into its former floodplain. A smaller cemetery, almost opposite Gebel Sahaba on the other side of the Nile, where such ‘projectiles’ were entirely absent from the bodies, shows that death was not always caused by violence at this date.

The chronological position of the Sebilian industry is not clear, despite the fact that it is the most widespread Late Palaeolithic industry, occurring from the second cataract to the north of the Qena bend. The Sebilian lithic technology is characterized by the manufacture of large flakes and a preference for quartzitic sandstones or volcanic rocks as raw material. This is completely incompatible with the lithic tradition of the other Late Palaeolithic industries. The Sebilian might, therefore, represent intrusive groups from the south, moving northwards along the Nile.

Before leaving the Late Palaeolithic it is necessary to mention that there may already have been rock art in the Nile Valley at this remote date. At Abka, near the second cataract, in Sudanese Nubia, a possible
instance of Late Palaeolithic rock art has been identified at ‘site XXXII’. In Egypt proper, there are also a few rock-art sites that appear to be pre-Neolithic in date. Among the most remarkable drawings are the fish traps represented at el-Hôsh, south of Edfu. The plan of these labyrinthine fish fences consists of a complicated layout of curvilinear shapes leading to mushroom-shaped ends, which functioned as the actual traps. This type of fishing in shallow waters would fit well with the observations concerning massive fishing at Late Palaeolithic sites, such as Makhaddma-4.

After the Late Palaeolithic, there was a hiatus in the occupation of the Nile Valley. No human presence has been attested in Egypt between 11,000 and 8000 BP, apart from a group of very small Arkainian sites (around 9400 BP) in the region of the second cataract. It has been suggested that the attested down-cutting of the Nile during this period, with a reduced floodplain as a consequence, had a detrimental effect on the environmental conditions. Although this environmental change undoubtedly took place, it seems highly unlikely that the Nile Valley was entirely deserted at this date. It is more likely that these sites are simply covered by modern alluvial deposits, considering a narrowing of the floodplain and the normal location of sites on the fringe of the low desert.

Saharan Neolithic/Ceramic

The Western Desert was abandoned towards the end of the Middle Palaeolithic, and people returned there only in about 9300 BC, as a result of the Holocene wet phase. Because there was no human presence immediately before the Early Neolithic, and because the area was also uninhabited after this period, the conditions of archaeological preservation are very good. Since the annual rainfall in the early Holocene was still only about 100–200 mm. (all of which probably fell during a brief summer season), only desert-adapted animals such as the hare and the gazelle could live there. Nevertheless, this meant an enormous amelioration of living conditions in comparison with the Upper and Late Palaeolithic. The amount of rainfall was not continuous and arid intervals are most important for chronological differentiation. The rainfall is a result of the northward shift of the monsoon belt; therefore human occupation in the Western Desert started from the south. The settlers came most probably from the Nile Valley, an idea that is primarily based on the absence of other possibilities, but
seems to be confirmed by similarities with the lithic technology of sites in the Nubian Nile Valley.

In Egypt, the earliest 'Neolithic' cultures emerged in the Western Desert. It should, however, be made clear from the outset that agriculture has not yet been attested for the Saharan Neolithic. This culture has been identified as Neolithic purely on the basis of the evidence for cattle herding. The Saharan Neolithic is, therefore, completely different from the Neolithic culture that emerged at about the same time in Israel, where the phrase 'Neolithic economy' is a synonym for the process whereby agriculture was introduced and later joined by animal domestication. Most probably, the Neolithization process that occurred in Egypt was completely independent from that in Israel. Because of the absence of agriculture and the presence of some ceramics, it has been suggested that the term 'Ceramic' should be applied to this Saharan culture, as opposed to 'Neolithic'.

Two main periods can be distinguished: the Early Neolithic (8800–6800 BC) and a more recent period consisting of Middle (6500–5100 BC) and Late Neolithic (5100–4700 BC). For the Early Neolithic, the most complete information comes from sites near Nabta Playa and Bir Kiseiba. Most sites are small, short-term camps of hunter-gatherers. Larger sites are always located in the lower parts of playa basins. Although these sites were apparently used for longer periods, they too were seasonally abandoned, since the lower parts of the playa basins were seasonally flooded. Sedentism was not yet known.

Lithics are characterized by numerous backed bladelets (often pointed) and some rare geometrics, as well as tools produced with the microburin technique. Every faunal collection of any size includes a few bones of cattle, which, according to the excavators, were domesticated (although this interpretation is not generally accepted), since it seems unlikely that cattle would have been able to survive without human aid in an arid environment that otherwise supports only desert-adapted animals. It is particularly significant that the fauna includes no remains of hartebeest, an animal that often occurs in the same ecological niche as wild cattle. It therefore seems most plausible that pastoralists were keeping wild cattle in an environment where the cattle would not have been able to survive by themselves. Before 7500 BC, it is possible that people and cattle came into the desert only during and after the summer rains, which coincide with the period of inundation of the Nile Valley, during which it would have been difficult to find herding facilities. After 7500 BC, the digging of wells is attested at Bir Kiseiba and other sites. Some of the wells have a shallow side basin
for watering animals. The paucity of cattle bones indicates that the animals were not used for meat production but mainly for protein in the form of milk and blood. In this manner, while humans helped cattle to survive in the Western Desert, the animals permitted people to live in this difficult environment. As well as keeping cattle, these people were hunting local wild animals, predominantly hare and gazelle.

It is presumed that the stone-grinding equipment found at nearly all sites from the beginning of the Early Neolithic was used for processing harvested wild plant foods, but the plants themselves have only been recovered at site E-75-6 at Nabta Playa. Among them are wild grasses, *Ziziphus* fruits, and wild sorghum.

All Early Neolithic sites, even the earliest, have yielded potsherds, albeit in very small numbers. The vessels had very simple shapes, but they were carefully made and fired, and all of them were decorated. Usually the entire surface of the vessel was filled with lines and points, often created by comb or cord impressions, and the general appearance of the vessels was probably imitating basketry. Ostrich eggshells, used as containers for water, were far more common than pottery vessels. The relative dearth of potsherds suggests that pottery was not being used regularly in daily life. It is not possible to determine the exact function of the pottery, but it obviously must have had great social significance and—because of the decoration—probably also symbolic meanings. It seems beyond doubt that these ceramics were an independent, African invention.

Site E-75-6 (around 7000 BC) is one of the most interesting Early Neolithic localities at Nabta Playa. This drainage basin received enough water to store large quantities of subsurface water, which could be reached with wells during the dry season. The site consists of three or four rows of huts, probably each representing different shore lines of the lake, accompanied by bell-shaped storage pits and wells. It is not possible to estimate the number of huts that were contemporaneously in use. Despite its size, this was not a permanent settlement.

It was during the Middle and Late Neolithic periods (6600–5100 and 5100–4700 BC respectively) that the human occupation of the Western Desert reached its peak. Sites of this date are very numerous, and, although most of them are small, there are also some very large ones. Structures are more common than before, including wells, slab-lined houses, and evidence for wattle-and-daub constructions. The large settlements, near the playa lakes, probably represent permanent settlements, while the smaller ones are more likely to derive from task
forces of herdsmen who set out from the large sites to drive their animals across the grassland after the summer rains. The presence of shells proves that there was contact with both the Nile Valley and the Red Sea, but it is likely that the people themselves remained in the desert all year round. As in the Early Neolithic, domestic cattle were kept as living sources of protein, but, despite the fact that sheep and goat also appear for the first time during this period (about 5600 BC), most meat was still obtained from wild animals. Again it is usually assumed that a large variety of wild plants was consumed at this date.

In the Middle Neolithic there was a dramatic shift in lithic technology. Blade production was no longer so prevalent, and instead there was a gradual introduction of bifacial flaking for foliates and concave-based arrowheads. Geometrics, except lunates, were rare. At Late Neolithic sites, basin-type grinding stones are common. Ground and polished stone celts, palettes, and ornaments are also present in assemblages of this date: together with side-blow flakes, they are considered characteristic of the period. Ceramics before 5100 BC fall within the ‘Saharo-Sudanese’ or ‘Khartoum’ tradition, similar to the Early Neolithic ceramics, although the decoration tends to consist of more complicated patterns. Somewhat before 4900 BC, this type of pottery disappeared somewhat abruptly and was replaced by burnished and smoothed (occasionally black-topped) pottery at Nabta Playa and Bir Kiseiba. The reason for this sudden transition is by no means obvious, but its occurrence in the Western Desert is of great importance for our understanding of the origin of the Predynastic cultures in the Nile Valley.

At Nabta Playa, a remarkable megalithic complex has been discovered adjacent to an exceptionally large Late Neolithic site. It consists of three parts: an alignment of 10 large (2 × 3 m.) stones, a circle of small upright slabs (almost 4 m. in diameter), and two slab-covered tumuli, one of which had an underlying chamber containing the remains of a long-horned bull. Small alignments of megaliths have also been observed elsewhere in the Nabta Basin. Although their function is not obvious, these megalithic constructions clearly represent public ‘architecture’ and therefore refer to increasing social complexity.

In the Dakhla Oasis, several archaeological units have been distinguished, and the main phases are known as Masara, Bashendi, and Sheikh Muftah. The Masara phase is contemporaneous with (and similar to) the Early Neolithic of Nabta Playa and Bir Kiseiba. The Middle and Late Neolithic Bashendi and Sheikh Muftah cultures
continued into dynastic times. These two Neolithic cultures are characterized by contrasting types of settlement, with Sheikh Muftah sites situated in close correlation with lake sediments and Bashendi sites being located just outside the oasis proper. It has been suggested that two different types of occupation may be represented. Thus the Sheikh Muftah sites might represent full-time oasis-dwellers, while the Bashendi sites might have belonged to periodic visitors, probably nomadic pastoralists. Starting in about 5400 BC, people relied heavily on their flocks and herds of domesticated animals (imported from the Levant and mainly consisting of goats), while still undertaking some hunting.

The lithic technology of the Bashendi culture is similar to that of the Middle and Late Neolithic, with the addition of a variety of arrowheads, often bifacially retouched. From a little before 4900 BC, burnished and smoothed pottery, somewhat similar to fragments of vessels found at Nabta Playa and Bir Kiseiba, was produced at Bashendi sites, while black-topped pottery occurs occasionally at sites in the Dakhla Oasis. In the south-east corner of Dakhla, various stone-built structures are present; it remains unclear how typical this oasis was for the whole of the Western Desert, but it obviously contains the strongest cultural parallels with the Nile Valley.

After 4900 BC and especially from 4400 BC onwards, the desert became less and less inhabitable because of the onset of the arid climate that continues up to the present day. However, a few select areas were still occupied in historic times.

The Nile Valley Epipalaeolithic

From 7000 BC onwards, human groups are again present in the Nile Valley, but the number of Epipalaeolithic sites is very limited, and they have only been discovered in exceptional circumstances. Thus, only two cultures—the Elkabian and the Qarunian—can be distinguished. During the Epipalaeolithic, there was a continuation of the Palaeolithic style of subsistence, based on hunting, fishing, and gathering.

At Elkab, a few small Epipalaeolithic sites, dating to about 7000–6700 BC, have been found in an exceptionally good state of preservation because they are located within the far more recent Dynastic-Period enclosure wall. The sites were located on the beach of a silting-up Nile branch, the occupations having taken place after the floodplain inundations. The Epipalaeolithic fishing practices were more highly developed than those of the Late Palaeolithic. Indeed,
fishing took place not only in the receding high waters but also in the main channel of the Nile, which suggests that by this date the people must have been using boats with a reasonable degree of stability. Because of the more humid climate, hunting for aurochs, dorcas gazelle, and barbary sheep was possible in the wadi area. The Elkabian industry is microlithic, including a large number of microburins. It is readily comparable with the Early Neolithic of the Western Desert. The presence of numerous grinding stones cannot be used as evidence for plant processing, because red pigment was still visible on a number of them. The presence of an Elkabian occupation in the Tree Shelter site at Wadi Sodmein, near Quseir in the Eastern Desert, suggests that the Elkabians should be viewed as nomadic hunters, following east-west routes with wintertime fishing and hunting in the Nile Valley and exploitation of the desert during the wet summer.

The Qarunian is a renaming of the Faiyum B culture (attributed by Caton-Thompson to the Mesolithic). Qarunian sites, originally located on high ground overlooking the Proto-Moeris Lake (which dates to about 7050 BC), have been identified in the area north and west of the present Faiyum lake. The Holocene history of the lake is characterized by a number of fluctuations, which are of the utmost importance for the understanding of the history of occupation around the lake. There were three transgressions (that is, submergences of land caused by rises in sea level) preceding the Neolithic. In the Qarunian phase, fishing conditions were exceptionally good in the shallow waters of the lake and it comes as no surprise that fish provided the basis of subsistence. In addition, hunting and food gathering were practised. The Qarunian industry is also microlithic and fits in with the general technological context of the Elkabian and the Early Neolithic of the Western Desert. A single burial is known for the Qarunian. The body of a woman aged about 40 was buried in a slightly contracted position, on the left side, head to the east, facing south. Her physical characteristics are far more modern than the Late Palaeolithic Mechtoids.

The presence of microlithic industries in the neighbourhood of Helwan has been known since the nineteenth century, showing similarities with the Pre-Pottery Neolithic from the Levant, but the real significance of these industries cannot be determined because of the poor information available. Also in the Eastern Desert, in the Red Sea mountains, there are Neolithic settlements. According to the evidence from Sodmein Cave near Quseir, these settlers would have introduced domesticated sheep/goat during the first half of the sixth millennium BC.
The Nile Valley Neolithic

In the Nile Valley, no other traces have been found of the people that dwelled in the Eastern and Western Desert, except for the Elkabian and Qarunian cultures. There is no indication of any shift towards agriculture, which was already well established in the Levant from about 8500 BC onwards. The Egyptian population seems to have continued their traditional way of life, based on fishing, hunting, and gathering. Unfortunately, we have no information on human population in the Nile Valley for the period between 7000 and 5400 BC.

The Tarifian culture is known from a small site at el-Tarif, in the Theban necropolis, and from another one in the neighbourhood of Armant. It is a ceramic phase of a local Epipalaeolithic culture, which, however, remains unknown. It shows no connection with the later Naqada culture, and its relation with the Badarian culture is also unclear, although apparently the lithic industries show no close links. The Tarifian is characterized by a flake industry, with, on the one hand, a small microlithic component referring to the Epipalaeolithic and on the other hand some bifacial pieces announcing Neolithic technology. Pottery, mainly organic tempered, is restricted to a number of small fragments. Traces of agriculture or animal breeding are lacking. No remains of structures have been found and the settlement at el-Tarif is presumed to have been similar to Final Palaeolithic camps.

The Faiyumian culture, which is identical to Caton-Thompson’s Faiyum A culture, starts in about 5450 BC and disappears around 4400 BC. Technological and typological differences between the Qarunian and the Faiyumian are so significant that there can be no question of the Faiyumian having developed out of the Qarunian. The Faiyumian lithic technology is clearly related to that of the Late Neolithic in the Western Desert. People were living along the ancient beach of lake Faiyum, and the most important remains found so far are groups of storage pits for grain, often lined with matting. For the first time in Egypt, agriculture, most probably introduced from the Levant, is clearly the basis of subsistence. Six-row barley and emmer wheat were grown and probably also flax. Because the storage pits are in groups, it is supposed that agriculture was practised on a community basis. One storage area consists of 109 silos, with diameters between 30 and 150 cm., and a depth between 30 and 90 cm., which obviously represents a major storage capacity. Besides agriculture, animal husbandry was certainly important, with evidence of the presence of sheep/goat, cattle, and pigs. Fishing also remained basic to the economy.