second edition

AN INTRODUCTION TO THE ARCHAEOLOGY OF Ancient Egypt

Kathryn A. Bard

WILEY Blackwell

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Contents

List of Plates ix
List of Figures xi
List of Maps xv
Abbreviations xvii
Preface xix
Acknowledgments xxi

1 Egyptian Archaeology: Definitions and History 1
1.1 Introduction: Ancient Egyptian Civilization and Its Prehistoric Predecessors 3
1.2 Egyptian Archaeology 3
1.3 Egyptology 5
1.4 History of Egyptology and Egyptian Archaeology 5
1.5 Archaeological Methods 14
1.6 Archaeological Theory 21
1.7 Ancient Egypt and Egyptian Archaeologists in Fiction and Films 22

2 Hieroglyphs, Language, and Pharaonic Chronology 25
2.1 Language of the Ancient Egyptians 27
2.2 Origins and Development of Egyptian Writing 27
2.3 Scripts and Media of Writing 31
2.4 Signs, Structure, and Grammar 31
2.5 Literacy in Ancient Egypt 33
2.6 Textual Studies 34
2.7 Use of Texts in Egyptian Archaeology 36
2.8 Historical Outline of Pharaonic Egypt 38
2.9 The Egyptian Civil Calendar, King Lists, and Calculation of Pharaonic Chronology 39

CHAPTER 1

Egyptian Archaeology
Definitions and History

Contents

1.1 Introduction: Ancient Egyptian Civilization and Its Prehistoric Predecessors 3
1.2 Egyptian Archaeology 3
1.3 Egyptology 5
1.4 History of Egyptology and Egyptian Archaeology 5
1.5 Archaeological Methods 14
1.6 Archaeological Theory 21
1.7 Ancient Egypt and Egyptian Archaeologists in Fiction and Films 22

INTRODUCTION

Ancient Egypt – the land of the pharaohs – is one of the oldest civilizations in the world. Its monumental tombs and temples, decorated with reliefs and hieroglyphs, have been the source of awe and admiration for millennia. Art and crafts of great beauty, and well-preserved organic evidence (especially mummies) have added to ancient Egypt's fascination. "How did they do it?" is a question often asked about the ancient Egyptians that has sometimes given rise to highly speculative and fantastical explanations. For example, it has been suggested that the Great Pyramid at Giza (built by Khufu in the 4th Dynasty), which was the largest structure in the world until the 19th century AD, could not have been built without the technological and mathematical knowledge of an earlier civilization – the fictitious lost continent of Atlantis. But there were no earlier civilizations anywhere in the world and such an explanation is based entirely on fanciful beliefs which do not credit the ancient Egyptians with the intelligence and ability to organize and carry out such a project.

A closer look at the archaeological evidence provides information about how the Egyptians built their monuments. At Khufu's pyramid there is evidence of rectangular cuts in the bedrock used by ancient surveyors, and the remains of pyramid construction ramps have been identified to the south of the three kings' pyramids at Giza. Evidence of ancient stone quarries at Giza has also been located. Graffiti naming gangs of workmen can still be seen on blocks used to build the pyramids, and are found in stress-relieving spaces above the burial chamber in the Great Pyramid.

Tools for stone working have also been found on the site. Using systematic methodology, not fantasy, archaeologists who study ancient Egypt interpret archaeological evidence, providing a more rational, down to earth – and much more interesting – understanding of the past, including interpretations of "why they did it." The truth is often much more interesting than wild speculation.

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1.1 Introduction: Ancient Egyptian Civilization and Its Prehistoric Predecessors

Ancient Egypt, with its unique monuments and works of art, has left very impressive remains. There is also a large corpus of preserved texts, which adds to our understanding of the cultural meanings of these works, and how this civilization functioned.

Ancient Egyptian civilization emerged between 3200 and 3000 BC, when a large region stretching along the lower Nile River and Delta was unified and then controlled by a centralized kingship (see 5.5). Its distinctive characteristics – the important institutions of kingship and state religion, monumental tombs and temples, the art which decorated these monuments, and hieroglyphic writing – emerged at this time and continued for over three thousand years, until Christianity became established throughout Egypt. Because of its great longevity, Egyptian civilization provides a unique opportunity to study the changes and developments of an early civilization over a very long span of time.

Civilization is a complex form of culture, the learned means by which human groups adapt and alter their physical and social environments. Before the Egypt of the pharaohs there were many earlier cultures, from the hunting and gathering societies of the Paleolithic (Old Stone Age) to the Neolithic, when agriculture was introduced in the Nile Valley ca. 6000–5000 BC (see 4.8). During the Predynastic Period, from ca. 4000–3000 BC, when there is evidence of different cultures in Upper (southern) and Lower (northern) Egypt, social and economic changes were taking place that would lead to the emergence of Egyptian civilization (see 5.1). While this book focuses mainly on the archaeology of ancient Egyptian civilization – pharaonic Egypt – an overview of Egyptian prehistory is crucial for understanding the particular type of civilization that arose there.

Dynastic Egypt was the almost 3,000-year time span of ancient Egyptian civilization. Although we do not have a full listing in Egyptian of the long tradition of royal dynasties, we do have one based on Egyptian traditions that was compiled in Greek by an Egyptian priest of the 3rd century BC named Manetho. There are 31 dynasties of Egyptian kings, including foreign rulers, after which Egypt was ruled by the Ptolemies, kings and queens of Macedonian descent who controlled Egypt after Alexander the Great's conquest (see 10.1). With the defeat of the last Ptolemaic queen, Cleopatra VII, and her lover, the Roman general Marc Antony, Egypt became a province of the Roman Empire.

1.2 Egyptian Archaeology

Archaeology is the study of the material remains of past cultures, from stone tools to stone pyramids, within their excavated contexts. Unlike the hard sciences, such as physics or chemistry, there are no laws in archaeology. Whereas science is concerned with studying regularities that can be observed and tested through experiment, and then verified by repeating the experiment, archaeology has no such system of proof. An archaeological site (or part of it) can only be excavated once, so it is important to do this as carefully as possible, and then record, analyze, and publish all the excavated data, as well as observations made about the excavations. Archaeological evidence is always fragmentary, and archaeologists must analyze and interpret this fragmentary evidence in order to model or reconstruct the past, offering the most probable explanation of ancient cultures, their forms and behavior.

Archaeology studies the long prehistoric periods and cultures in Egypt and elsewhere. The prehistory of Egypt spans perhaps as many as one million years. Most of the material remains that prehistoric archaeologists study are stone tools and the waste from producing stone tools (see Chapter 4).

About the time from when there is evidence of early agriculture in Egypt, there is also evidence of pottery, and increasing numbers of potsherds are found at archaeological sites. Potsherds (broken pieces of pots) are important sources of information because pottery styles tend to change rapidly through time and are generally culture specific. Potsherds are useful for classifying late prehistoric as well as Dynastic sites by period and/or culture; sometimes imported, foreign pots are also identified at Egyptian sites.

With the emergence of pharaonic civilization came the invention of hieroglyphic writing (see 2.2), which becomes an increasingly important source of information for all scholars of ancient Egypt. Archaeologists excavating pharaonic sites not only have the evidence of potsherds and many different types of artifacts (including stone tools, which continued to be produced in pharaonic times), but also hieroglyphic inscriptions and graphic art integrated with well-preserved structures, especially tombs and associated mortuary monuments. Because archaeological evidence is fragmentary, archaeologists must rely on all forms of information, including texts and pictorial representations, and this is especially true for the study of pharaonic Egypt.

Egyptian archaeology is the study of both prehistoric cultures and pharaonic civilization in the Egyptian Nile Valley and Delta, as well as the surrounding deserts. To the south of the First Cataract (a natural barrier to transportation along the Nile) at modern-day Aswan, was the land of Nubia, which was periodically controlled by the Egyptians. Archaeological evidence of Egyptian activities is abundant there. The ancient Egyptians also left extensive archaeological and textual evidence in the Sinai Peninsula. Although this region was not a part of ancient Egypt, archaeological sites in the Sinai are also relevant to Egyptian archaeology. There is also important archaeological evidence in the oases of the Egyptian Western Desert, the mines and quarries of the Eastern Desert, and desert routes to these locations, as well as harbors along the Red Sea coast.

Given the extensive body of texts, the archaeology of ancient Egypt is an example of historical archaeology, with the written evidence providing the historical context of excavated finds. Textual evidence greatly expands a more specific meaning of ancient Egyptian finds, its history, forms of government, social organization, and the economy – as well as more elusive beliefs and ideas. In turn, interpretation of the archaeological evidence within its excavated context can reinforce the historical evidence from texts. Occasionally, archaeological evidence contradicts the validity of information conveyed in writing – illustrating the complexity of historical interpretations based on texts.

Archaeological fieldwork in Egypt has been conducted according to the research problems and priorities of particular expeditions. Present-day scholars of ancient Egypt come from a variety of disciplines, which frequently overlap in practice. These include philologists and Egyptologists, historians (of ancient Egypt, the ancient Near East, the Bible, and the classical world), art historians, as well as archaeologists. Historians are usually interested in reconstructing the history of use of the specific site(s) they are excavating, while art historians focus on recording architectural plans and decoration, works of art, and changes in style and design through time. For Egyptologists, an important focus of fieldwork is often epigraphic studies, and philologists study ancient texts.

Archaeologists can be trained in one or more of these fields, or specifically trained in archaeology, including Near Eastern archaeology, classical archaeology (the archaeology of ancient Greece and Rome), anthropological archaeology, and archaeology as taught in departments of archaeology, which are mainly found in European universities. Archaeologists' training and background strongly influence their focus and methods of investigation.

1.3 Egyptology

Whereas the methods of archaeology, both prehistoric and pharaonic, developed in the later 19th and 20th centuries – and continue to develop – Egyptology, the study of ancient Egypt, is an even older discipline. The systematic study of ancient Egypt is generally seen as beginning with the Napoleonic expedition to Egypt in 1798 (see Box 1-A). The great military tactician who crowned himself emperor of France (before he met his Waterloo), Napoleon Bonaparte was also a man of the Age of Enlightenment. In Cairo Napoleon founded the French Institute of Egypt, whose successor was re-established in the later 19th century as the Institut français, which continues to be an important center of archaeological and Egyptological studies in Egypt today. Soldiers of Napoleon uncovered the Rosetta Stone while building fortifications in the Delta, and, recognizing its significance as a possible aid to the decipherment of hieroglyphs, Napoleon had Parisian lithographers brought to Egypt to make copies of it. The Rosetta Stone was subsequently handed over to the British, who defeated Napoleon's fleet in Egypt, and it now resides in the British Museum in London, but Jean-François Champollion, a French scholar who studied copies of the Rosetta Stone, made the decipherment of ancient Egyptian (see Box 2-B and Figure 1.1).

1.4 History of Egyptology and Egyptian Archaeology

The ancient Greeks and Romans were interested in the history of pharaonic Egypt. In the 5th century BC Herodotus, a Greek historian who wrote a nine-volume *History*, visited Egypt and narrated its history, including its natural history, in his Book II and part of Book III. The accuracy of some of Herodotus's account has been questioned by historians because some fairly fanciful explanations were included in his books. But when writing about the period in which he lived and the Persian conquest of Egypt Herodotus provides a vital source of information. In late Ptolemaic times Egypt was the subject of historian/geographer Diodorus Siculus's Book I, and Strabo, who visited Egypt shortly after the Roman conquest, provides detailed information about Alexandria, as well as other sites in the country.

After about AD 400 the ancient Egyptian hieroglyphic and demotic scripts ceased to be used and were gradually forgotten, although the ancient language continued to be spoken as Coptic, written in the Coptic alphabet (an extension of the Greek alphabet). In late antiquity, when Christianity spread throughout Egypt, ancient Egyptian culture, with its pagan temples, became increasingly discredited. Christian hermits occupied isolated Dynastic tombs and temples fell into disrepair as their sites were taken over for churches. Christian communities and monasteries continued to exist and use Coptic after the Muslim conquest of Egypt in the 7th century AD, but pharaonic Egypt receded into the legendary past – with its language gradually replaced by Arabic.

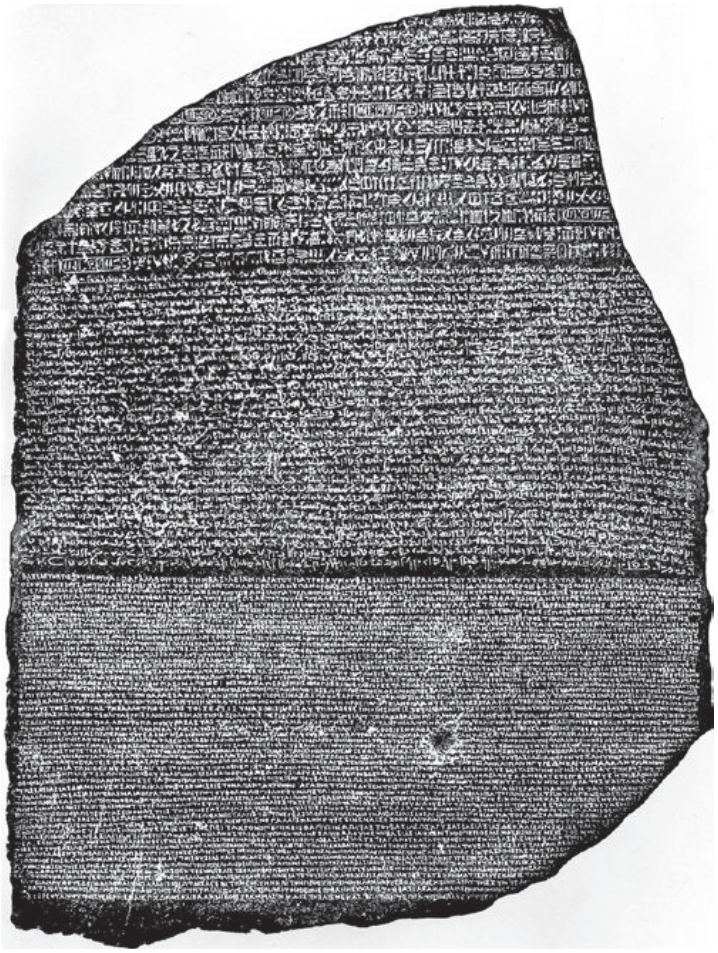

Figure 1.1 The Rosetta Stone, 196 BC, in hieroglyphic and demotic scripts with a Greek translation at the bottom. Granodiorite, 118 × 77 × 30 cm. EA 24 London, British Museum. Source: akg-images.

It was not until the late 16th and 17th centuries that scholarly travelers from Europe began to take an interest in ancient Egypt. Among them, John Greaves (1602–1652), an astronomer at Oxford University, made measurements of the Giza pyramids and cited Arab sources in his 1646 publication *Pyramidographia*. Although most of his papers did not survive, Claude Sicard (1677–1726), a Jesuit priest and missionary in Egypt (1707–1726), was the first European traveler to describe the monuments at Philae, Elephantine, and Kom Ombo in southern Egypt. The Reverend Richard Pococke (1704–1765), who also reached Philae, published two volumes about his travels in lands of the eastern Mediterranean (1743–1745), with detailed descriptions of a number of Egyptian sites and monuments. The well-illustrated travel volume of Frederick Ludwig Norden (1708–1742), a Danish naval officer, was published posthumously and was reprinted throughout the later 18th century. The Scot James Bruce (1730–1794), who traveled through Egypt, northern Sudan, and northern Ethiopia (published in his *Travels* in 1790), excavated the tomb of Rameses III in the Valley of the Kings – which is still sometimes called "Bruce's Tomb." Although he did not travel to Egypt, the Danish scholar Georg Zoëga (1755–1809), who worked on Egyptian

material in Rome, published his great work on obelisks in 1797. Zoëga compiled a corpus of hieroglyphic signs, and his catalog of Coptic manuscripts was published posthumously.

Napoleon's invasion of Egypt was mainly for military purposes, especially to gain control of the route through the Red Sea to the Middle and Far East, but he took with him a mission with much broader goals. Along with his army, which invaded Egypt in 1798, Napoleon brought French *savants*, scholars and scientists from different disciplines, as well as artists, cartographers, and engineers, to study and record the evidence of ancient and Islamic Egypt, and the country's natural history. Dominique Vivant, Baron de Denon (1747–1825), a diplomat under the last two French kings, survived the French Revolution and later introduced Napoleon to Josephine, who became his mistress and then wife. In Egypt, Denon recorded ancient monuments, sometimes under fire from the retreating Ottoman provincial army, which Napoleon's army was pursuing up the Nile. In 1802 he published *A Journey to Lower and Upper Egypt*, while the *Description de l'Égypte* (*Description of Egypt*), the multi-volume study of the Napoleonic expedition, which was edited by Jomard, appeared later with drawings by Denon and many others.

Box 1-A The Napoleonic expedition to Egypt

After major victories in northern Italy in 1796, Napoleon Bonaparte had more grandiose plans. His army of 25,000 invaded Egypt in 1798, ostensibly to overthrow the oppressive provincial rule of the Ottomans, but his longer-range plans were to disrupt British control of the sea route to India and farther east, and build a canal through Suez (which was only accomplished seven decades later).

With Napoleon's army in Egypt was a group of 165 *savants* (scholars and scientists), as well as engineers, cartographers, and artists, who were to study, record, and publish as much as possible about Egypt's natural, ancient, and modern history and culture. They came well equipped, with boxes of scientific instruments and a library of books about Egypt. While some of the scholars stayed in Cairo at the newly founded Institute of Egypt, others accompanied the army up the Nile. Reaching Aswan a year after landing at Alexandria, they had by then recorded most of the major monuments they excavated along the way.

Although Napoleon managed to escape from the British naval blockade of Egypt, which began not long after the invasion, and returned to France, his Commission of Arts and Sciences remained in Egypt with the army. Eventually the British allowed the French scholars to leave Egypt with an enormous quantity of records and specimens. But the Rosetta Stone, found in the Delta early in the Egyptian campaign, was surrendered to the British.

The result of Napoleon's scientific expedition in Egypt was much more successful than his military one. Twenty-four volumes of the *Description de l'Égypte* were later published. Ten of these volumes consisted of plates with over 3,000 illustrations. These investigations and their publication provided a major impetus to the incipient field of Egyptology, the systematic and scholarly study of ancient Egypt.

Publications which resulted from the expedition created great public interest in ancient Egypt, in Europe and North America. After the hieroglyphic script had been deciphered, and texts were translated and the structure of the language became better known from around 1850 onward, much more information about the civilization also became available. Inspiration from ancient Egypt appeared in many forms, for example, in the 1816 sets designed by Karl Friedrich Schinkel for Mozart's opera *The Magic Flute* (Figure 1.2).

Decorative arts, including furniture and porcelain (especially from the Sèvres and Wedgwood factories), were embellished with Egyptian motifs, and architecture was designed with Egyptian elements. Temple gateways called pylons, seen in Egypt in the New Kingdom and later, were built at the Highgate Cemetery in London, as well as at the Grove Street Cemetery in New Haven, Connecticut, and the Mount Auburn Cemetery in Cambridge, Massachusetts. While gravestones in the shape of small Egyptian-style obelisks had already become common, real Egyptian ones were brought from Egypt to cities in northern Europe and America, including Paris, London, and New York.

At the same time, the great Egyptian collections in the Louvre, the British Museum, the Rijksmuseum van Oudheden in Leiden in the Netherlands, and the Egyptian Museum in Turin, Italy, were being amassed by Europeans acting in Egypt as consuls and agents – as well as by various adventurers and explorers. One of the most colorful of these Europeans was the Italian Giovanni Battista Belzoni (1778–1823), who began his foreign career as a strongman in a London theater. In 1815 he traveled to Egypt where the British consul,

Figure 1.2 Set for the opera, *The Magic Flute*, Act I, scene 15, by Wolfgang Amadeus Mozart. Stage design by Karl Friedrich Schinkel for the 1816 production at the Berlin Opera. Aquatint by C. F. Thiele after K. F. Schinkel. Source: akg-images.

Henry Salt (1780–1827), appreciated his prodigious physique (Belzoni was 200 centimeters – 6′7″ – tall) and hired him to collect Egyptian monuments, including a 7.5-ton statue of Rameses II now in the British Museum. But Belzoni was not a tomb robber. Exploring the Valley of the Kings, where he found four royal tombs (in 12 days), Belzoni recorded the very impressive tomb of Sety I, with its well-preserved paintings, in watercolors. At Rameses II's rock-cut temple of Abu Simbel in Nubia he copied inscriptions and made a to-scale plan.

Scholarly expeditions to Egypt were also conducted in the earlier 19th century. Jean-François Champollion (1790–1832), and Ipollito Rosellini (1800–1843) from Pisa, recorded Egyptian monuments in the 1820s. A Prussian named Carl Richard Lepsius (1810–1884) traveled up the Nile as far as the site of Meroe, in northern Sudan, and published his 12-volume *Denkmaeler aus Aegypten und Aethiopien* (*Monuments of Egypt and Ethiopia*) from 1849 to 1859. This great work is still the most important 19th-century record of Egyptian monuments. John Gardner Wilkinson (1797–1875) spent the years 1821 to 1833 in Egypt, as well as making later visits, and recorded many tomb and temple scenes and inscriptions in great detail. He not only traveled to the major ancient sites in the Nile Valley, but was also the first to record some remote sites in the desert.

Figure 1.3 Giovanni Battista Belzoni (1778–1823). Engraving. Source: The Art Archive/ Bibliothèque des Arts Décoratifs Paris/Gianni Dagli Orti.

While the results of these expeditions were experienced mainly in Europe, the situation in Egypt began to be reversed when François Auguste Ferdinand Mariette (1821–1881) first went there in 1850 to acquire Coptic and Ethiopic manuscripts for the Louvre. Excavating at Saqqara, he found the important tomb of the 5th-Dynasty official Ti (Figure 6.16) and the huge underground gallery called the Serapeum, where the sacred Apis bulls of Memphis were buried (Figure 9.8). Mariette believed that Egypt's ancient monuments should not be removed wholesale from the country, and in 1858 he entered the service of the Khedive (ruler) of Egypt. Seeking to protect Egypt's monuments, Mariette founded the Egyptian Museum in Cairo and the Antiquities Service. His works include extensive publication of his excavations, as well as supplying an initial scenario for Verdi's Egyptian opera *Aïda* (first performed in Cairo in 1871).

Mariette's successor as Director of the Egyptian Museum and Antiquities Service was Gaston Camille Charles Maspero (1846–1916), who received the first doctorate in Egyptology in France in 1874. Maspero did restoration work in the temples of Luxor and Karnak, and copied the earliest known royal mortuary texts, called the Pyramid Texts (Plate 6.7), found in late Old Kingdom pyramids. His truly monumental accomplishment, however, was to organize and catalog the artifacts in the Cairo Museum. He published over 1,200 works!

Early methods of excavating were developed at Thebes by Alexander Rhind (1833–1863), a Scottish lawyer who visited Egypt in the 1850s. Most of the antiquities that he acquired in Egypt are now in the Royal Scottish Museum, Edinburgh. While many of the excavators in Egypt in the later 19th century were interested in clearing ancient monuments and tombs, and finding art and hieroglyphic inscriptions, archaeological methods were still rudimentary. Sir William Matthew Flinders Petrie (1853–1942) greatly advanced the methods of archaeology in Egypt and made important and original contributions to it.

Petrie first went to Egypt in 1881 to do a detailed survey of the Giza pyramids, and he continued to work there and in Palestine for almost 60 years, excavating more sites in Egypt than any other archaeologist. He soon began to excavate for the newly founded Egypt Exploration Fund (later the Egypt Exploration Society), based in London. Petrie trained and carefully supervised his Egyptian workers. He recorded a broad range of the excavated finds, not only impressive works of art, but also pottery of all types, and his field notes contain information about the contexts of excavated finds.

Some of the important sites where Petrie excavated in Egypt include Abydos, Tell el-Amarna, Coptos/Quft, Kahun, Memphis, and Naqada. Every year he published detailed accounts of his excavations for the Egypt Exploration Society and later the Egyptian Research Account. In the field Petrie had a reputation for keeping a very spartan camp, and later excavators have sometimes claimed that they found unused cans of food which Petrie had buried for the next field season. A chair of Egyptology was created for Petrie at University College London by the novelist Amelia Edwards, who was also a founder of the Egypt Exploration Fund. The Petrie Museum of Egyptian Archaeology is now located at University College London.

Another important archaeologist who advanced new field methods in Egypt was George Andrew Reisner (1867–1942), Professor of Egyptology at Harvard University and Curator of the Egyptian Department of the Museum of Fine Arts, Boston. Reisner realized the

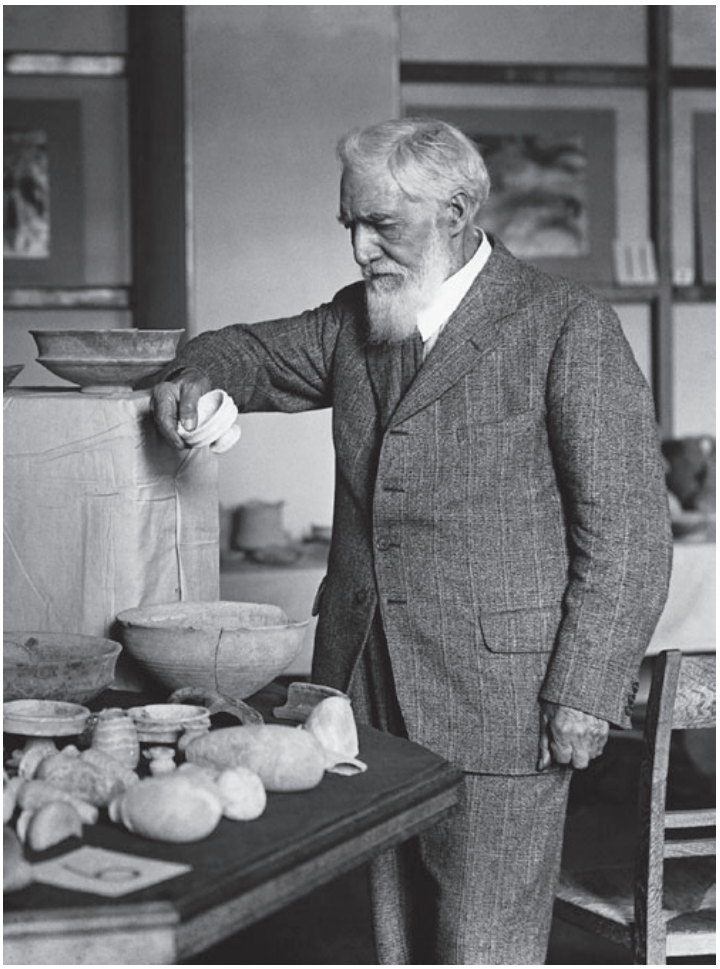

Figure 1.4 British archaeologist Sir William Matthew Flinders Petrie (1853–1942) with pottery he excavated in southern Palestine, exhibited at University College London ca. 1930. Source: © Hulton-Deutsch Collection/CORBIS.

importance of field photography, as well as keeping detailed records, maps, and drawing books of everything he excavated. In his early years in Egypt he excavated the large cemeteries at Naga el-Deir, and also at the sites of Coptos/Quft and Deir el-Ballas.

Then from 1907 to 1909 Reisner was director of the Egyptian government's Archaeological Survey of Nubia, to record sites when the first Aswan High Dam was heightened. Reisner later excavated at the impressive Nubian sites of Kerma (see 7.12 and Box 7-D), Gebel Barkal, el-Kurru, Nuri, and Meroe (see 9.5 and 10.9). After Egypt, the early Nubian civilizations are the oldest ones in Africa; hence Reisner was a pioneer in developing an entirely new field of studies, of ancient Nubia. After World War I Reisner continued excavating in Nubia, at Egyptian forts built during the Middle Kingdom (see 7.10), and a second archaeological survey of Nubia was conducted under the direction of British archaeologist Walter Emery. In 1930 Emery and Lawrence Kirwan discovered the important cemeteries at Ballana and Qustul, where Nubian kings of a culture called the X-Group or Ballana culture were buried in the 4th–6th centuries AD.

In Egypt Reisner is best known for his excavations at Giza (see 6.6 and 6.8). Finds from his work at Giza and in Nubia are in the Cairo and Khartoum museums, as well as in the Museum of Fine Arts, Boston, which has one of the most impressive collections of ancient art in North America. His excavations at the third Giza pyramid complex of Menkaura, especially in the mortuary and valley temples, unearthed a great wealth of royal sculpture (Plate 6.5). At Giza Reisner also discovered a rock-cut chamber at the bottom of a ca. 33-meter shaft with gold-covered furnishings, jewelry, and other artifacts belonging to Queen Hetepheres (Figure 6.13), Khufu's mother and wife of Sneferu (who built not one but three royal pyramids), as well as the tomb chapel of another 4th-Dynasty queen, Meresankh III.

Another important Egyptologist and contemporary of George Reisner was James Henry Breasted (1865–1935), who was the first American to earn a PhD in Egyptology (at the University of Berlin in 1894). Breasted was also the first to teach Egyptology at an American university. As Director of the Haskell Oriental Museum (now the Oriental Institute Museum) at the University of Chicago, Breasted established Chicago House, the university's research center in Luxor, Egypt, with funding from John D. Rockefeller. Recording ancient inscriptions and reliefs, especially endangered ones, the Oriental Institute's expedition at Luxor has produced impressive publications, including the entire temple of Medinet Habu, built in the 20th Dynasty by Rameses III. Using his work in Berlin on an immense dictionary of ancient Egyptian (the *Wörterbuch der ägyptischen Sprache*), Breasted published his *Ancient Records of Egypt*, a compilation of translations of texts spanning about 2,500 years, along with his commentary. His popular book, *A History of Egypt from the Earliest Times down to the Persian Conquest*, was based on these studies.

German scholars were also making significant contributions to Egyptian archaeology at this time. In 1907 Egyptologist Ludwig Borchardt (1863–1938) founded the German Archaeological Institute in Cairo and was its first director, a position he held for 21 years. Borchardt excavated Old Kingdom pyramids at Abusir as well as the best preserved example of a 5th-Dynasty sun temple at Abu Ghurob (Figure 6.14). His excavations of houses at Tell el-Amarna included that of the sculptor Thutmose, where the famous head of Queen Nefertiti (Plate 8.4) was found. Trained first as an architect, Borchardt made important contributions to the study of ancient Egyptian architecture, both monumental and domestic.

Undoubtedly the most famous archaeological discovery in Egypt in the 20th century is the tomb of Tutankhamen (see Box 8-B), uncovered by the British archaeologist Howard Carter (1874–1939). Carter was a skillful artist and first went to Egypt to copy Middle Kingdom tomb scenes at Beni Hasan. Appointed Inspector General for Upper Egypt by Maspero in 1899, he made important discoveries, including the tomb of Mentuhotep II, who unified Egypt through conquest and became the founding king of the Middle Kingdom (Plate 7.3). First hired in 1908 by Lord Carnarvon (1866–1923), it was not until 1917 that Carter began systematic investigations at Thebes in the Valley of the Kings. After five frustrating field seasons looking for Tutankhamen's tomb, Carter's discovery in 1922 created a sensation in the world press. A careful investigator, Carter then spent ten years recording and clearing the tomb, and conserving its artifacts. Although it has popularly been reported that the tomb contained a curse, this is not true. Carter died in England in 1939, 17 years after the tomb was opened.

Major European countries also founded research institutes or sponsored expeditions in Egypt, many of which continue to the present. In the 20th century ancient settlements also became the foci of archaeological investigations, though compared to tombs and temples many such sites have been poorly preserved. Long-term excavations at Tell el-Amarna (by the Germans, 1911–1914; by British archaeologists for the Egypt Exploration Society, 1921–1936 and 1977 to the present, under the direction of Barry Kemp) have provided information about a unique royal city of the 18th-Dynasty king Akhenaten (see 8.4). Excavations at the workmen's village of Deir el-Medina by the French Archaeological Institute, Cairo, from 1917 to 1951, under the direction of Bernard Bruyère, have provided much information about daily life as well as death in Egypt during the New Kingdom (see Figure 8.21 and Box 8-E). At Tell el-Dab'a in the Nile Delta, excavations by Manfred Bietak and now Irene Forstner-Müller of the Austrian Institute, Cairo (1966–1969 and 1975 to the present) have yielded much new information about the rulers of foreign origin who controlled northern Egypt between the Middle and New Kingdoms (see 7.11). In southern Egypt, on Elephantine Island, Werner Kaiser of the German Archaeological Institute, Cairo has directed excavations at a border town that was occupied for ca. 4,000 years, including the remains of one of the oldest temple shrines in Egypt, originating ca. 3200 BC.

With so much archaeological and textual evidence being unearthed in Egypt, Egyptologist Adolf Erman (1854–1937) of the University of Berlin first conceived of a work to reference these data. The project was later taken up by Oxford professor F. Llewellyn Griffith (1862–1934), who engaged Bertha Porter (1852–1941), a bibliographer who had studied with Erman and Griffith, and her assistant and successor Rosalind Moss (1890–1990). Beginning around 1900, Porter worked on the bibliography in England (and never traveled to Egypt), while Moss later verified the information in Egypt. Their *Topographical Bibliography*, which continues as a project, also includes evidence from Nubia and the Egyptian oases, as well as inscribed Egyptian artifacts from outside Egypt and in foreign museums.

Gertrude Caton Thompson (1888–1985) played a fundamental role in archaeological investigations in Egypt. Using stratigraphic controls, she excavated a Predynastic village at Hammamiya in Middle Egypt in 1924 (see 4.9). Working with geologist Elinor Gardner several years later, Caton Thompson identified the earliest known Neolithic culture, which she called the Faiyum A, in the Faiyum region of northern Egypt (see 4.8). Caton Thompson later investigated the prehistory of Kharga Oasis, in the Western Desert, recording sites from the Lower Paleolithic to the Neolithic.

Many more prehistorians came to work in Egypt and northern Sudan in the 1960s in connection with the construction of the second High Dam at Aswan. Lower (northern) Nubia was eventually flooded by the waters of Lake Nasser, but before this occurred thousands of archaeological sites, from prehistory to the Ottoman period, were recorded and selectively excavated. Archaeologists and scholars from all over the world participated in this monumental undertaking, including prehistorians who had never worked before in Africa. Especially significant has been the work of Fred Wendorf, of Southern Methodist University, on Paleolithic cultures in the Nile Valley. Wendorf's investigations in the Western Desert, sometimes in remote places where archaeologists had never ventured before, have revealed unique evidence of prehistoric habitation during periods when this desert was less arid than it is today (see 4.7).

The archaeological campaign in Nubia in the 1960s also investigated pharaonic sites, as well as sites of the various Nubian cultures contemporary with pharaonic Egypt and later periods. Hundreds of rock drawings and inscriptions were recorded as well. But the campaign is perhaps best known for its spectacular efforts organized by UNESCO, working with the Egyptian Antiquities Organization, to save Egyptian temples in Nubia, especially the removal of Rameses II's two rock-cut temples of Abu Simbel to a higher location (Plate 8.13). At Aswan to the north of the new dam, the threatened Temple of Isis and associated monuments on Philae Island were later dismantled and reassembled on higher ground on a nearby island in the 1970s (see 10.5).

Fortunately to the south of Lake Nasser archaeological sites in Upper Nubia were not threatened. From 1977 to the present excavations have been conducted at the ancient city of Kerma and in its huge cemetery by Swiss archaeologist Charles Bonnet and now Matthieu Honegger (Swiss Archaeological Mission to the Sudan). Although Kerma peoples were contemporaries of the Egyptians in the Old and Middle Kingdoms, the evidence at Kerma is of a very different culture from that of ancient Egypt (see 7.12 and Box 7-D).

Significant developments of Egyptian-directed archaeology also occurred in the 20th century. Increasingly the Egyptian Antiquities Service/Organization (later the Supreme Council for Antiquities, and now the Ministry of Antiquities and Heritage) was run by Egyptians and Egyptian-trained Egyptologists. Egyptian officials have conducted excavations at many sites in Egypt and filled the Cairo Museum, as well as museums throughout Egypt, with artifacts from their excavations of prehistoric, pharaonic, Greco-Roman, and Coptic sites. Egyptology is taught at a number of universities in Egypt, and Egyptian Egyptologists and officials work together with foreign expeditions. The Ministry of Antiquities and Heritage is the organization which regulates all excavations and issues permits to do archaeological investigations in Egypt, as well as ensuring the protection and preservation of ancient sites and monuments.

Although robbing and destruction of archaeological sites in Egypt has taken place since antiquity, the establishment of the Antiquities Service in the later 19th century helped to protect sites for controlled excavations by archaeologists and other scholars. Since the 2011 revolution that overthrew the government of Hosni Mubarak, however, many archaeological sites in Egypt have been damaged by pillaging for antiquities to sell on the black market, or by the expansion of modern villages and cemeteries into areas of the ancient sites. With the socio-political unrest that followed this revolution many ancient sites were no longer well protected, which has resulted in looting and/or destruction of ancient remains.

Investigations have been conducted at thousands of sites in Egypt and Nubia for more than 150 years, but it is only possible to discuss some of the more prominent ones in this book.

1.5 Archaeological Methods

Flinders Petrie was the first archaeologist working in Egypt to exploit the importance of stratigraphy, the principle that through time archaeological remains are deposited in layers or strata of soil. Many factors can complicate the stratigraphy of archaeological sites, from animal burrowing to earthquakes, but in general the latest artifacts and other remains are in

layers closest to the present surface, while the earliest ones are lower in the ground, just above bedrock or sterile soil. Petrie applied the principle of stratigraphy in archaeology in 1890 at his excavation of Tell el-Hesy in Palestine, when he dated the different layers of the settlement by the associated pottery, which he knew from Egypt. Petrie recorded these strata in his drawings of sections, the vertical record of excavated cross-sections through different strata of the mound.

Before Petrie, excavators in Egypt generally discarded pottery. Recognizing the significance of changing pottery styles as a chronological marker, Petrie sampled and classified the pottery from his excavations. One result of his investigations of Predynastic cemeteries was the first seriation of graves, using pottery types and other artifacts. In his seriation scheme Petrie ordered the graves in a relative sequence (which he called Sequence Dating; see Box 5-A), from early to late, which we now know roughly spanned the fourth millennium BC (based on radiocarbon dating, which was not invented until the mid-20th century). Seriation is a technique which archaeologists routinely use today to order finds into relative periods of time, from early to late.

Another important early development in archaeological methods was George Reisner's survey strategy to find and record threatened sites when the first High Dam at Aswan was heightened in 1907. Traverses were done along both banks of the Nile in the northern half of Egyptian Nubia up to the height that would be flooded. This was the first large-scale, systematic salvage or rescue archaeology done anywhere in the world; such archaeology would be conducted increasingly in the later 20th century, as archaeological sites in most countries became endangered by expanding towns and cities, and by economic and agricultural development.

With the construction of the second High Dam at Aswan in the 1960s, a number of prehistorians did fieldwork in southern Egypt and northern Sudan for the first time. They employed rigorous methods for the survey and excavation of prehistoric sites, and the classification and analysis of artifacts, especially stone tools and pottery.

As anthropologically trained archaeologists, many prehistorians working in Egypt and Sudan were influenced by new developments in archaeological method and theory in North America and Europe in the 1960s and 1970s. Processual archaeology proposed that archaeology should be done using scientific methods and theory. Although some scientific methods from the "hard sciences" are not applicable for archaeology, hypothesis testing, where a model of some aspect of socio-cultural development is formulated and then tested by archaeological fieldwork, was deemed important for research design. Field investigations include both excavations and archaeological survey, not only to locate sites, but also to obtain data about settlement patterns (although this has often been very difficult to do in Egypt because of the poor preservation of ancient settlements; see 3.3). Bruce Trigger's pioneering study of settlement patterns in Nubia since the beginnings of agriculture was the first of its kind. An important project which has studied late prehistoric settlement patterns in an area in Upper Egypt (and changes in settlement location through time) has been that of Michael Hoffman and his successors at Hierakonpolis (see 5.3).

How sites in Egypt are surveyed and/or excavated very much depends on the period of the site and the goals of the archaeologists – as well as the amount of funding they have for research and the terms of their permits. Increasingly, satellite image analysis is used to

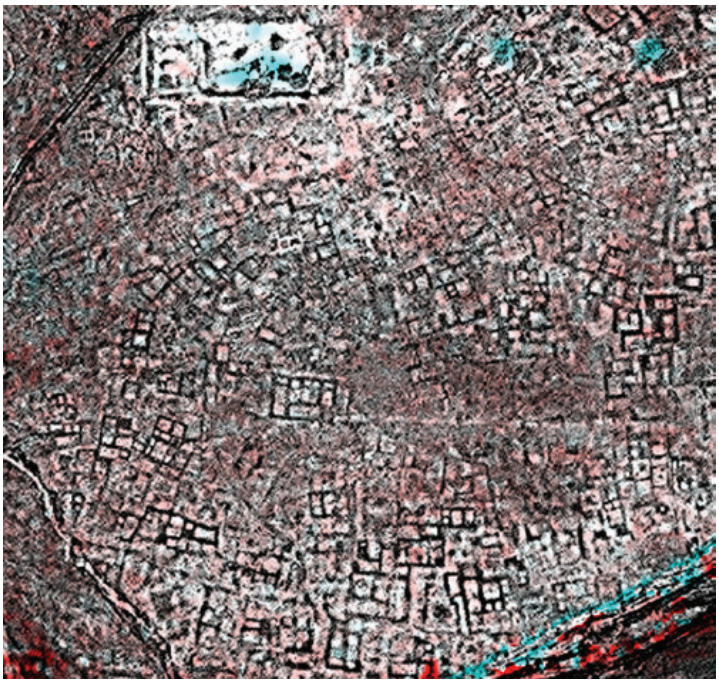

Figure 1.5 Quickbird and WorldView-1 satellite image of Tanis, Egypt, processed using band combinations, high pass filtering and additional techniques. Source: used by permission of Sarah Parcak, University of Alabama at Birmingham.

locate archaeological evidence before any fieldwork is ever conducted and the work of Sarah Parcak is especially pioneering in the methodology used. Through satellite image analysis Parcak has possibly located a major site, the Middle Kingdom capital of Itj-tawy-Amenemhat (see 7.1), as well as entire streets of houses in the Third Intermediate Period capital of Tanis (Figure 1.5; see 9.3). Her analyses suggest that a number of ancient settlements in Egypt may still be preserved – and therefore are excavatable.

With data from satellite image analysis, archaeologists can then locate and record the ancient evidence still on the surface in the field, such as concentrations of potsherds or remains of architecture, and conduct small-scale test excavations to verify the buried evidence. With such information, archaeologists can then establish priorities for excavation and/or conservation of specific sites or evidence within a site.

For excavations, all archaeological data must be recorded within their context, within the strata in which they were deposited, otherwise their chronological and cultural significance is lost. The excavation of many prehistoric sites, often containing no other artifacts than stone tools, requires the painstaking recording of microstratigraphic sequences within small excavation units (such as 1×1 meter in area). For the excavation of pharaonic period sites with large-scale architecture, archaeologists work in units of up to 10×10 meters in area and record the stratigraphy of finds within the architectural units. Stratigraphy can be excavated and recorded using the older method of square excavation units separated by vertical walls of soil called baulks, where the stratigraphy is evident in profile ("Wheeler squares," named after the early 20th-century British archaeologist Sir Mortimer Wheeler, who pioneered the

Figure 1.6 Wheeler excavation squares at a site. Source: used by permission of the Society of Antiquaries of London.

technique; Figure 1.6), or the more recent method of excavating in Harris "stratigraphic units," where each stratum, feature (such as a hearth), or architectural component is given a separate number in order to establish a graphic "matrix" to identify the sequence of these units. The Harris methodology is useful for recording strata of many different types of sites – from strata of a few centimeters often encountered at prehistoric sites to tomb structures and their interior deposits to large, open area excavations of features and architecture.

Although Akhenaten's city at Tell el-Amarna was only briefly occupied in the 18th Dynasty, and thus most of its architecture dates to only one phase of construction, excavating ancient architecture can often be complicated by multi-phased constructions – additions or remodeling from later periods, which also need to be carefully recorded. Such recording is made even more complex when these structures were built and rebuilt in tells, mounds of ancient settlements which have been built up through time by many layers of human habitation (see 3.3). The problems of excavating within ancient architecture, such as stone temples or rock-cut tombs, sometimes require the work of architects or engineers to stabilize the structure so that it is safe enough for human excavators. It can also be challenging to record stratigraphic sequences within deposits of sand, which is soft and shifting, such as is often encountered at sites in Upper Egypt, whereas in the Delta the stratigraphy of cultural material in deposits of silts and sand is more distinct. Another problem archaeologists often face when working in the Nile floodplain or the Delta is the increasingly high water table: pumping out ground water in archaeological trenches is a continuous process – and very costly.

Archaeology in Egypt now includes statistical analyses of archaeological data, as well as various types of scientific analyses. Material scientists and other specialists analyze the materials used in every aspect of past cultures, from the minute remains of paint in rock drawings to the metallurgy of metal tools. Form, artifact function and use, as well as the technology involved in their production are studied. To better understand ancient technology, artifacts (and even a small Egyptian pyramid!) have been reproduced in what is called experimental archaeology.

Ancient botanical evidence is obtained through a technique called flotation: small plant remains (especially carbonized seeds) float to the surface when soil samples from sites are processed in water. Paleo-ethnobotanists, who do such analyses, study the origins of agriculture and Neolithic cultures in Egypt, and also provide important economic information about agriculture and plant exploitation in pharaonic Egypt. Ethno-archaeologists study traditional crafts, housing and settlements, farming and food preparation, and other practices in rural Egypt, to help explain archaeological evidence through ethnographic analogy. There are scientists who study ancient deposits of pollen (palynology), which may yield environmental information. Phytoliths, microscopic casts of plant cells, may also be present at sites for study.

Human bones (and teeth) are analyzed by physical anthropologists to determine age, sex, and stature, as well as evidence for diet, nutrition/nutritional deficiencies, and overall health; diseases and pathologies; long-term (occupational) stress; and accidents and physical trauma.

Analysis of ancient DNA derived from the cell nuclei of human remains (from bones, for example) may yield information about an individual's sex and genealogy. But the ancient DNA may have been badly degraded through time, requiring special laboratory techniques to process. Contamination of samples with modern DNA is also a potential problem.

Animal bones are studied by zooarchaeologists not only for age and sex, but also to determine many other factors about both wild and domesticated species – in order to better understand animal husbandry practices. Identification of the dung of domesticated animals, which is sometimes well preserved in Egyptian settlements, may also yield information about animal behavior – and human intervention in this.

Increasingly geologists, geomorphologists, and specially trained geoarchaeologists work with archaeologists, helping to differentiate natural geological processes at archaeological sites from the results of human activities, as well as the processes that transformed a site after it was no longer used (see 3.3). On-ground remote sensing (geophysical prospecting) is used to locate buried remains, and includes the use of equipment such as magnetometers and ground-penetrating radar (Figure 1.7). Geological boring is also used to gain a better understanding of (buried) sites as well as how such sites relate to changing landscapes and water courses. Topographic mapping of excavated remains is done by professional surveyors.

Excavations in Egypt are now multi-disciplinary, requiring the input of many specialists from different disciplines (see Box 1-B.). Especially important for Paleolithic investigations are lithic analysts because stone tools and the debris from their manufacture are the most frequently recovered artifacts. Ceramics become more frequent at sites dating after ca. 6000–5000 BC, and pharaonic sites can contain huge volumes of potsherds, which need

Figure 1.7 Tell el-Balamun, magnetic map of the temple enclosure. Source: Reproduced by permission of Tomasz Herbich, Polish Academy of Science, the British Museum and the Egypt Exploration Society. Background image © Google Earth.

to be studied by ceramic analysts. Philologists and Egyptologists are needed on excavations of pharaonic sites, and classical scholars on excavations of Greco-Roman sites. Highly trained specialists in different disciplines are also frequently needed, such as the nautical archaeologists who have studied the ship timbers at the pharaonic harbor of Mersa/Wadi Gawasis on the Red Sea (see Box 7-A).

Conservation and preservation of archaeological sites and artifacts are extremely important concerns in Egypt. Many archaeological projects are involved in the preservation, restoration, and reconstruction of ancient monuments and tombs. At major temples, such as that of Amen-Ra at Karnak, study and restoration of the architecture and reliefs were conducted throughout the 20th century and continue today. Specially trained artifact conservators are now often part of archaeological expeditions, and there are special projects to conserve and record tomb paintings, as well as reliefs and inscriptions in temples and

Box 1-B The lost city of the pyramids at Giza

Since the late 1980s archaeologist Mark Lehner (Ancient Egypt Research Associates, AERA) has directed multidisciplinary investigations to the south and east of the Giza pyramids. Until this project began, almost nothing was known about the organization of the workers and the work program that produced the Giza pyramids. Evidence of the "Lost City" now provides much more social and economic information about the enormous undertaking of royal pyramid construction.

What has emerged in the excavations to the south of the enormous stone "Wall of the Crow" at Giza is the "Lost City," where a huge 4th-Dynasty production facility, with long narrow galleries, including evidence of paved streets, a large columned hall, a copper workshop, workers' housing, many storerooms, and state bakeries to feed the workers, was first excavated. Eastern and Western "Towns" have now been excavated with the residences of higher- and lower-status workers and their families. The most recent excavations include a re-examination of the small town associated with the monument of a 4th-Dynasty queen, Khentkawes, to the west of the "Lost City," and the structures connecting this town to the Menkaura Valley Temple, excavated by George Reisner in the early 20th century (see 6.6 and 6.7).

Geophysical prospecting to locate buried remains has been conducted with a magnetic gradiometer, and professional surveyors have mapped the different settlements. An osteo-archaeologist has excavated the much later human burials (26th Dynasty and later) and studied the human remains. Animal bones are studied by a zooarchaeologist, and botanical remains are examined by a paleo-ethnobotanist. Artifact analysis is done by lithics and ceramic analysts, and Associate Director John Nolan, an archaeologist and epigrapher, has studied the hieroglyphic impressions on the clay sealings found throughout the site.

The multidisciplinary AERA excavations are an example of how archaeology is now done in Egypt. Egyptian archaeologists and specialists in ceramic analysis and other fields have also been trained in AERA field schools – and are providing their newly acquired skills at other archaeological sites in Egypt.

tombs. Major projects to conserve ancient monuments in Egypt include archaeologists, epigraphers, and art historians, but also engineers, architects, geologists, and other specialists in cultural heritage management.

The Giza Sphinx is an example of a monument that has been restored over the past 3,500 years, with the most recent repairs done in the late 20th century. Stone monuments are increasingly threatened by salts in the ground water, and paintings in subterranean rock-cut tombs are especially vulnerable to environmental conditions. In western Thebes the tomb of Nefertari (see 8.9), the chief wife of Rameses II, was closed for most of the later 20th century because of the poor condition of its paintings, but it has now been preserved through a major restoration project by the Getty Conservation Institute and the Egyptian Antiquities Organization.

1.6 Archaeological Theory

One framework in which archaeology has been practiced in Egypt is that of culture history, which is reconstructed through the arrangement of the excavated material in a spatial and temporal context. This is basically a descriptive method to reconstruct the past in relation to a time sequence. Such archaeologists usually establish detailed chronologies, often composed of different periods with distinctive artifact styles for each phase.

With the development of processual archaeology in the 1960s, anthropologically trained archaeologists became interested in explaining social and economic changes in past cultures – the processes by which societies change – not just describing them. In processual archaeology, the natural, social, and political environments are often seen as significant factors in determining when and how changes occur. Economic factors, especially subsistence practices, technology, and demography, are also significant factors in sociocultural change. Archaeological evidence is interpreted within sociocultural systems – the institutions and organization of the ancient society as a whole. In theory, processual archaeologists are neo-evolutionists ("neo" differentiates them from evolutionists in 19th-century anthropology). They are interested in the process of socio-cultural and political evolution, from simple societies, such as the hunter-gatherers who lived in Egypt during Paleolithic times, to more complex ones, such as chiefdoms or the early state, which arose in Egypt during the fourth millennium BC. Processual archaeologists not only investigate such developments in particular places, such as Egypt, but also draw analogies with similar forms of change in socio-political organization in other parts of the world, to help elucidate such processes in Egypt (and elsewhere) and to build general theories.

Beginning in the 1980s, increasing criticism of processual theory developed among post-processual archaeologists and processual archaeology was criticized as being too environmentally deterministic. Although many processualists did take ritual, ideology, religions, and agency (the role of individuals, i.e., "agents") into account, the post-processualists believed that these and other aspects of human behavior, such as values and aesthetics, had been overlooked.

To better understand their data, archaeologists now use a number of theories, only a few of which are mentioned here. The role of royal agents in ancient Egypt is often evident in monuments and texts, which frequently contain historical data that were revised according to royal ideological agendas – the agency of power. But agency theory can be broader in scope: how did other individual agents operate in relation to the socio-political and physical environment of ancient Egypt? Some post-processualists are also interested in the archaeology of the mind and cognition: what is the meaning of the symbols on the artifacts and other evidence they excavate and what is the cultural grammar of this symbolism? Textual evidence, when available, can be especially relevant for such theory.

Post-processual landscape archaeology looks at the role of the ancient landscape, both natural and man-made, and the meaning of this – for the living and the dead. This is a particularly significant theoretical approach for understanding ancient Egyptian culture, since there are texts which give toponyms to natural features in the environment, such as mountains, and temples and cemeteries can often be understood within the context of the ceremonies that were performed there.

Lynn Meskell (Stanford University), who has studied evidence from the New Kingdom workmen's village at Deir el-Medina, proposes that the study of ancient social life requires an understanding of individuals, their identities (especially gender roles), and their bodies (see 8.11 and Box 8-E). Such theory, however, also requires very detailed data, both textual and archaeological, which are rarely all found at archaeological sites. Most of the people who lived in ancient Egypt were peasant farmers, whose settlements – and lives – remain invisible archaeologically. More recently, identity and personhood in ancient Egypt has been examined by Willeke Wendrich, as has gender in this early civilization, by Terry Wilfong. Ethnicity, as identified in the archaeological record, is also an important theoretical topic. Stuart Tyson Smith's studies of Egyptian and Nubian groups living together in Nubia in the New Kingdom are significant contributions to the broader topic (see 8.12).

1.7 Ancient Egypt and Egyptian Archaeologists in Fiction and Films

Ancient Egypt has not only been the focus of serious scholars. Hundreds of thousands of tourists have flocked to Egypt every year to see its monuments, and exhibitions displaying ancient Egyptian art and jewelry are very popular in major museums throughout the world. The widespread fascination with Egyptian mummies is a result of ancient Egyptian mortuary practices, which required well-preserved (but eviscerated) bodies, and the hieroglyphic texts associated with mortuary evidence are believed by many to hold mystical truths.

Because of such finds, ancient Egypt has frequently been the inspiration for fiction (including historical fiction), and films. The aim of most of these works is not accuracy, but entertainment.

Ancient Egypt at the movies includes several films about Cleopatra VII, usually as an exotic seductress. Theda Bara was an early Cleopatra (1917), and Claudette Colbert also played the queen (1932). Vivien Leigh was Cleopatra in a film version of George Bernard Shaw's play *Caesar and Cleopatra* (1945; Figure 1.8), but probably the most famous movie Cleopatra was Elizabeth Taylor in the 1963 film, where she made love on and off the sets to Richard Burton's Marc Antony.

The Ten Commandments, set in part in Rameses II's Egypt, has been the topic of two films by Cecil B. DeMille (1923 and 1956), and more recently a feature-length animated film *Prince of Egypt* (1998). Also from the 1950s are two notable films, *The Egyptian* (1954), based on the novel by Mika Waltari, and *Land of the Pharaohs* (1955).

Malevolent mummies, who miraculously come back to life and intimidate the living, have been a topic of fiction since Sir Arthur Conan Doyle's *Lot No. 249* (1892). Dozens of films have been made about such mummies, with Boris Karloff as the earliest well-known one (1932 and onward). Less dangerous mummies are found in *Abbott and Costello Meet the Mummy* (1955) and *I Was a Teenage Mummy* (1962 and 1992). Ramses the Damned, previously Ramses the Great (II), makes his appearance in Anne Rice's 1989 book *The Mummy*. In the 1999 film *The Mummy* and its 2001 sequel, an ancient Egyptian priest is unhappily (and quite impossibly) mummified alive, which creates great havoc several thousand years later.

Figure 1.8 Vivien Leigh as Cleopatra (VII) with Claude Rains as Julius Caesar, in the 1945 film of the George Bernard Shaw play *Caesar and Cleopatra*. Source: London Films/RGA.

Archaeologists working in Egypt have also been the subject of films. They appear in Robin Cook's 1979 book *Sphinx*, which has nothing to do with sphinxes, and in the 1981 film version. The movie inside the movie of Woody Allen's 1984 *Purple Rose of Cairo* begins with an adventurer-explorer (archaeologist?) in an Egyptian tomb, but he is quickly whisked off to Manhattan for a madcap weekend. Perhaps the most famous film archaeologist is Indiana Jones, who in the 1981 *Raiders of the Lost Ark* takes advantage of his university's liberal policy on academic leave to keep the Nazis from finding The Ark in their fairly informal excavations in Egypt. *Stargate* (1994) takes a somewhat naive Egyptologist to the other side of the universe where the Egyptian sun god Ra is up to no good.

The 19th-century Egyptologist Georg Ebers (1837–1898) also wrote novels set in Egypt, but is perhaps better known now for the medical papyrus named after him, which includes prescriptions for treating wrinkles and grey hair. An important novel of Thomas Mann's is *Joseph and His Brothers*, published first in German in 1933. Other works of historical fiction set in ancient Egypt include Pauline Gedge's books, the first of which is a romanticized novel about Queen Hatshepsut, *Child of the Morning* (1975). Norman Mailer's 1983 novel *Ancient Evenings* is a very loose interpretation of Egyptian beliefs about the afterlife.

Agatha Christie's 1944 mystery *Death Comes as the End* is based on real letters of an early 12th-Dynasty official named Hekanakht. Christie was married to Max Mallowan, a British archaeologist who worked in the Near East. She also set another of her mysteries, *Death on the Nile* (1937), in modern Egypt. More recently Elizabeth Peters (the pen name for Egyptologist Barbara Mertz) has published a highly successful series set in

Edwardian England and Egypt, including *Crocodile on the Sandbank* (1975). Peters's books revolve around the adventures of Amelia Peabody Emerson, an Egyptologist, archaeologist, and sleuth – and wife of an archaeologist whose character is freely based on Flinders Petrie.

Where do fantasy and fiction end, and how do archaeologists really work in Egypt? That, in part, is the subject of this book.