

## Introduction

Few landscapes on earth are more spectacular than the verdant Nile Valley. Bordered by endless desert, it is dotted with some of the most imposing monuments ever built by man: huge pyramids, gigantic temples, and also strange structures which are difficult to classify, such as the huge tomb of the Pharaoh Shepsekaf at Saqqara or the so-called Osireion at Abydos. With the passing of the centuries, and with the construction of so many monuments one after another, Egypt gradually became an extremely complex and extraordinarily beautiful landscape. This landscape was modelled by men according to precise criteria to create a conceptual, sacred landscape which was also a *landscape of power* since it was conceived and built to stand witness to the power and divinity of the Pharaohs and to their claims on the afterlife.

This book is a journey in time and space, its aim being to visit this landscape and learn about the ideas of its builders. Our visit will therefore be *cognitive*. This means that we shall be using architecture as a starting point for penetrating the minds of those extraordinary people who built such extraordinary monuments. We shall attempt to visit what remains of the ancient Egyptians' human-made landscape, searching for the builders' feelings and thought processes in the tangible records of their architectural achievements.

Probing the minds of ancient architects is no easy task. It means grasping their symbolic world. This means religion, of course, but also *knowledge*: geometry, cosmology and so on. It means understanding social organisation, as well as temporal power. Of course, a book positing a cognitive approach to ancient Egyptian architecture with such a variety of objectives would be, quite simply, an insane project. It is therefore necessary to choose one suitable, specific key, and an extremely powerful

key to ancient Egypt is astronomy, or rather *archaeoastronomy*. Modern archaeoastronomy is the science devoted to the study of the knowledge of the sky in ancient times as reflected in architecture and landscape. It is an indispensable tool in understanding Egypt, given that celestial matters were, for the ancient Egyptians, deeply and intimately connected with the most important thing of all: preserving *Maat*, the cosmic order, on Earth. Such an order was *anchored* to the celestial cycles: the cycle of the sun, the calendar, the succession of the hours of the night, and the reappearance of Sirius and of the other stars. It was the regularity and predictability of the cosmic order, assured on earth by the existence of a living god, the Pharaoh, that held the country together in the three great periods, or kingdoms, we shall see in this book. The overriding importance of the sky meant that many of the buildings constructed in Egypt from very early times were themselves anchored to the celestial cycles. For instance, funerary beliefs regarding the afterlife of the deceased Pharaoh during the Old Kingdom were connected both with the circumpolar stars and with the sun god. Thus the royal tombs, the pyramids, in a sense solar symbols themselves, were anchored to the points of the compass, and their annexed temples contained solar alignments. Even today, such solar alignments are remarkably effective and give rise to spectacular *hierophanies* on certain special days of the year. The most impressive of these is that occurring at Giza, at sunset on the day of the summer solstice, when the sun together with the two giant pyramids re-creates the symbolic hieroglyph “horizon” or *Akhet*, which is also the name of the Great Pyramid.

The main focus of study of archaeoastronomy is thus the analysis of astronomical alignments and their possible significance. The cognitive “astronomical” approach to ancient Egypt I intend to employ in this book, however, has a far broader scope. Indeed, the methods of archaeoastronomy can be used to analyse conceptual landscapes even when their cognitive aspects do not relate to the sky. In particular, topographical alignments to prominent natural landmarks or sacred places may be studied. In some cases – as we shall see – they play a fundamental role in understanding the main features of places as important as Western Thebes, Giza and Amarna.

It goes without saying that writing a book running chronologically through the cognitive astronomical aspects of some two millennia of architecture would still be an insane project if applied to our “Western”

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civilisation. It would entail following architecture as it undergoes an enormous number of abrupt changes and inventions. However, the flow of human time in ancient Egypt was totally different from ours. As a consequence, symbols, patterns and even entire landscapes were constantly re-created, renewed and reinterpreted without radical conceptual changes throughout the whole of Egyptian history.

The present book is the result of almost 15 years of scholarly research on this subject. My original background is, however, in astrophysics. As a physicist, I am among those who most baulk at “hidden legacies”, “mysterious encodings” and so on, and one of the aims of this book is to show that the symbolism of the sacred landscape in Egypt is *not* hidden or esoterically concealed, as an alarmingly vast nonscientific literature has sought to contend since the nineteenth century. Quite the contrary, even today we can try to read many of the messages of pride and power embodied in the architecture bequeathed to us by the Pharaohs. A note of caution is warranted, though. Receiving messages from the ancient past presents us with a most exciting intellectual challenge – the need to alter our mindsets, and try to think as *they* did.

Let us accept this challenge, then, and set out on our journey.

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## PART ONE

The sky is clear, Sirius lives, I am a living one, the son of Sirius,  
the two Enneads have cleansed themselves for me in Meskhetyu, the  
Imperishable.

My house in the sky will not perish, my throne on earth will not be  
destroyed.

My seat is with you, Ra, and I will not give it to anyone else,  
I will ascend to the sky to you.

Pyramid Texts (PT) 302, §§458, 461  
(translation by R. Faulkner)

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## 1

**A land for eternity****1.1 A land for eternity**

Egypt is a unique place. The land consists of a short strip of fertile terrain, crossed and vivified by the river Nile, which flows in a south-to-north direction, enclosed as far as its huge delta by rock embankments which keep at bay a seemingly endless desert (Figure 1.1). The only exception along the river, the Fayoum oasis, nestles like a jewel on the west bank, some 100 kilometres south of Cairo.

The climate of the country is arid. Rains are rare and usually arrive in the form of rapid storms, but the land is fertile due to the nutritious alluvial soil washed up by the river in the annual floods (today controlled by the Aswan Dam, built in the 1960s). This climate emerged progressively about five millennia ago, more or less contemporaneously with the development of the unified, “dynastic” Egypt which is the subject of the present book. The complex issue of the history, culture and religion of Egypt prior to its unification as a single kingdom will therefore be merely alluded to here.

It is usual to divide the history of unified Egypt into “dynasties”, a distinction, however, which does not really reflect the ancient Egyptians’ way of sensing the flow of history. They felt, rather, that each Pharaoh’s rule was a distinct historical period, while the division into dynasties was introduced by the Greek historian Manetho and (among other shortcomings) does not necessarily correspond to a change in the parental succession of kings (the way in which a Pharaoh acceded to kingship was not governed by immutable rules, although the eldest son of the main, or “great”, queen seems to have been the preferred successor in many cases). In spite of this, the succession of dynasties does in many



1.1. Map of Egypt.



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cases match up neatly with what we can gather from archaeological and historical records concerning the main changes and events occurring in Egypt, and therefore its use is customary and will be followed here. As far as chronology is concerned, we have a few documents and inscriptions recording lists of kings and their regnal years, such as the Turin Papyrus (listing up to the seventeenth dynasty) and the Palermo Stone. Found in 1866 at Memphis, it is actually a large piece of an original stela (usually called the Royal Annals) recording also important events, such as the foundation of buildings. However, these documents are not sufficient – especially for the Old Kingdom – to establish with any certainty the dates of the reigns of each individual Pharaoh (in some particular cases, their actual succession is also the subject of debate). Several different chronologies have thus been elaborated by scholars, which in some cases differ considerably in assigning accession dates and lengths of reigns. Recent chronologies are those of Baines and Malek (1981), Von Beckerath (1997), Shaw (2000), Dobson and Hilton (2004) and Hornung, Krauss and Warburton (2006). Fortunately, for the purposes of the present book, knowing the fine details of the kings' regnal years is not imperative, with the exception of two cases, Shepsekaf and Akhenaten, which will subsequently be discussed in depth. Therefore, I shall adhere strictly to one of these chronologies, that of Baines and Malek (for the ease of the reader, kings' regnal dates according to this chronology are reported in the Appendix and will be mentioned when appropriate).

The Egyptian state was formed through a process of population settlement and growth, with progressively more people being attracted by the fertility of the land (Grimal 1994; Kemp 2005; Shaw 2000). Probably, two kingdoms emerged in Lower and Upper Egypt, respectively, and were finally unified around 3200 BC under a single kingship.

We have no way of knowing for sure the extent of such kingdoms and the details of the historical process leading to a unified kingdom – the story of a hero king called Menes who engineered the unification is perhaps only a tale recounted to Manetho. However, what is important for us here is that the endlessly repeated, obsessive idea of “two lands reunited” is a leitmotiv throughout the history of Egypt. It is, in particular, a constant concern of the Pharaohs to present themselves as the kings of Upper and Lower Egypt, protected by the goddesses of Upper and Lower Egypt, wearing the white crown of Upper Egypt and the red crown of Lower Egypt, and so on. Thus, something epic really must have

occurred, which remained in the genetic memory of the country. On one hand, the unification of the two lands under the same kingship became an effective symbol of the Pharaoh's power. On the other, the reversal of the unification process, with the splitting of the two lands, was always a possibility (and indeed occurred in the two intermediate periods), so that the obsessive reference to unification also created a sort of superstitious attitude, insinuating that the only way of keeping order was to keep the country united. This led to the presence of the “duality of the two lands” in countless official expressions of power and, in particular, in architecture and landscape, as we shall see.

Whatever the origins of its formation, the kingdom of Egypt enjoyed a first period of extraordinary success and prosperity, which lasted for some 700 years, during the periods usually referred to as Early Dynastic (dynasties 1–2) and Old Kingdom (dynasties 3–6). Salient features of this development were the fertility of the land, an enlightened husbanding of resources and effective administration, but also a process of *cultural* unification which took place very early on, together with the introduction of writing. The capital – or better, the town which was the main centre of power, and which will be called “capital” henceforth – was probably moved very early from Abydos to the Memphis area, although Abydos remained a seminal cult centre.

The figure of the ruler was soon endowed with divine essence. In particular, a fundamental duty that the Pharaohs assigned to themselves was that of keepers of the cosmic order. The cosmic order, or *Maat*, was a key concept in Egyptian mentality. One could attempt to define it as a mixture of order, truth and justice, but it is easier to say just that *Maat* was the opposite of Chaos: it was *regularity*. *Maat* regulated the world – in particular, the natural cycles and hence the calendar – and was actually identified with a goddess, daughter of the sun god Ra (in later times, she would be responsible for weighing the hearts of deceased people against a feather in order to decide if they were pure enough to be saved in the afterlife). The ideology associated with kingship and power thus designated the king as an intermediary between the gods and humanity. Indeed the Pharaoh himself was a living god; of course, he had to deal, sooner or later, with the little problem of his own death. Clearly, this was bound to create a paradox as regards the exercise of power, also because the doctrine of the living god was enshrined in the foundation of the state, and suffused the entire political order. For this reason, the