

Rewriting the History of The Great Sphinx



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**THE GREAT
SPHINX**

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Cover: The Great Sphinx of Giza, with the Old Kingdom pyramids of *Khufu* and *Khafra*.

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Figure 4.14 After V. Maragioglio and C. Rinaldi, 1966, 'L'architettura delle Pirimidi Menfite', parte V, plate 14. Colour added by the author.

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Figure 5.6 Source: Richard Lepsius, 1810-1884, https://commons.wikimedia.org/wiki/File:Lepsius-Projekt_tw_1-1-16.jpg, 'Lepsius-Projekt tw 1-1-16', <https://creativecommons.org/publicdomain/zero/1.0/legalcode> Image unchanged except for the addition in red and blue.

Figure 5.7 Topography based on Arab Republic of Egypt, Ministry of Housing and Reconstruction, Topographic sheets, F17 and F18, 1:5000, with archaeology after M. Lehner, 1985, 'The development of the Giza Necropolis: The Khufu project', *Mitteilungen des Deutschen Archäologischen Instituts Abteilung Kairo*, volume 41. Colour and annotations by the author.

Figure 6.5 Based on M.E. Lehner, 1991, 'Archaeology of an Image: The Great Sphinx of Giza', PhD dissertation, Yale, figure 4.8. Source: <https://zenodo.org/record/1203621> accessed 12 August 2023. Reproduction permitted under <https://creativecommons.org/licenses/by-sa/4.0/legalcode>. Colour and annotations by the author.

Figure 7.2 Topography based on Arab Republic of Egypt, Ministry of Housing and Reconstruction, Topographic sheets, F17 and F18, 1:5000. Colour and annotations by the author.

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Figure 7.4 Topography based on Arab Republic of Egypt, Ministry of Housing and Reconstruction, Topographic sheets, F17 and F18, 1:5000. Colour added by the author.

Figure 8.12 Topography based on Arab Republic of Egypt, Ministry of Housing and Reconstruction, Topographic sheets, F17 and F18, 1:5000, with detail taken from T. Aigner, 1983, 'A Pliocene Cliff Line Around the Giza Pyramids Plateau, Egypt.', *Palaeogeography, Palaeoclimatology, Palaeoecology*, 42, figure 1. Colour and annotations by the author.

Figure 9.1 Based on M.E. Lehner, 1991, 'Archaeology of an Image: The Great Sphinx of Giza', PhD dissertation, Yale, figure 4.4. Source: <https://zenodo.org/record/1203621> accessed 12 August 2023. Reproduction permitted under <https://creativecommons.org/licenses/by-sa/4.0/legalcode>. Colour and annotations by the author.

Figure 9.2 Based on M.E. Lehner, 1991, 'Archaeology of an Image: The Great Sphinx of Giza', PhD dissertation, Yale, figure 4.4. Source: <https://zenodo.org/record/1203621> accessed 12 August 2023. Reproduction permitted under <https://creativecommons.org/licenses/by-sa/4.0/legalcode>. Colour and annotations by the author.

Figure 9.6 Pre-1978 photograph from the author's collection of archive photographs. Published (undated) by the Egyptian State Tourist Administration. Annotations by the author.

Figure 9.8 M.E. Lehner, 1991, 'Archaeology of an Image: The Great Sphinx of Giza', PhD dissertation, Yale, plate 2.11. Source: <https://zenodo.org/record/1203621> accessed 12 August 2023. Reproduction permitted under <https://creativecommons.org/licenses/by-sa/4.0/legalcode>.

Figure 9.12 Based on M.E. Lehner, 1991, 'Archaeology of an Image: The Great Sphinx of Giza', PhD dissertation, Yale, figure 5.11. Source: <https://zenodo.org/record/1203621> accessed 12 August 2023. Reproduction permitted under <https://creativecommons.org/licenses/by-sa/4.0/legalcode>. Annotations by the author.

Figure 9.19 Topography based on Arab Republic of Egypt, Ministry of Housing and Reconstruction, Topographic sheets, F17 and F18, 1:5000, with archaeological information after M.E. Lehner, 1991, 'Archaeology of an Image: The Great Sphinx of Giza', PhD dissertation, Yale, figure 4.1. Source: <https://zenodo.org/record/1203621> accessed 12 August 2023. Reproduction permitted under <https://creativecommons.org/licenses/by-sa/4.0/legalcode>. Colour and annotations by the author.

Figure 10.2 The black and white elements of the upper image are based on K.L. Gauri, 1984, 'Geologic Study of the Sphinx', *Newsletter of the American Research Centre in Cairo*, 127, figure 1. The middle and lower black and white images are modifications by the author. Colour additions by the author.

Figure 10.3 From the author's collection of archive photographs. Provenance unknown. With annotations by the author.

Figure 10.4 From R. Lepsius, 1853, 'Letters from Egypt, Ethiopia, and the Peninsula of Sinai'. London: Henry G Bohn, p51-53.

Figure 11.2 Upper plan after V. Maragioglio and C. Rinaldi, 1966, 'L'architettura delle Pirimidi Menfite', parte V, *Officine Grafiche Canessa*, Rapallo, drawing 11. Lower section and annotations by the author.

Figure 12.4 © Mike Shepherd, used with permission.

Figure 12.5 Source: The Metropolitan Museum of Art, New York, file DP259528.jpg accessed 02/09/2024 in accordance with the museum's Open Access Policy, available at <https://www.metmuseum.org/about-the-met/policies-and-documents/open-access>.

Figure 12.6 Topography based on Arab Republic of Egypt, Ministry of Housing and Reconstruction, Topographic sheet, H22, 1:5000, with archaeological information added by the author.

Figure 12.11 J. De Morgan, 1897, 'Carte de la Nécropole Memphite', Egyptian Ministry of Public Works, Cairo. No copyright declaration included on original publication <https://archive.org/details/cartedelancropol00egyp>. Accessed 12 Jan 2024. Annotations by the author.

Figure 12.13 N. Swelim, 2006, 'The Dry Moat, the South Rock Wall of the Inner Channel', in E. Czerny et al. (eds), *Timelines: Studies in Honour of Manfred Bietak I*, Orientalia Lovaniensia Analecta 149; Leuven. Photograph taken prior to 1954.

Figure 12.15 After C.M. Firth and J.E. Quibell, 1935, 'The Step Pyramid', *Imprimerie De L'Institut Francais*, Vol 2, plate 1. Additions in black by the author.

Figure 13.2 Courtesy of The Petrie Museum of Egyptian and Sudanese Archaeology, UCL.

Figure 13.4 From [https://en.wikipedia.org/wiki/Tutu_\(Egyptian_god\)#/media/File:Tutu_MET_DP243467.jpg](https://en.wikipedia.org/wiki/Tutu_(Egyptian_god)#/media/File:Tutu_MET_DP243467.jpg). Open access.

Figure 13.8 After T.A.H. Wilkinson, 2000, 'Royal Annals of Ancient Egypt', Kegan Paul, London, figure 10. Annotations by the author.

Figure 13.9 Left, after W.M.F. Petrie, 1901, 'The royal tombs of the first dynasty (Part II)', plate 7:7. Right, after A.A.A. Awadallah, 2022, 'The crew of the sun bark in the Amduat', Ph.D. dissertation, Julius-Maximilians University, Würzburg, figure 10.

Figure A1 Base map after M.E. Lehner, 1991, 'Archaeology of an Image: The Great Sphinx of Giza', PhD dissertation, Yale, figure 4.2. Source: <https://zenodo.org/record/1203621> accessed 12 August 2023. Reproduction permitted under <https://creativecommons.org/licenses/by-sa/4.0/legalcode>. Colour and annotations by the author.

Figure A2 Topography based on Arab Republic of Egypt, Ministry of Housing and Reconstruction, Topographic sheets, F17 and F18, 1:5000 and P. Tallet and M. Lehner, 2022, 'The Red Sea Scrolls', Thames and Hudson, p267. Colour and annotations by the author.

Figure B2 Based on H. Ricke, 1970, 'Der Harmachistempel des Chephren in Giseh', *Beitrage zur Agyptischen Bauforschung und Altertumskunde*, Wiesbaden, Schweizerische Institut für Agyptische Bauforschung und Altertumskunde, figure 2. Grey shading added by author.

Figure B4 Base map after M.E. Lehner, 1991, 'Archaeology of an Image: The Great Sphinx of Giza', PhD dissertation, Yale, figure 4.8. Source: <https://zenodo.org/record/1203621> accessed 12 August 2023. Reproduction permitted under <https://creativecommons.org/licenses/by-sa/4.0/legalcode>. Colour and annotations by the author.

Figure B5 Base map after M.E. Lehner, 1991, 'Archaeology of an Image: The Great Sphinx of Giza', PhD dissertation, Yale, figure 4.2. Source: <https://zenodo.org/record/1203621> accessed 12 August 2023. Reproduction permitted under <https://creativecommons.org/licenses/by-sa/4.0/legalcode>. Colour and annotations by the author.

Figure B6 Base map after M.E. Lehner, 1991, 'Archaeology of an Image: The Great Sphinx of Giza', PhD dissertation, Yale, figure 4.2. Source: <https://zenodo.org/record/1203621> accessed 12 August 2023. Reproduction permitted under <https://creativecommons.org/licenses/by-sa/4.0/legalcode>. Colour and annotations by the author.

Figure B8 Base map after M.E. Lehner, 1991, 'Archaeology of an Image: The Great Sphinx of Giza', PhD dissertation, Yale, figure 4.2. Source: <https://zenodo.org/record/1203621> accessed 12 August 2023. Reproduction permitted under <https://creativecommons.org/licenses/by-sa/4.0/legalcode>. Colour and annotations by the author.

Figure B9 Base map after M.E. Lehner, 1991, 'Archaeology of an Image: The Great Sphinx of Giza', PhD dissertation, Yale, figure 4.2. Source: <https://zenodo.org/record/1203621> accessed 12 August 2023. Reproduction permitted under <https://creativecommons.org/licenses/by-sa/4.0/legalcode>. Colour and annotations by the author.

Figure C1 Topographic data based on Arab Republic of Egypt, Ministry of Housing and Reconstruction, Topographic sheets, F17 and F18, 1:5000. Colour and annotations by the author.

Figure C2 Topographic data based on Arab Republic of Egypt, Ministry of Housing and Reconstruction, Topographic sheets, F17 and F18, 1:5000. Colour and annotations by the author.

Figure C3 Stratigraphic overlay based on M.E. Lehner, 1991, 'Archaeology of an Image: The Great Sphinx of Giza', PhD dissertation, Yale, figure 5.7. Source: <https://zenodo.org/record/1203621> accessed 12 August 2023. Reproduction permitted under <https://creativecommons.org/licenses/by-sa/4.0/legalcode>.

Acknowledgments

I want to start by expressing my gratitude to everyone who has ever taken a serious interest in my work. It matters less to me that you agree with my ideas, more that you consider them worthy of your time.

When I first started to research the geology of the Great Sphinx, I was encouraged to publish my ideas by Robert Partridge. Although Bob is no longer with us, a great deal of what has followed is the result of his initial encouragement. Those early publications brought my ideas to the attention of another sadly departed friend, Ian Mathieson. Thanks to Ian, I gained direct experience of working on an archeological expedition in Egypt, experience that I will always treasure.

I also owe a great debt of thanks to Peter Allingham and Janet Shepherd at Ancient World Tours, who have been the 'Opener of the Ways' to so many incredible places in Egypt, Morocco and Jordan.

Lastly, but perhaps most importantly, I need to thank my family, who continue to give me the time and the opportunity to pursue my interests in the ancient world. Hopefully, it won't be too long until we can share the magic of ancient Egypt with our grandsons, Lucas and Thomas.

Liverpool
September 2025

Part 1 - Setting The Scene

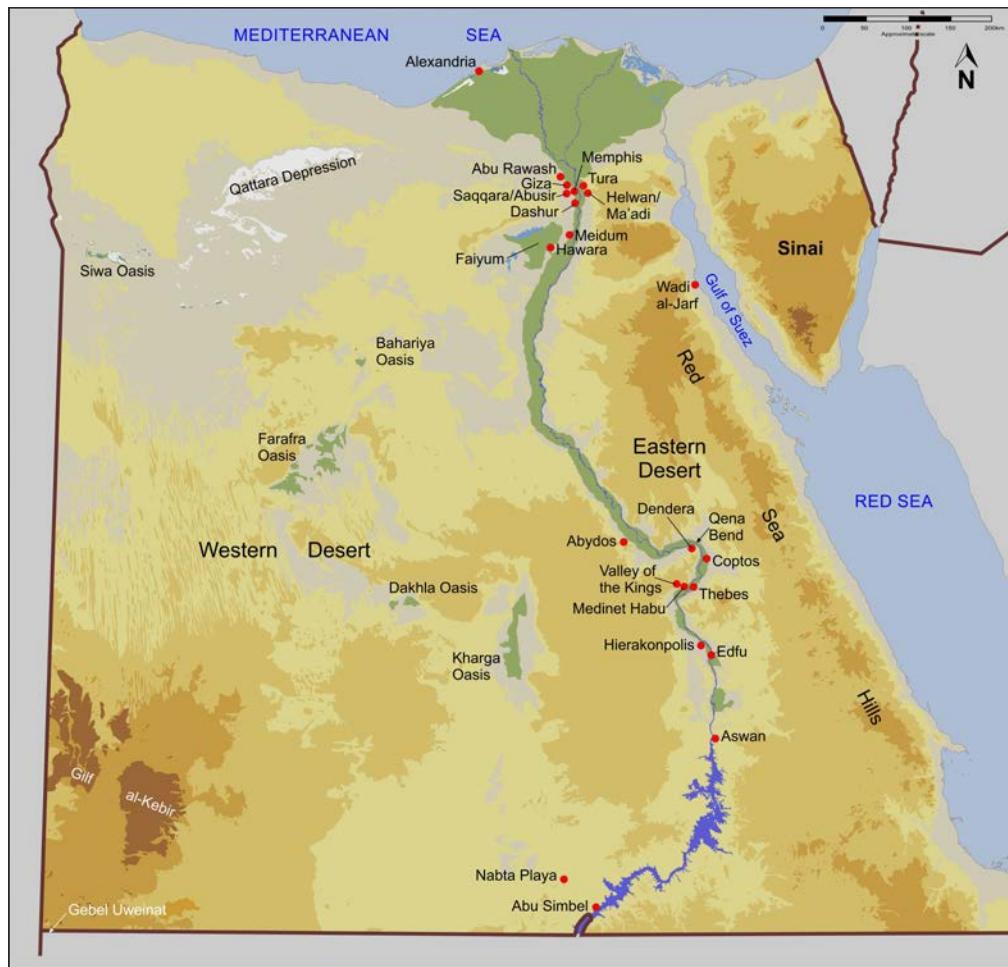


Figure i: A sketch map of Egypt. All locations referred to in the text are indicated on this map.

Chapter 1

Introduction

The people of modern Egypt call it *Abu al-Hol*, the father of terror. For the rest of the world, it's the 'Great Sphinx' or simply the 'Sphinx'. I am of course talking about the Great Sphinx of *Giza* (Figure 1.1), the enormous rock-hewn statue with the body of a lion and the head of a pharaoh, that for millennia has guarded the eastern entrance to the *Giza* Necropolis, west of modern Cairo. The generally held view within Egyptology, is that the Great Sphinx was built during ancient Egypt's Fourth Dynasty and was part of the same explosion in pharaonic construction that gave us the three pyramids of *Giza* (Figure 1.2). This suggests that the Great Sphinx was built about 2500 BC, over four and a half thousand years ago. Since the early 1990s however, a number of researchers including myself, have suggested that the Great Sphinx is older than this.^{1,2} The basis for many of the theories for an early Sphinx lie in my own technical discipline of geology, and draw principally on the features of weathering and erosion of the limestone



Figure 1.1: The Great Sphinx of *Giza*, with the Old Kingdom pyramids of *Khufu* (right) and *Khafra* (left).

¹ Schoch, 1992.

² Reader, 2001.

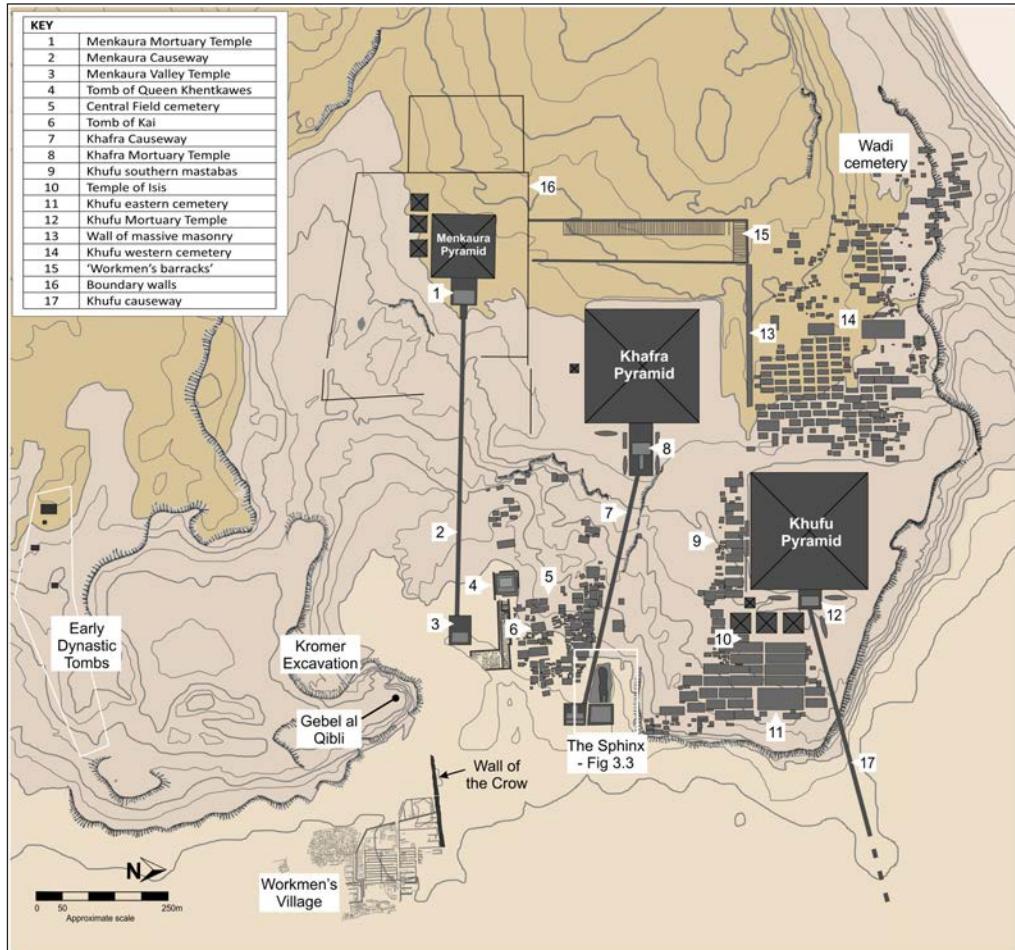


Figure 1.2: Plan of the Giza Necropolis.

bedrock from which the Great Sphinx was carved. The main purpose of this book is to attempt to reconcile this geological evidence with the established archaeology of ancient Egypt, to determine when the Great Sphinx of Giza was built and perhaps more importantly, why it was built.

Many people will question the need to re-examine the age of the Great Sphinx, perhaps believing that because the monument is so familiar, we must already have a thorough understanding of its ancient origins. It is true that the Great Sphinx seems familiar, however as we will see, even the most widely accepted aspects, such as its associations with worship of the sun,³ appear to be based on very little direct evidence. Furthermore, few people seem to have noted that the familiar form of ancient Egyptian deities, often represented with a

³ Lehner, 1997, p127.



Figure 1.3: A typical ancient Egyptian deity, with a human body and animal head (Temple of Seti I, Abydos).

human body and animal head (Figure 1.3), is reversed in the sphinx, which is one of very few concepts from ancient Egypt that combines a human head with an animal body. In this book, we will explore the potential implications of this important distinction and its possible significance for our understanding of what the Great Sphinx may have meant to the people of ancient Egypt.

Such has been mankind's fascination with the Great Sphinx, that even after the glories of the Pharaonic Era, it continued to be venerated by the Greek and Roman occupiers of Egypt, and the monument remained a source of fascination throughout medieval times. Together with their fanciful descriptions, travelers since the 1500s have left us illustrations of the Great Sphinx, illustrations that range from the whimsical to the remarkably accurate (Figure 1.4). The Great Sphinx has also been a long-standing muse of photographers and since the first images in the 1850s, must surely have become one of the most photographed ancient monuments on earth. In addition to becoming firmly embedded in the popular psyche, the Great Sphinx has also drawn

the attention of treasure hunters, archaeologists and Egyptologists. The earliest recorded 'modern' excavation of the Great Sphinx is probably that undertaken by Giovanni Battista Caviglia in 1817, who cleared the area around the chest and front paws. Since then, excavators have adopted increasingly sophisticated techniques, with the hope of unlocking the history of this incredible monument.

Despite this deep and long-standing interest, as we will explore in this book, we know relatively little about the Great Sphinx and its origins. Early 'archaeology' in Egypt was limited to the recovery of the most impressive artefacts for museums or private collections and arguably, it is only during the last century that we have looked beyond the 'treasures' of ancient Egypt in our attempts to develop a broader understanding of the Great Sphinx and the motivations of those who built it. A recurrent theme of the history of the Great Sphinx, has been the need to clear the monument of the desert sand that rapidly engulfs it (Chapter 3). In many cases therefore, the evidence encountered when working at the Great Sphinx has been filtered by millennia of excavation and re-excavation of those relentlessly accumulating sands. Although recent archaeological work has encountered material that has survived undisturbed since the

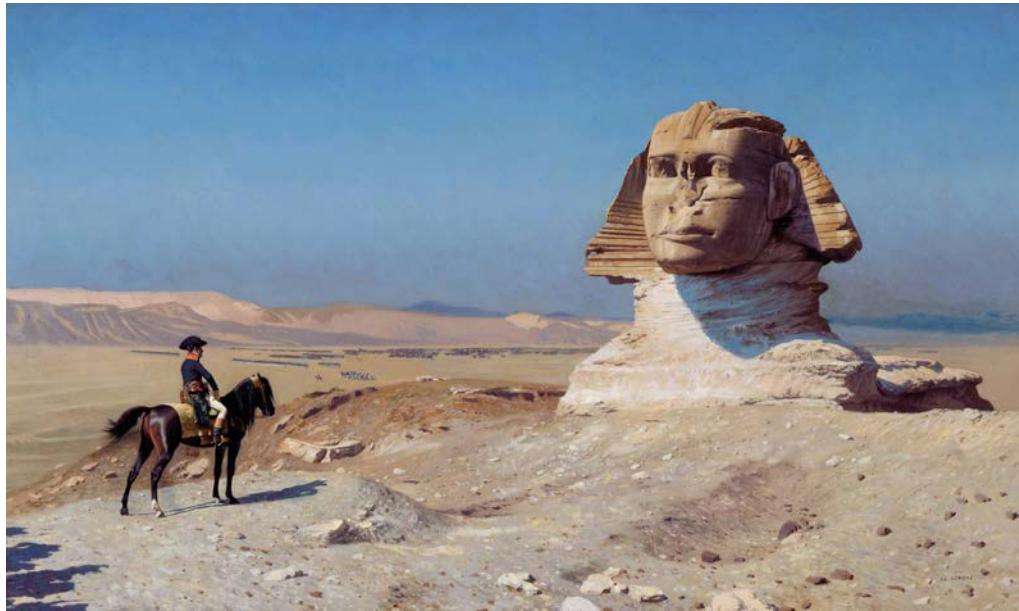


Figure 1.4: Napoleon meets the Great Sphinx of Giza ('Bonaparte Before the Sphinx', Jean-Léon Gérôme, 1886).



Figure 1.5: The highly decorated interior of the temple of Dendera, which was built 2500 years later than the pyramids of Giza.

age of the pyramids (p94), this has been the exception rather than the rule, with only limited areas of undisturbed material available for modern scientific study.

Our understanding of many aspects of the Pharaonic Era has benefitted greatly from the survival of hieroglyphic texts written on papyrus, shards of pottery, stone slabs and most spectacularly, the walls of tombs and temples (Figure 1.5). It is important to recognise however, that few texts have survived from the earliest parts of the Pharaonic Era, with the earliest known direct reference to the Great Sphinx not written until at least a thousand years after the monument is conventionally thought to have been built.

When the archaeological evidence for the Great Sphinx is reviewed objectively, as we will do in the following chapters, it is difficult to avoid the conclusion that its widely accepted Fourth Dynasty attribution is based largely on circumstantial evidence. This was certainly the view reached by the respected Egyptologist Professor Selim Hassan, who after completing what was probably the first modern archaeological excavation of the Sphinx in 1936, wrote:

Therefore, taking all these things into consideration, it seems that we must give the credit of erecting this, the world's most wonderful statue, to *Khafra*, but always with this reservation that there is not one single contemporary inscription which connects the Sphinx with *Khafra*, so sound as it may appear, we must treat the evidence as circumstantial, until such time as a lucky turn of the spade of the excavator will reveal to the world a definite reference to the erection of the Sphinx.⁴

Although more recent excavations have not provided the definitive evidence Hassan had hoped for, the Great Sphinx is still widely considered to have been built during the reign of *Khafra*.⁵ Even within Egyptology however, there is currently no consensus, with recent research leading to the identification of other Fourth Dynasty pharaohs such as *Khufu* or *Djedefra*, as its possible builders (Chapter 3). In addition to investigating who may have built the Great Sphinx, it is important that we try to understand the role that the Great Sphinx and sphinxes in general, may have had within the complex pharaonic belief system. For this it will be necessary to look beyond the narrow focus of the monument itself, addressing not only the *Giza* Necropolis, but also other important sites in ancient Egypt. As suggested at the beginning of this introduction however, Egyptology is not the only scientific discipline that is able to shed light on the origins of this unique monument. The Great Sphinx is the only free-standing monument from ancient Egypt that was quarried entirely from the surrounding bedrock and as such, understanding the geology of the monument is vital. I am not the first geologist to investigate these issues, and although a number of conflicting geological interpretations have been put forward, these differing views do not diminish the important role that geology has to play in deepening our understanding of the Great Sphinx, or of pharaonic Egypt more generally.⁶

⁴ Hassan, 1953, p164.

⁵ The English rendering of ancient Egyptian names and words leaves much to personal preference. Like many names of pharaohs, the name *Khafra* includes a reference to the sun-god *Ra*. *Ra* was identified in ancient texts with just a single hieroglyphic symbol, which can be transliterated simply as 'R'. As with many ancient systems of writing, the hieroglyphic script did not use vowels and therefore, we cannot know whether the name of the sun-god was pronounced *Re* or *Ra*. Like Selim Hassan, I prefer to use *Ra*.

⁶ Reader, 2023.

Part 1 of this book provides a general overview of ancient Egyptian history and how the Great Sphinx is conventionally thought to fit within that history. There are chapters that describe both the Great Sphinx and the wider *Giza Necropolis*, together with a chapter that introduces the important role that landscape is likely to have played in the early development of the necropolis (Chapter 5). Part 2 of the book provides a general introduction to the geology of Egypt, together with a focus on the geology of both the *Giza Plateau* and the Great Sphinx. Drawing on the geological evidence, Part 3 of the book identifies a number of anomalies associated with the conventional Fourth Dynasty attribution of the Great Sphinx, opening the way for a re-examination of the history of this and a number of other monuments at *Giza*. In many respects, the first three parts of this book have been the easiest to write. Guided by the established archaeology and my assessment of the relevant geological evidence, it has been possible to reach quite definitive conclusions about how the Great Sphinx fits into the sequence of monumental development not only at *Giza*, but also more generally within the Nile Valley.

By the very nature of the material available to us for study however, the discussions presented in Part 4 of this book should be regarded as less definitive. In that final section, we examine the role that the concept of the sphinx may have played in ancient Egyptian religion, specifically in relation to the great sun-god *Ra*. For this, it has been necessary to engage with some of the very latest research in the field of Egyptology, in order to examine the earliest phases of the Pharaonic Era, and aspects of the more remote periods that went before. The evidence we have for these early periods is sparse, with on-going excavations in Egypt revealing new data which may well require future revision of the interpretation that I have presented. Part 4 of this book should be regarded therefore, as an interpretation of the currently available evidence, an interpretation that I hope sparks further debate and encourages other researchers to continue to investigate the history of the *Giza Plateau*, a history which dates back long before the construction of the pyramids of *Khufu*, *Khafra* and *Menkaura*.

As I have collected and sifted the relevant evidence that underpins my conclusions, it has been necessary at times to pay attention to small but often vitally important issues, often to correct inaccurate or unsubstantiated claims that have been made elsewhere. To avoid this becoming a distraction for the main chapters of the book, I have explored these detailed issues in a series of appendices, which I hope provide considerable additional weight of evidence, particularly for those readers who are more familiar with the issues being explored.

Most importantly, I hope that you enjoy this re-examination of the history of the world's most iconic monument. The fact that the history of the Great Sphinx remains such a widely debated issue among Egyptologists, geologists and the wider public, is an indication of the importance of the Great Sphinx for the history of mankind.