



# FROM ABYDOS TO THE VALLEY OF THE KINGS AND AMARNA: THE CONCEPTION OF ROYAL FUNERARY LANDSCAPES IN THE NEW KINGDOM

Giulio Magli

*Faculty of Civil Architecture - Politecnico di Milano,  
Piazza Leonardo da Vinci 32, 20133 Milan, Italy*

Received: 02/06/2011

Accepted: 14/07/2011

Corresponding author: [Giulio.Magli@polimi.it](mailto:Giulio.Magli@polimi.it)

---

## ABSTRACT

Royal funerary landscapes in Egypt show a remarkable continuity in the use of symbols and in the interplay between natural and man-built features. In such a context *directionality*, both in the sense of succession of elements and of orientation of single buildings and tombs, plays a relevant role in governing the landscape in accordance with the idea of “cosmic” order, the basis of the temporal power of the Pharaoh. This paper investigates cognitive aspects of the funerary royal landscapes of the New Kingdom, with special emphasis on the connections with astronomy and orientation. A close similarity between the sacred landscape at western Thebes and the early dynastic funerary landscape at Abydos comes out and such a similarity may have been one of the reasons for the choice of Valley of the Kings as royal Necropolis. The original, actually unique way in which old symbols and features were re-elaborated by Akhenaten in planning his funerary landscape at Amarna is also highlighted.

---

**KEYWORDS:** Ancient Egypt, Ancient Landscapes, Archaeoastronomy, Archaeo-topography

---

## 1. INTRODUCTION

In Archaeology an increasing importance has been acquired by cognitive aspects (Flannery and Marcus 1996). The cognitive-science approach to archaeological remains, or cognitive Archaeology, can be defined - according to Colin Renfrew - as the study of past ways of thought as inferred from material remains. As such, it involves the relationship between ancient art, science and mind and the way in which the ancient thought and lore were embodied in such things as the plan of temples, monuments, but also entire landscapes. In many cases, a key element in the construction of ancient landscapes was the relationship with the celestial cycles. From this point of view, Archaeoastronomy can be considered in a broader context as the "sky-counterpart" of the analysis of conceptual landscapes, and can be of help in understanding relevant features of them (Ruggles 2005, Magli 2009a).

An ancient civilization where conceptual landscapes can be seen "in action" with an impressive continuity in the course of more than two millennia is Egypt (Richards 1999). In recent years, the present author studied several issues related to the topography of conceptual landscapes in the case of the Old and the Middle Kingdom pyramids' fields, taking into a special account the aspects related to the ancient sky and to the "relative" topography between different monuments, as cognitive features (Magli 2010a, 2010b). The present paper presents a similar analysis applied to the funerary royal landscapes of the New Kingdom, namely Western Thebes and Amarna. Several interesting features come out; in particular, an explicit, close recall to of the funerary landscape -already very old at that time- conceived by the kings of the first dynasties at Abydos.

## 2. THE EARLIEST CONCEPTUAL LANDSCAPE IN EGYPT

Egypt (excluding the Delta area) is a very peculiar place from the environmental point of view: a short strip of fertile terrain - the "gift of the Nile" - inundated once a year and crossed by the river. This liveable area is surrounded by

desert on both sides. Usually, near to the border of the cultivated land, the valley rises up in relatively high stone outcrops, crossed by dried rivers or *Wadi*.

If the Nile flows essentially south-north, giving the first "main axis" to human life, the Sun travels "east-west" giving the second one. Places to the west, where the sun sets and begins -in the Egyptian conception- his perilous journey into the hours of the night, were associated since very early times with places of death and rebirth. Indeed it is here, on the west bank of the Nile, that some of the most spectacular and complex conceptual landscapes of humanity were conceived and constructed. The landscapes we are going to speak about are therefore funerary landscapes, since they are all connected with afterlife. Interestingly, rebirth was associated not only to the west, but also to the north. Indeed a fundamental component of the funerary beliefs, at least as they are described in the Pyramid Texts, was in the "rebirth" of the Pharaoh in a appropriate place together with the "imperishable" stars, which are visible every night of the year (Faulkner 1998). These ideas were intimately connected with the "cosmic order", or Maat, a key element of ancient Egyptians thought and beliefs. The king was indeed the keeper of the cosmic order on the earth and was later doomed to live in eternity - as well as his dynastic ancestors before him and successors after him - ensuring the continuity of the life cycles on earth.

These concepts became fully effective with the Old Kingdom, and are visible in the pyramid's fields of Saqqara, Giza and Abusir both in the project of the pyramids and in their topographical arrangement (Lehner 1985, Jeffreys 1998, Magli 2010a). However, the pyramid's fields are not the first examples of conceptual funerary landscapes in Egypt. The first was in fact conceived during the early-dynastic period at Abydos (O'Connor 2009). The royal necropolis at Abydos is located in the desert valley today called Umm el Quaab; all the kings of the First Dynasty were buried in subterranean tombs at this site. With the Second Dynasty the royal Necropolis became Saqqara (underground tombs in the zone to the south of the Step Pyramid, and funerary enclosures to

## LANDSCAPES IN THE NEW KINGDOM

the north-west of it) but the last two kings, Peribsen and Khasekhemwy, returned to Abydos. The funerary landscape here is

composed by the following elements, some of which are built, while others are key features of the landscape (see Figure 1):

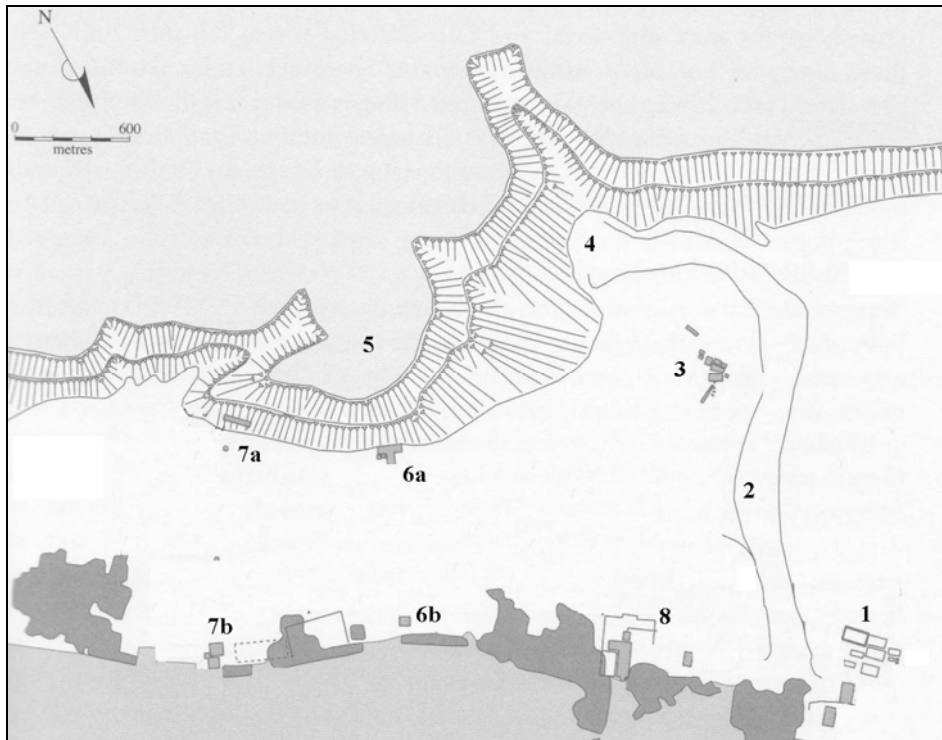


Figure 1. The funerary landscape at Abydos, with the elements mentioned in the text numbered (1) Royal enclosures (2) Processional way (3) Royal tombs of the first dynasty (4) Wadi (5) Mountain of Anubis (6a, 6b) Senwosret III tomb and temple (7a,7b) Ahmose tomb and pyramid (adapted from O'Connor 2009).

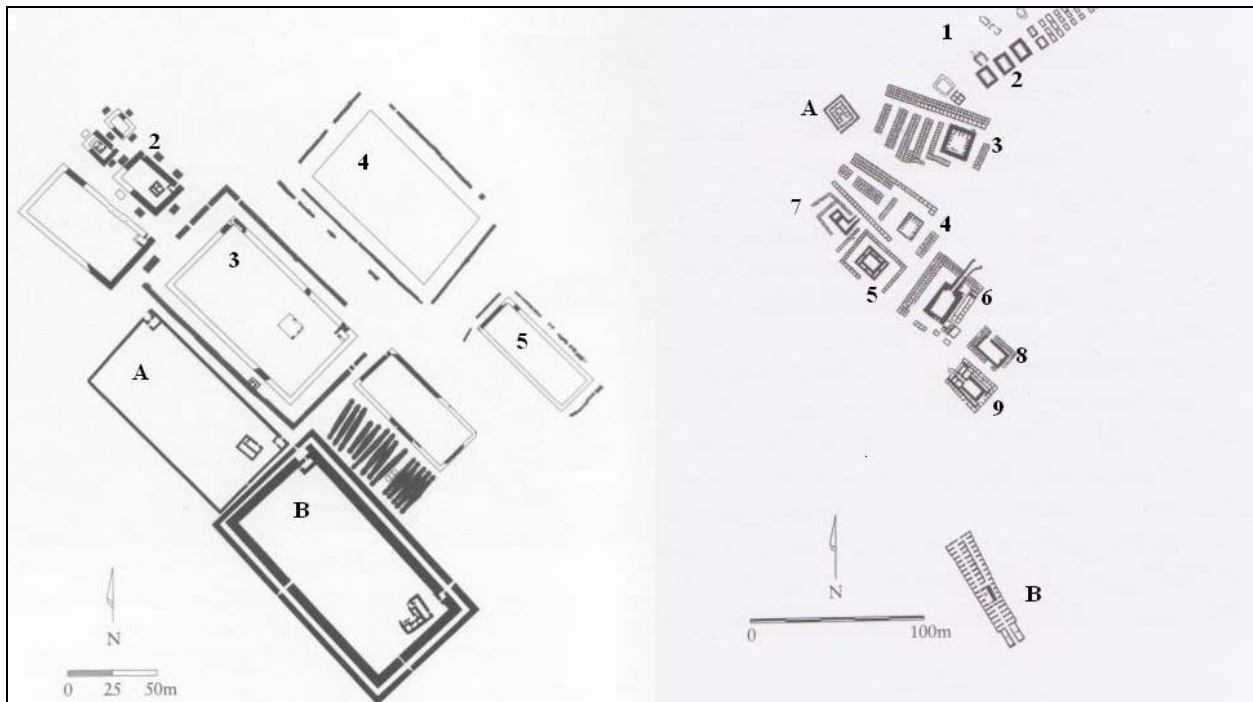
1. A building devoted to the cult of the deceased king. These buildings are huge open-air rectangular structures of mudbricks, surrounded by graves most probably of sacrificed persons. The structures were erased (ritually demolished) after the death of the king, so that only the foundations are being recovered by archaeologists. However, the last one constructed is still standing. It is the enclosure of king Khasekhemwy. Usually called *Shunet el-Zebib*, it is an imposing monument, with walls still raising up to 11 meters, and sides of 137 and 76 meters.
2. A processional (unpaved) pathway some 1.5 Kms long, leading from the cult area to the Necropolis
3. A subterranean tomb, perhaps surmounted by a small mound
4. A wadi, located in the hills due south of the Necropolis.
5. A prominent hill located to the east of the wadi. This hill was sacred to Anubis, as demonstrated by the recent excavations of the funerary monument of the Middle Kingdom Pharaoh Senwosret III, later constructed below it (Wegner 2009).

Directionality was conceived at Abydos in a north-to-south sense: funerary buildings, processional way, tombs, wadi and mountain. All the monuments subsequently constructed respected such a principle: all enclosures concentrated in the same area to the north, and all tombs in the corresponding area to the south, connected by the processional way. All elements were fully inter-visible within each other, the distance between the two areas being less than two Kilometers.

In both the sacred areas, each new monument had preferably to be constructed to the south-west of the previously constructed one.

This fact is readily seen both for tombs and enclosures (Figure 2). Finally, both the tombs and the enclosures are orientated close to inter-cardinal directions. For instance, the Shunet el-

Zebib has azimuth  $136^\circ$  (main entrance, looking out) and the orientations of the royal tombs cluster near inter-cardinal azimuths as well<sup>1</sup>.



**Figure 2. The royal enclosures (left) and the corresponding royal tombs (right) at Abydos. Monuments in chronological order (two enclosures are anonymous). (1) Narmer (2) Aha (3) Djer (4) Djet (5) Merneith (6) Den (7) Anedjib (8) Semerkhet (9) Qa'a (A) Peribsen (B) Khasekhemwy (adapted from O'Connor 2009).**

Recently, it has been proposed that this peculiar inter-cardinal pattern of orientations aroused from the will of “mediating” between the meridian alignment to the north and the direction orthogonal to the Nile – which essentially flows south-north as well – to the east (Shaltout, Belmonte and Fekri 2007). The sacred area at Abydos is, however, quite far from the Nile, so that such an assumption would imply a complicated symbolic reasoning. At least in the present author's view, this idea – although worth considering – is not backed up by what we know about the ancient Egyptian architect's mentality and way of thinking. Their messages were indeed quite explicit (although sometimes difficult to read today) both in topographical orientations – for instance to Heliopolis, or indeed to the Nile – and in astronomical ones. It suffices to think, for instance, to the astonishingly precise orientation of the pyramids to the cardinal points (Petrie 1883, Dorner 1981, Spence 2000, Belmonte 2001b,

Magli and Belmonte 2009) or to the topographical alignment which connected the main pyramids of Giza with Heliopolis (Lehner 1985, Magli 2010a).

Inter-cardinal orientation appears thus to be a regional pattern originated in early dynastic times. Actually, there is the possibility that it was imported, together with some features of mudbrick architecture, from contemporary Mesopotamian temples as proposed by Isler (2001). Another possibility is, however, that the pattern was inspired by the rising and setting positions of the Milky Way, and that its persistence during almost two millennia was due to the persistence of this coincidence. The importance of the Milky Way in the Egyptian firmament is clear from the Pyramid Texts (Faulkner 1998; but see Krauss 1997) and many stars of it were certainly counted among the Decans, the stars used to divide the hours of the night at least since the 5<sup>th</sup> dynasty (Belmonte 2001a). Of course, precession changes the rising

## LANDSCAPES IN THE NEW KINGDOM

and setting positions of each single star of the Milky Way, but the brightest part of our galaxy –containing the asterisms we call Centaurus and Crux, with the brilliant stars Rigil, Hadar and Acrux– can be thought of as a band approximately 10-12° degrees wide which roughly maintained its presence at the inter-cardinal azimuths (rising near 135° and setting near 225° with a flat horizon) during the whole history of ancient Egypt. This effect is visible also taking into account the change in the location of the capital city during the different periods, as shown in Table 1. Further to the many temples which have been orientated close to such azimuths (see next section), two particularly impressive examples of this kind of orientation are the “diagonal” connecting the south-east

corner of the Giza pyramids to Heliopolis, orientated ~225° and the Alley of the Sphinx connecting Karnak and Luxor. The sphinxes were added much later, but the processional route exists at least since Hatshepsut (1473-1458 BC; reign dates will be given in accordance with Baines and Malek 1984). The azimuth of the alley from Karnak to Luxor (that is, in the upstream direction of the Nile, which was most likely the one followed on foot by the processions, the other way round being sailed) is again 225° (measure by the author). In both cases the brightest part of the Milky Way could thus be seen, setting in a spectacular alignment behind the pyramids of Giza from Heliopolis and, one millennium later, behind the Luxor temple from Karnak.

**Table 1. Approximate azimuths at rising and setting (with a flat horizon) of the stars Acrux, Rigil and Hadar during Egyptian history, as observed from the capital of the country at standard reference dates.**

Place	Approx. Date	Star	Azimuth at rising	Azimuth at setting
Abydos	3100 BC (Early Dyn.)	Acrux	133°	227
		Rigil	129° 30'	230° 30'
		Hadar	128°	232
Memphis	2600 BC (Old King.)	Acrux	137°	223
		Rigil	134° 30'	225° 30'
		Hadar	132° 30'	227° 30'
Lisht	2000 BC (Middle King.)	Acrux	140°	220°
		Rigil	138°	222
		Hadar	136°	224
Thebes	1550 BC (New King.)	Acrux	140°	220
		Rigil	138° 30'	221° 30'
		Hadar	136° 30'	223° 30'

The Abydos wadi is directly to the south of the royal tombs area, with the mountain peak to the south-east. The role of both these natural elements is central in the symbolism of the site. The wadi plays the role of a sort of “mouth of the afterworld” (the case in which all the above mentioned features can be seen most clearly in action still today is that of Khasekhemwy complex, because it is the unique whose enclosure is still standing, see Figure 3).

The wadi is connected with the symbolic hieroglyph *dw* representing a “symbolic


horizon” composed of two paired peaks . In fact, we know that - at least since the Middle Kingdom - the seals of the Necropolis bear the text *dw-Inpw*, *Mountain of Anubis* (Wegner 2009), and this “Mountain of Anubis” was precisely the peak located immediately east of the wadi. Under the peak, which has a natural “pyramidal” form when seen from the north-east, the Pharaohs Senwostret III (1878-1839 BC) and Ahmose (1550-1525 BC) built their funerary monuments.



Figure 3. The funerary landscape of king Khasekhemwy at Abydos. (1) Royal enclosure (2) Processional way (3) Royal tomb (4) Wadi (5) Mountain of Anubis. The straight line is about 3.5 Kilometers long and denotes the meridian (image courtesy Google Earth, drawings by the author).

Since the Abydos wadi is actually due south of the complex, of course the sun was – and is – seen on it everyday, high in the sky, at culmination. There is therefore no explicit connection of the “sign of paired peaks” with the sun. A change in the ideas about the divine nature of kingship – and consequently a close connection of the “paired peaks” with the sun - will however occur with king Khufu (2551-2528 BC). Khufu was indeed the first Pharaoh to operate an identification of himself with the Sun God (Hawass 1993). With Khufu, the symbolic horizon acquired a solar connotation and became *Akhet*, the horizon of the sun setting (or

rising) between the two paired *dw* mountains ☉. Although – as far as we know - the word *Akhet* starts to be written with the symbolic sign slight later (during the 5<sup>th</sup> dynasty) this fact is “dramatically” confirmed by the very same name of Khufu's pyramid, which was “the Akhet of Khufu”, and by the corresponding hierophany (Figure 4). Looking indeed from the Sphinx area at the summer solstice, the sun setting between the Khufu and the Khafre pyramids replicates one time a year in the sky the name of the Great Pyramid (Lehner 1985, Belmonte and Shaltout 2009, Magli 2009b)<sup>2</sup>.



Figure 4. The *Akhet* hierophany at Giza at the summer solstice 2011 (image by the author).

## LANDSCAPES IN THE NEW KINGDOM

### 3. THE VALLEY OF THE KINGS AND THE SACRED LANDSCAPE OF WESTERN THEBES

The New Kingdom conventionally begins with the reign of Ahmose (1550-1525 BC), the “founder” of the 18<sup>th</sup> dynasty (Shaw 2000). Before him, the Theban kings were buried in tombs along the Dra Abu el Naga rift, to the north-west of the Deir el Bahri bay, one after the other and roughly respecting a south of west progression (Figure 5).

Ahmose evidently decided to give a strong signal of return to an ancient tradition, and constructed an imposing funerary monument at Abydos (Harvey 1998). Ahmose's monument is composed by a pyramid, cult temples, an underground complex and a terraced temple

built against the cliffs. The monument is close to that of Senwosret III and parallel to its axis; it thus lies below the “Mountain of Anubis” cliff (Fig. 1).

The mummy of the king has been recovered at Thebes in the Deir el Bahri cachette, so that there exists the possibility that the Abydos monument was a cenotaph, and that the king had a tomb at Thebes which has, however, has never been found. In any case, there is no doubt that, after Ahmose, all other kings of the New Kingdom will be buried in the cliffs of Western Thebes (excluding Akhenaten, to be discussed in next section; for a complete introduction to the king's burials in the New Kingdom and the corresponding open Egyptological problems see Reeves and Wilkinson 1996).

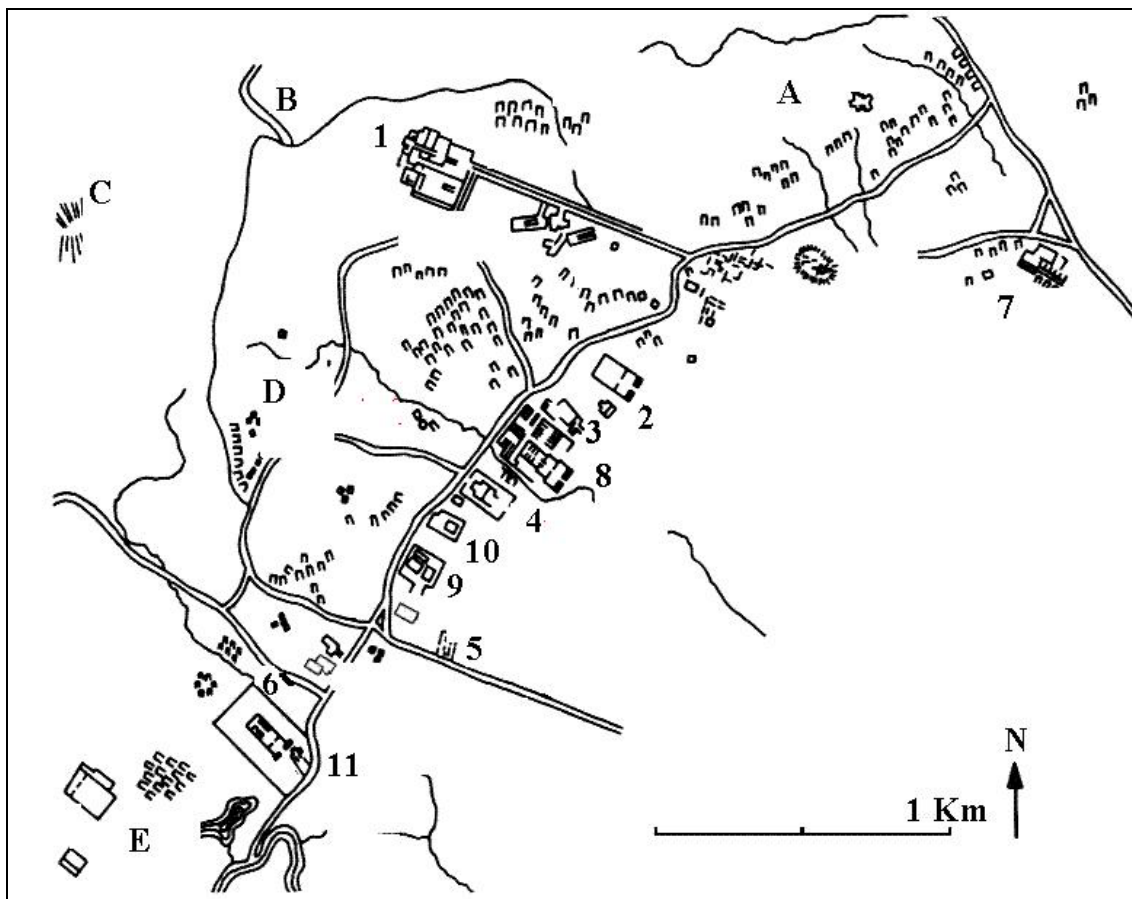


Figure 5. Map of western Thebes. The royal funerary temples are numbered in chronological order, while capital letters denote geographical areas. A) Dra Abu el Naga B) Valley of the Kings C) El-Qurn D) Deir el Medina E) Birket Abu. 1) Hatshepsut 2) Thutmose III 3) Amenhotep II 4) Thutmose IV 5) Amenhotep III 6) Ay-Horemheb 7) Seti I 8) Ramesses II 9) Merenptah 10) Siptah-Tawosre 11) Ramesses III

We lack, unfortunately, definitive evidence about the precise location of the tomb of the

successor of Ahmose, namely Amenhotep I (1525-1504 BC). There are two candidates for his

tomb, denoted conventionally as KV39 and AN-B. KV39 is located on the edge of the Valley of the Kings, some 200 meters south of the (later) Thutmose III tomb, very close to the path ascending from the village's workers of Deir el Medina, while AN-B is located on the high cliffs over Dra Abu el Naga. Amenhotep I was worshipped as a local deity in Deir el Medina, and this clearly points to him as to the founder of the Necropolis in the Valley and of its worker's village. However, the recent re-excavation of KV39 gave no definitive archaeological evidence, while the name of the king appears in some material recovered in AN-B. Interestingly, the tomb of Amenhotep I is described in an official document of inspection of the necropolis written during the 20<sup>th</sup> dynasty, the Abbott Papyrus. The document is difficult to interpret because it mentions two buildings by this king, presumably temples, whose positions is not known for sure (one of them is perhaps that documented by Carter at Deir el Bahri, today lost). In any case, this shows that this king is to be credited of the construction of the first funerary temple of the New Kingdom at western Thebes.

Be it as it may for Amenhotep's I tomb, from the successor Thutmose I (1504-1492 BC) all the rulers of the New Kingdom were buried in the sacred landscape of the Valley of Kings (see however Romer 1975). The wadi universally known with this name is located behind the cliffs of the Deir el-Bahri bay. Today it is accessed from a beautiful route from the west, but in ancient times this path was blocked – more or less near today's ticket control office – by a natural rock wall 5 meters high, removed only in modern times. Access from there was possible but people were obliged to climb the wall through an opening in the rocks. The Valley was thus mainly accessed by tracks over the cliffs, one starting at Deir el-Bahri, the other, smoother and perhaps used for the last part of the funeral of the king after the rites in the funerary temple, crossing the hill from Deir el Medina (Romer 1981).

The choice of the valley as royal Necropolis was with all probabilities influenced by symbolic criteria. First of all, its position behind the western horizon as seen from Thebes

assimilated the king's death and rebirth with the solar cycle (Reeves and Wilkinson 1996). Actually, such a statement can be made more quantitative by observing that the axis of the Karnak temple of Amon – by far the most important religious center in Egypt during the New Kingdom – passes quite precisely along the northern rim of the Deir el Bahri bay. The Karnak temple axis is oriented to the winter solstice sunrise (Krupp 1988), the opposite orientation (which would be to the summer solstice sunset with a flat horizon) being “occupied” precisely by the hills which guard the entrance to the eastern branch of the Valley, where most of the tombs are located. There is, however, no recognizable “double sign” at the horizon from the east bank where an Akhet hierophany at sunset could be supposed.

Another symbolism embodied in the choice of the Valley is connected with the prominent peak called el-Qurn. The resemblance of this peak to a pyramid is obvious from any side, but becomes striking when the mountain is seen from the east, to a point that the present author doubts about the possibility that the natural pyramidal shape was willingly adapted by sculpting on this side. In any case, the peak in itself was not used to carve tombs, nor are orientation of tombs and temples aimed towards it, so that it has to be considered only as one important element of the landscape among the others. In particular, since the valley is invisible from the flood plain, the El-Qurn peak is the representative element for the king's tomb in the landscape of western Thebes.

All in all, here, as in Abydos, a spectacular combination of elements – man made, and natural – resulted in the construction of an extraordinary conceptual landscape. The man-made elements needed to complete the landscape are the so called *Temples of Millions of Years*. These temples were built at the border of the cultivated land, at the base of the cliffs surrounding El-Qurn. The southernmost is that of Ramesses III located at Medinet Habu, the northernmost one is that of Seti I, slightly to the north-east of Deir el Bahri (the temples do not follow any recognizable chronological order on the ground). Generally speaking, it can be said that they were devoted to the worship of the



## LANDSCAPES IN THE NEW KINGDOM

king, and in this sense they really are funerary temples and play a role similar to that of the early dynastic royal enclosures and of the pyramid's temples. However, their significance goes far beyond this, and to understand them correctly their relationship with the cult of Amun in Karnak and Luxor, and again with the Pharaoh's cult in the same temples must be considered (Arnold et al 1997).

As far as orientation is concerned, the data for these temples are quite intriguing, as can be seen from Table 2. The winter solstice sunrise occurred at the time of construction of these monuments at azimuth  $\sim 116^\circ 30'$ . Therefore, both Hatshepsut and Amenhotep III's temples are orientated to winter solstice sunrise. Analysis of the historical data gives us a confirmation, since the temples actually belong to those two Pharaohs who claimed a special affinity with the sun. Queen Hatshepsut (1473-1458 BC) actually felt the necessity of claiming for a direct call from the Sun to legitimate her reign. This is pretty clear from many elements of her building program. In particular, she repeatedly presented herself as the daughter of Amon-Ra in the official inscriptions. It is, therefore, not surprising that the Hatshepsut temple is oriented to winter solstice sunrise exactly as the temple of her father, Karnak. In turn, at Karnak, the Pharaoh Queen ordered the construction of the "Amon who hears the

prayers" structure at the south-east end of the complex, also pointing at winter solstice sunrise (Belmonte and Shaltout 2009).

As far as Amenhotep III (1391-1353 BC) is concerned, this king was the father of the "heretic" Pharaoh Akhenaten. In his case we can see the solar alignment of the temple as a reflexion of a progressive assimilation of the living king with the Sun God. This assimilation initiated after the first *sed* festival, when the king started to be called "the dazzling sun disk" in official inscriptions (O'Connor and Cline 2001, Quirke 2001). He chose as residence a palace on the west bank, near his funerary temple – today signaled by Memnon's Colossi – and ordered the construction of an enormous artificial lake (today dried) the so-called Birket Abu, probably with a symbolic intent (Kemp and O'Connor 1974); of course, all this must have had a major influence on his son and successor Akhenaten.

Interestingly enough, in the Valley of the Kings there are only three tombs with azimuths close to due west (declinations around  $9^\circ$ ). These are precisely those of Hatshepsut (KV20) Amenhotep III (WV22) and KV55, which is a burial of members of the Amarna royal family, perhaps also the reburial of Akhenaten (for an analysis of symbolic orientation features *inside* the KV tombs see Wilkinson 1994).

**Table 2. Azimuth and declination of the royal funerary temples of the New Kingdom (chronological order) (Belmonte and Shaltout 2009).**

1	Hatshepsut	$115\frac{1}{2}$	-23
2	Thutmose III	127	-33
3	Amenhotep II	135	-40
4	Thutmose IV	133	$-38\frac{3}{4}$
5	Amenhotep III	117	$-24\frac{1}{2}$
6	Ay-Horemheb	132	$-37\frac{1}{2}$
7	Seti I	124	$-30\frac{1}{2}$
8	Ramesses II	$131\frac{1}{2}$ and $133\frac{1}{2}$	-37 and $-38\frac{3}{4}$
9	Merenptah	$122\frac{1}{2}$	$-29\frac{1}{4}$
10	Siptah-Tawosre	$132\frac{1}{2}$	$-37\frac{3}{4}$
11	Ramesses III	$137\frac{1}{2}$	-42

Among the other temples, Seti I and Meremphah's might have been orientated to the Moon at the major southern standstill, whose rising was at  $\sim 123^{\circ} 30'$  (Belmonte, Shaltout and Fekri 2009). All the remaining ones cluster near the intercardinal azimuth  $135^{\circ}$ . Why? No doubt, this orientation, being to the south of the winter solstice sunrise, has the practical consequence that the facade of the temple is fully illuminated by the climbing sun *every* day of the year. It is, however, difficult to accept that the orientation to the sun climbing in the sky is enough to justify this architectural choice, because "the other side of the medal" is that the sun does never align with the axis of the temples at ground level. It is actually a strange experience to visit, for instance, the magnificent temple of Medinet Habu looking along the perfect straight axis running across the various courts, knowing that the sun never follows the same path up to the end. An explanation has been proposed by Belmonte, Shaltout and Fekri (2009). They believe that that the orientation was obtained by determining celestial north through the movement of circumpolar stars and then rotating this direction  $135^{\circ}$  clockwise towards the Nile; the slight discrepancies between the azimuths of the temples should be due to different choices for the circumpolar stars used to determine north at simultaneous transit.

Again, as for the case of Abydos, although this might be a functional orientation procedure, I do not believe its proposed origin – that

of "mediating" between orientation to true north and orientation orthogonal to the Nile, as mentioned previously– to be feasible. As we shall see in a while indeed, the sacred space at western Thebes *resembles the original sacred space at Abydos*, and therefore also the pattern of orientation of the funerary temples might have been simply and voluntarily imported from the funerary enclosures of Abydos, where in turn – as we have seen– it probably had a different origin.

To show the resemblance between the two landscapes, observe first of all that it is composed by the same five main elements. The built ones are the king's funerary temple, the processional route and the king's tomb. The natural ones are a wadi (the Valley of the Kings itself) and a peak (El Qurn). Directionality is not strictly adhered to as in Abydos, where the local topography was flat and the funerary enclosures were quite smaller and easy to build than the magnificent New Kingdom temples, but all these elements are anyhow roughly ordered in a meridian (south-to-north in this case) direction. The most neat example is the funerary landscape created for Ramesses III (1194-1163 BC). In south-to-north direction, we have the funerary temple at Medinet Habu, the processional way, the king's tomb (KV11, in the core of Valley), the Valley wadi continuing to the north, and the El Qurn peak to the northwest (Figure 6).



Figure 6. The funerary landscape of Ramesses III at Western Thebes. (1) Temple of Medinet Habu (2) Ancient route to the Valley (3) Royal tomb (4) Wadi (5) El-Qurn. The straight line is about 2 Kilometers long and denotes the meridian (image courtesy Google Earth, drawings by the author)

#### 4. AMARNA

Amarna, in Middle Egypt, is the site chosen by the Pharaoh Akhenaten to found his new capital (Redford 1987). In accordance with his religious revolution, based on the monotheistic cult of the solar disc Aten, the city was named Akhet-Aten that is "Horizon of Aten." At the death of the king Egypt rapidly came back to the old cults, and the newly founded town was abandoned. Amarna is, therefore, of extreme interest in order to study the conception of the sacred space that the "heretic" king elaborated in his new doctrine.

First of all, in studying Amarna it should be noticed that the choice of a completely virgin location –directly indicated by the God Aten, accordingly to contemporary texts– stressed from the very beginning the neat rupture with the previous religion. The occurrence in such a place of a total solar eclipse, occurred on May 14, 1338 BC, is a tempting possibility to explain the choice of this quite unattractive site (Sellers 1992). However, placing the foundation of the town in 1338 BC seems to be too late for all chronologies (for instance, Akhenaten is dated 1353-1335 BC in Baines and Malek chronology). Be it as it may, the sacred landscape at Amarna is an example of *consecrated landscape*, an environment which is ritually founded to assure its suitability for human beings to live. As such, it does not need to be particularly comfortable or pleasant: in Mircea Eliade's famous words, a place has just to be founded to be inhabited. This process is typical, for instance, of the Etruscan-Roman world, where the foundation of a town was associated to a series of ritual acts. In the case of Amarna the ritual limitation of the sacred space took the peculiar form of the so called *boundary stelae*. This (traditional) name is quite inappropriate because these "stelae" are monuments carved in the rocks of the cliffs surrounding the town on both the river's bank, carrying royal inscriptions and statues (sadly, most of them are destroyed today). These monuments "speak each other" through inter-visibility lines traceable between the two banks of the Nile. Sanctification of the whole urban landscape looks something of a novelty for the Egyptian world, where

foundation rituals are very well known and documented in the archaeological records only in the case of temples and tombs. However, I believe that a sort of boundary of the sacred landscape can perhaps be identified also at Thebes, at least to the north, by the mutual position of two temples located on the opposite banks of the Nile. These are the "Nest of Horus" on Thoth Hill, overlooking the valley of the Nile from the western bank, and the temple of Montu at Medamud, whose facade is oriented to Thoth Hill (Shaltout, Belmonte and Fekri 2007). Both temples date back at least to the Middle Kingdom.

The project of the new town followed a rigorous rule (Kemp 1986). Mallinson (1999) has proposed that the whole urban plan at Amarna was fixed after the choice of the position of the royal tomb, in such a way that a sort of "symbolic straight lines" ideally connected the tomb with all the main buildings of the town. Perhaps this is stretching things too far, but Mallinson's observation that the northernmost and southernmost boundary stelae define, together with their connecting lines with the tomb, a sort of symmetric space for which the tomb itself is the point of attraction is certainly valid.

In spite of the novelty of many choices made, the pharaoh apparently decided to insert a series of understandable and well-established symbols in his own funerary landscape (sadly, the cult of the deceased king never became effective: his memory was erased everywhere, and there is no certainty about the fate of his mummy). Therefore, once again we can see references to the old sacred landscape of Abydos (Richards 1999) as well as to a "re-interpretation" of it occurred during the two previous centuries at Western Thebes, as I have proposed in the previous section. These symbols were, however, ordered and oriented in a peculiar way. Indeed, Amarna extended on both banks of the Nile, but the king's tomb was located into the *east* bank. This is, of course, a fundamental rupture with the traditions: the deceased kings were usually associated with the "dying" sun to the west – and doomed to rebirth in the east. In a sense, Amenhotep III living in his palace at Western Thebes was "al-

ready dead”, while his son Akhenaten living in Amarna was “already rebirth”, his identification with the unique God occurring at the eastern horizon.

Having said that, the traditional elements of the royal funerary landscapes are immediately recognizable (Figure 7).



**Figure 7. The funerary landscape of Akhenaten at Amarna. (1) “Small” Temple of Aten (2) Wadi (3) Royal tomb. The straight line is about 6 Kilometers long and denotes the axis of the “small” temple of Aten (image courtesy Google Earth, drawings by the author).**

In the cult area two temples are present, the so-called Great and Small Temple of the Aten. The “small” temple can be considered as the Amarna version of the pharaoh's funerary temple. When prolonged towards the east, the axis of this temple points to the mouth of a wadi. The royal tomb is located in a cleft of this Wadi, further east. Interestingly enough, the “rotation” to the east leads to an explicit solar reference. Indeed, the sun rises two times a year along the wadi and aligns to the axis of the temple, creating a Akhet hierophany (Gabolde 2004).

The dates are around February 23 and October 24; since the position of the temple was not constrained by topographical features, it is likely that one (of both) of these dates were of significance for the king. In any case, this hierophany appears to be a reference to the name of the town, the Akhet of the Sun Disk and also a probable reference to the old tradition of the solar kings of the Old Kingdom.

## 5. DISCUSSION AND CONCLUSIONS.

As first noticed by Richards (1999), conceptual funerary landscapes in Egypt show a remarkable continuity in the use of symbols and in the integration between natural and man-built features. In the present paper, it has been shown that orientation is a key element to understand them. Orientation appears prominently into two ways: the arrangement in which elements of the landscape follow each other, and the orientation of single buildings and tombs. Taken together, these features play a key role in giving “order” to the landscape: actually, they govern the architectural choices in accordance with the idea of “cosmic” order. Analyzing such features in the case of the New Kingdom funerary landscape at Western Thebes helps in highlighting its connections with ancient symbols, already present in early-dynastic Abydos. This is not surprising: Abydos remained for millennia one of the most holy places in Egypt. During the Middle Kingdom, a

## LANDSCAPES IN THE NEW KINGDOM

royal tomb at Umm el Quaab was opened to the public and re-adapted as the original tomb of Osiris; in this way, Abydos became also an important pilgrimage site. Few centuries later, as we have seen, the founder of the New Kingdom Ahmose choose to be buried in Abydos or at least to have an imposing cenotaph there.

Was Ahmose's choice of Abydos, and the consequent *search for a similar sacred space at Thebes* by his successors, one of the factors

which inspired the establishment of the new royal necropolis in the Valley of the Kings? The impressive series of analogies between the ancient sacred landscape at Abydos and that of the New Kingdom pharaohs would point to a positive answer. Clearly, such an idea would be corroborated if a definitive evidence could be achieved about the establishment of the Necropolis by the direct successor of Ahmose, Amenhotep I.

## REFERENCES

- Arnold D., Haeny G., Bell L., Bjerre Finnestad, B., Shafer B.F. (1997) *Temples of Ancient Egypt*. Cornell University Press
- Baines J. and Malek, J. (1984) *The Cultural Atlas of the World: Ancient Egypt*, Oxford.
- Belmonte, J.A. (2001a) *The decans and the ancient egyptian skylore: an astronomer's approach*, Insap III Meeting, Palermo.
- Belmonte, J. (2001b), *On the orientation of old kingdom egyptian pyramids*, *Archaeoastronomy* 26, S1.
- Belmonte, J.A., Shaltout, M. (2009) *In Search Of Cosmic Order- selected Essays on Egyptian Archaeoastronomy*. Supreme Council of Antiquities Press, Cairo.
- Belmonte, J.A., Shaltout, M. , and Fekri, M. (2009) *On the Orientation of Ancient Egyptian Temples: (4) Epilogue in Serabit el Khadim and Overview* J.H.A. 39
- Dorner, J. (1981) *Die Absteckung und astronomische Orientierung ägyptischer Pyramiden*; Ph.D. Thesis, Innsbruck University.
- Faulkner, R. (1998) *The ancient egyptian pyramid texts*, Oxford University press, Oxford 1998
- Flannery, K., Marcus J. (1996) *Cognitive Archaeology In Contemporary Archaeology in Theory: A Reader (Social Archaeology)* R. W. Preucel and I. Hodder eds. Wiley-Blackwell NY
- Gabolde, M. (2004) *The royal necropolis at Tell el-Amarna* *Egyptian Archaeology* 25 (2004) 30-33
- Harvey, S. 1998 *The cults of King Ahmose at Abydos*. Dissertations available from ProQuest. Paper AAI9829912. <http://repository.upenn.edu/dissertations/AAI9829912>
- Hawass, Z. (1993) *The Great Sphinx at Giza: Date and Function* In *Sesto Congresso Internazionale di Egittologia*. Ed. G.M. Zaccane and T. Ricardi di Netro, pp. 177-195. Turin.
- Isler, M. (2001) *Sticks, Stones, & Shadows: Building the Egyptian Pyramids*. University of Oklahoma Press
- Jeffreys, D. (1998) *The topography of Heliopolis and Memphis: some cognitive aspects*, *Beitrage zur Kulturgeschichte Ägyptens*, Rainer Stadelmann gewidmet (Mainz) 63-71.
- Kemp, J (1976) *The Window of Appearance at El-Amarna, and the Basic Structure of This City*. *Journal of Egyptian Archaeology* Vol. 62, pp. 81-99
- Kemp, B., O'Connor, D. (1974) *An Ancient Nile Harbour: University Museum Excavations at the "Birket Habu."* *International Journal of Nautical Archaeology and Underwater Exploration* 3 101-136.
- Krauss, R. (1997) *Astronomische Konzepte und Jenseitsvorstellungen in den Pyramidentexten*, Harrassowitz, Wiesbaden.
- Krupp, E.C. (1988) *The light in the temples*. In Ruggles C.L.N. (ed.) *Records In Stone: Papers In Memory Of Alexander Thom*. Cambridge: Cambridge University Press.
- Lehner, M., (1985) *A contextual approach to the Giza pyramids*, *Archiv fur Orientf.* 31, 136-158
- Magli, G. (2009a) *Mysteries and Discoveries of Archaeoastronomy*, Springer-Verlag, NY

- Magli, G. (2009b) Akhet Khufu: Archaeo-astronomical Hints at a Common Project of the Two Main Pyramids of Giza, Egypt. *Nexus Network Journal - Architecture and Mathematics* 11, 35-50.
- Magli, G. (2010a) Topography, astronomy and dynastic history in the alignments of the pyramid fields of the Old Kingdom; *Mediterranean Archaeology and Archaeometry* 10, 59-74.
- Magli, G. (2010b) The Snefru projects and the topography of funerary landscapes during the 12<sup>th</sup> Egyptian Dynasty. *Time and Mind*, at press.
- Magli, G., and Belmonte, J.A. (2009) *The stars and the pyramids: facts, conjectures, and starry tales*. In *In Search Of Cosmic Order - selected Essays on Egyptian Archaeoastronomy* Edited by J.A. Belmonte and M. Shaltout, Supreme Council of Antiquities Press, Cairo.
- Mallinson, M., (1999). *The sacred landscape*. In R. E. Freed, Y. J. Markowitz and S. H. D'Auria, ed., *Pharaohs of the sun: Akhenaten, Nefertiti, Tutankhamun*. Boston: Museum of Fine Arts, 72-9.
- O'Connor, D. (2009) *Abydos: Egypt's first pharaohs and the cult of Osiris*. Thames & Hudson, London.
- O'Connor, D. , Cline, E.H. (2001) *Amenhotep III: Perspectives on His Reign*. University of Michigan Press
- Petrie, F. (1883) *The pyramids and temples of Gizeh* Field & Tuer, London
- Quirke, S. (2001) *The Cult Of Ra* Thames and Hudson, London.
- Redford, D. (1987) *Akhenaten, the heretic king*, Princeton University Press, Princeton.
- Reeves, C.N., Wilkinson, R.H. (1996) *The Complete Valley of the Kings*. Thames & Hudson, London.
- Richards, J.E., (1999) *Conceptual Landscapes in the Egyptian Nile Valley*. In W.Ashmore and B. Knapp, Eds. *Archaeologies of Landscape: Contemporary Perspectives*. London: Blackwell 83-100.
- Romer, J. (1981), *Valley of the Kings*; New York, NY: Henry Holt and Company.
- Romer, J., (1975) Royal Tombs of the Early Eighteenth Dynasty, *MDAI*, 32 pp. 191-206.
- Ruggles C. L. N. (2005). *Ancient Astronomy: An Encyclopedia of Cosmologies and Myth*. London: ABC-CLIO.
- Sellers, J. (1992) *The Death of Gods in Ancient Egypt* Penguin, London 1992
- Shaltout, M., Belmonte, J.A. and Fekri, M. (2007) On the Orientation of Ancient Egyptian Temples: (3) Key Points in Lower Egypt and Siwa Oasis. Part II. *Journal for the History of Astronomy* 38: 413-422.
- Shaw, Ian (2000). *The Oxford history of ancient Egypt*. Oxford University Press
- Spence, K., *Ancient Egyptian chronology and the astronomical orientation of pyramids*, *Nature* 408, 320 (2000).
- Wegner, J.F. (2009) *The Tomb of Senwosret III at Abydos: Considerations on the Origins and Development of the Royal Amduat Tomb* In: *Archaism and Innovation: Studies in the Culture of Middle Kingdom Egypt* Silverman, D, Simpson, W.K., and Wegner, J. (eds.) Yale University and University of Pennsylvania Museum of Archaeology and Anthropology press. pp. 103-169.
- Wilkinson, R.H. (1994) *Symbolic Location and Alignment in New Kingdom Royal Tombs and Their Decoration*. *Journal of the American Research Center in Egypt* 31: 79-86.

## NOTES

<sup>1</sup> For definiteness, the data reported in the present paper have been extracted from the *Corpus Mensurarum* provided by Belmonte and Shaltout (2009); however, many of them have been double-checked independently by the author using a precision magnetic compass and correcting for magnetic declination.

<sup>2</sup> A second hierophany of this kind is connected with the 6th dynasty funerary complex of king Teti at Saqqara. Teti's pyramid is indeed the unique Old Kingdom pyramid which is not orientated to the cardinal points. It faces the unique point where the almost flat eastern horizon on the opposite bank of the Nile is interrupted by a Wadi (Wadi Hof). The "Akhet" sunrise there occurs at a declination around 8° (mid April or end of August) (Shaltout, Belmonte and Fekri 2007).