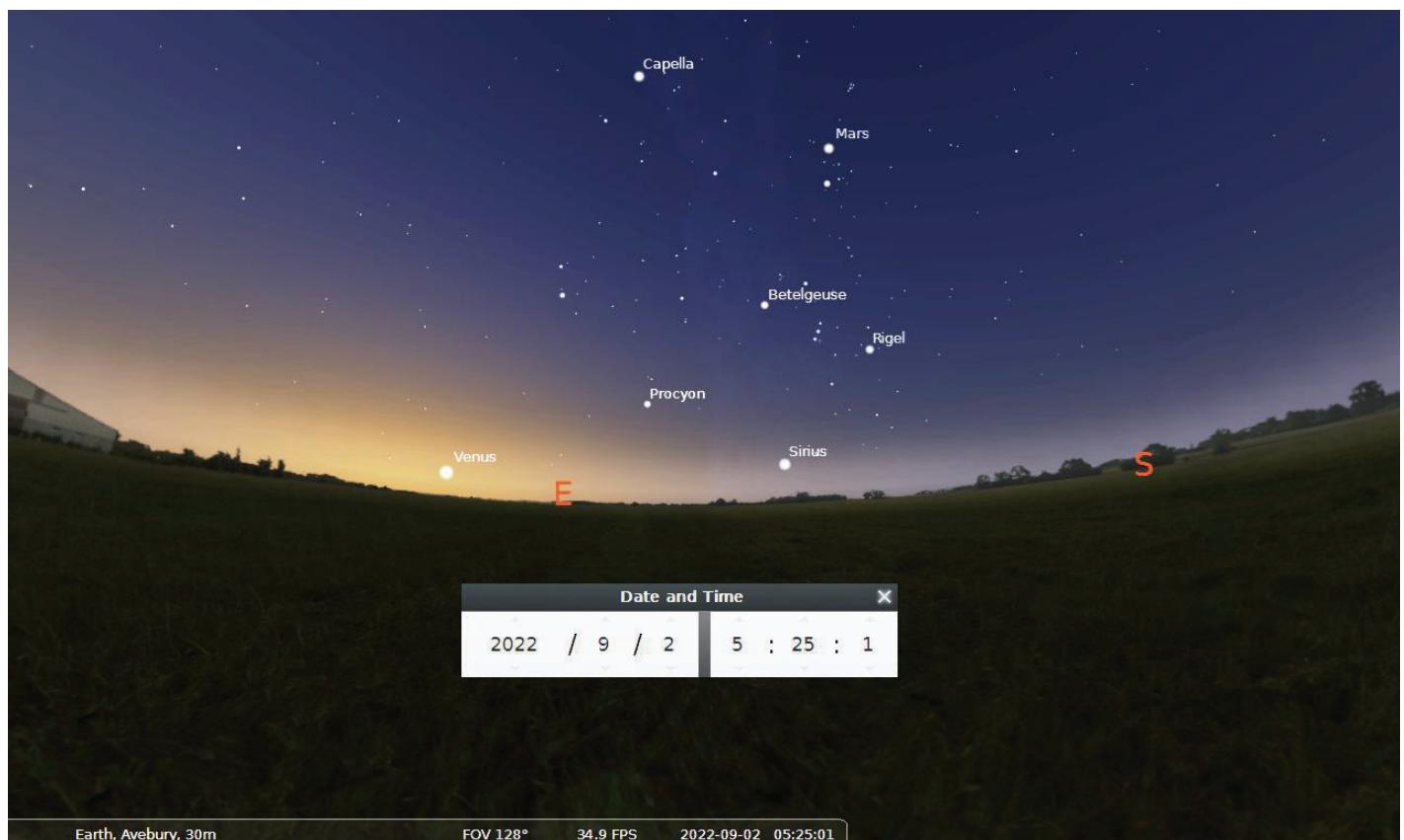


The Pharaoh, the Stars and the Red Planet Mars

You cannot live in a desert and not notice the night time sky. Once removed from all artificial light and surrounded only by empty desert you can see, on a cloudless night, thousands of stars, the Moon, and planets. You may also see, on occasion, shooting stars or a comet! Considering the Ancient Egyptians, a society that lasted for 3,000 years and more, they must have seen everything in sky over generations and generations. When planets are at opposition it would be impossible not to notice them as the brightest objects in a Moonless sky. What did they think of these bright objects that move slowly across the ecliptic in a direction counter to the daily motion of the stars? They would also notice that some of them vary in brightness at certain times of the year, and also, that some appear at regular intervals throughout the years. What role did planets play in the Egyptian Cosmos, their religion and their Kingship rituals?

The Pharaoh, the stars and the Red Planet Mars is a presentation that considers the role of Mars in Ancient Egyptian culture. It explains the connection with the Pharaoh and the Sun God called Horakhti, why it is important in the myth of Osiris and Isis and why it was essential for the king to follow its movements across the sky. The role of the planet Mars has never been addressed in modern Egyptology. There is a lack of thought and research on the subject that is so important for understanding the purpose and importance of ancient Egyptian culture and the development of human society. Now, in this year of 2022, an astronomical event will take place in Egypt that opens a major revelation that has major implications for all of us.



Mars lifting up Orion in the dawn light at Avebury 2nd September 2022

The Identity of the King and the Sun God

*Astronomy researcher **Chris O’Kane** looks to the night sky for answers to questions about the links between stars and planets and the king and gods of Egypt.*



At the beginning of the Eighteenth Dynasty the expulsion of the Hyksos rulers in the Delta and a peace settlement with the Nubians in the south led to an expansion of Egypt. This helped to establish a period of wealth and prosperity for the country. All of this was attributed to the king, who in turn declared that he was successful through the divine will of the god Amun Ra. There began a major building program, which expanded the temples and increased the numbers, wealth and importance of the priesthood. The king was the head of the priesthood and was seen as High Priest in rituals that were designed to establish the king's divine rule. The god most celebrated in temple ritual during this period was the Amun, whose name means "The Hidden One" or "Invisible One". He was often portrayed in association with the sun god of Heliopolis, Ra and with the combined name of Amun Ra. It is this god that Tuthmose I claimed was responsible for his success and the re-establishment of the unified kingdom of Egypt.

The king as supreme ruler and High Priest was the only one who could communicate with the gods and decree divine will upon the Earth. Like all previous kings he was deemed to be Horus's representative on Earth. The kings of the New Kingdom began expanding the existing temples with the largest and most elaborate temple ever built at Karnak.

The king's role in the temple ritual was to establish *maat*, described as "truth, justice and order" and seen as a kind of cosmic order and natural law. Part of the king's role was also to give praise to the gods and his ancestors. This was done to maintain an old and established cultural model, which served the common people as well as the hierarchy. The

king was seen in the character of Horus, who in Egyptian mythology was the god who established order and restored the kingdom after the murder of his father, Osiris and a period of chaos imposed by the god Set. Horus was the son of Osiris, the king of the dead. When a king died he was buried in the West and became an "Osiris" in the afterlife. His son or direct descendant was next in line for the throne and became a Horus king. As king he would re-enact, by ritual, the establishment of his deceased predecessor as an Osiris in the afterlife, while he would be established as Horus, protector of his father, in this life.

The pharaohs were deemed to be representatives of Horus and many kings used Horus names in their royal title. It seems that Horus may have sprung from pre-dynastic culture and he was identified with the king during the First Dynasty. Horus was son of Osiris and Isis and declared by the Ennead of gods to be the true king of Egypt. After the murder of Osiris by his uncle, Set, Horus was conceived by magical means when Isis brought the mummified body of Osiris briefly back to life in order to produce a son who would become rightful heir to the throne and avenger of Osiris.

The coronation of the king was determined to be at the time of the inundation of the Nile, when the bright star Sirius appeared to rise just before the sun and after a period of seventy days since it was last seen in the west after sunset. This is termed astronomically as the "heliacal rising of Sirius". This specific astronomical event was established as the beginning of the Egyptian New Year and coincided with the annual flooding of the Nile.

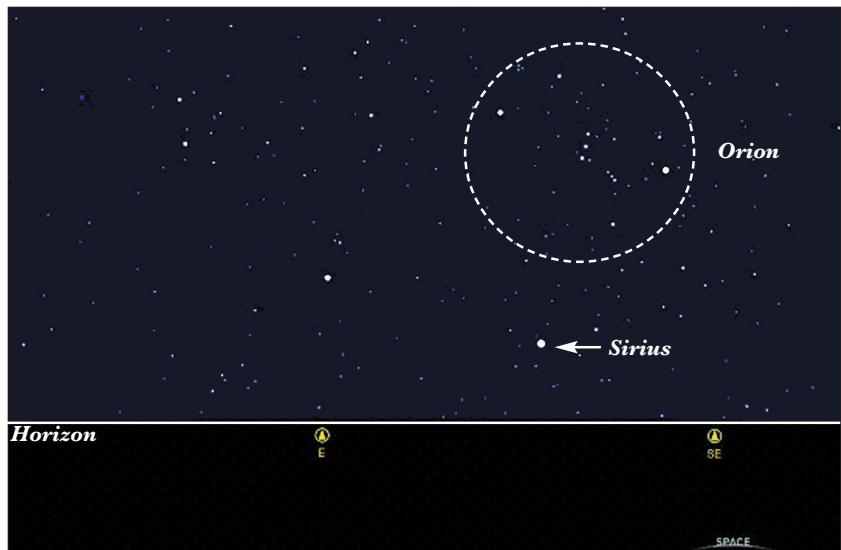
The goddess Isis was identified by the ancient Egyptians with the star *Sopdet* in

Left: painted relief in the temple of Sety I at Abydos, depicting (above) Osiris, and (below) Horus.
Photos: RP.

the south-eastern sky at dawn during the period of the Inundation. *Sopdet* was later identified by the Greeks as Sirius. Likewise, Osiris, as the group of stars they called *Sahu*, was identified with the constellation of Orion. It is worth noting that in the *Carlsberg Papyrus* mention is made of the astronomical observing of Orion. It is said in the text that the "stars die like men, in the west. They go into the ground in the western horizon like men when they die". The text declares, "This is what is meant by dying." It is also mentioned that *Sahu* rises before *Sopdet* in the order of *maat*. Astronomically this is correct. Orion will be seen to rise about one hour before Sirius. This suggests an interesting meaning of the term *maat*: simply, the order in which the stars rise.

If we take these references as astronomical identities and locations for these gods, we should consider their annual movements. Orion and Sirius travel together across the sky over the course of the year, travelling slowly each day in a westerly direction. It is only when the Sun comes round the zodiac in the region of Taurus that they become difficult to see, as they are washed out by the light of the sun in the western horizon. In ancient Egyptian astronomical texts observers have concerned themselves with the first and last appearances of certain stars or groups of stars. Much of their calendar was based on observations of groups of stars called decans. These decans were to be observed in the region just below the ecliptic. This is the path that the sun and planets follow through the zodiacal constellations we know today.

When Orion and Sirius are no longer observable due to the proximity of the sun they are no longer seen in the west and will not re-appear together again in the east before sunrise for a period of seventy days. It is worth noting that the period of mummification was seventy days also and that the last appearance of Orion is near the western horizon just after sunset. As Orion is swamped out by the golden glow of sunset it effectively dies in the west. All royal burials were also on the west bank of the Nile. The concept here was to see Osiris as Orion undergo an astronomical resurrection in the east before dawn in a region of the sky they called the *Duat* – "where the gods are born". A more recent transla-



tion names the *Duat* as "the place of adoration".

If we take observational astronomy as a basis for ancient Egyptian mythology we can make some sense of the story of the birth of Horus and the role of the king.

If we accept Orion and Sirius as astronomical counterparts to Osiris and Isis, and if we assume that Ra is the Sun, then we should look for evidence for an astronomical identity for Horus.

In Wallis Budge's compilation of the *Book of the Dead* he notes from the texts that Horus may be a planet. In his last published book *From Fetish to God*, 1936, Budge states that Horus is identified with the planets and that Mars is seen as Ra Horakhti.

In the 1940s Mercer identified Horus with the visible outer planets and by 1970 Neugebauer and Parker in their definitive study *Ancient Egyptian Astronomical Texts* stated that the three outer visible planets, Saturn, Jupiter and Mars, are identified from purely astronomical texts taken from tombs and coffins dating from the Ninth Dynasty to the Roman era.

It would seem from these studies that what the priests and the king were doing on the morning of the *Sed* festival was waiting for the re-appearance of a Horus-planet in conjunction with the heliacal rising of Sirius. This may make sense as an astrological ritual where first, Orion rises, followed by Sirius in the early dawn glow of twilight. These astronomical phenomena would in certain years be accompanied by the appearance of a planet, which would

Above:
the heliacal rising of Sirius with Orion around the time of the summer solstice.

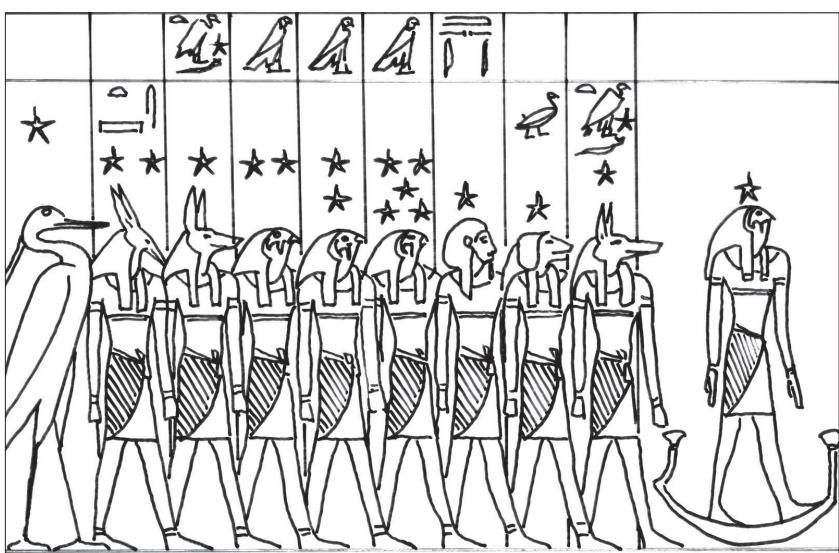
Illustration by Chris O'Kane.

Below:
the goddess Sopdet from the rear of a colossal statue of Rameses II in the Temple of Luxor. Photo: RP.



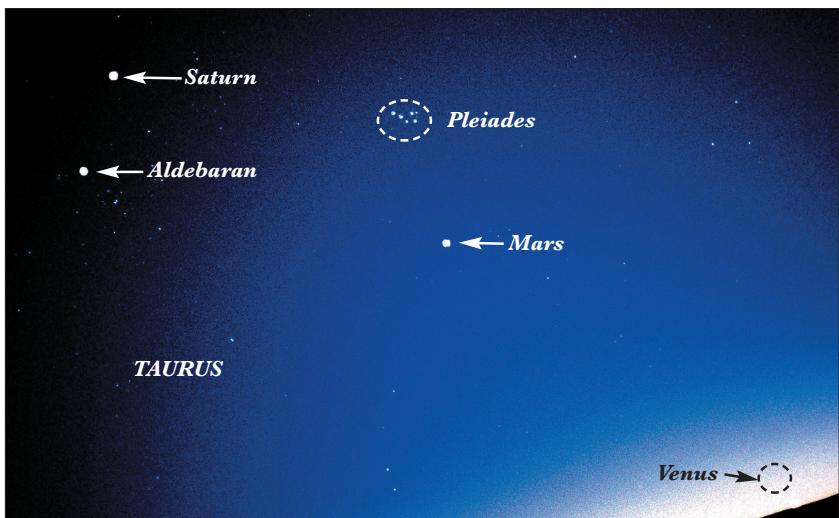


Above: Orion setting in the west with Taurus. Osiris entering the underworld.
Photo: Chris O'Kane.



Above: the Planets as depicted in the tomb of Sety I in the Valley of the Kings.
Drawing: RP.

Below: Venus and Mars Setting in the west just after sunset.
Photo: Chris O'Kane.



appear like a faint star near the horizon in the northeast. Shortly after, the sun would rise on the first day of the New Year. It is at this time the king would celebrate his coronation as divine Horus king.

The god worshipped at Karnak in the New Kingdom was Amun Ra, a creator god associated with the sun. But it was also deemed to be Amun Ra in his aspect of Ra Horakhti: i.e. Ra with Horus of the Horizon. From Neugebauer and Parkers *Egyptian Astronomical Text* we read that only the three visible outer planets were named as Horus. Saturn was Horus, Bull of the Sky, Jupiter was Horus Who Illumines the Two Lands, and Mars was Horus of the Horizon, or Horakhti.

From these studies it would seem that Horakhti is the planet Mars. By Ptolemaic times Horakhti became Horus the Red. This name identifies the planet and name beyond question. Also, because the names of the other planets remain the same it is clear that Horus the Red and Horus of the Horizon are one and the same. Recently Richard H. Wilkinson of Arizona University has stated that Horus of the Horizon is the name for Mars in his book *The Complete Gods and Goddesses of Ancient Egypt*.

In temples such as Karnak the king is often depicted embracing Ra Horakhti. It is with this god he is identified as the Horus on Earth.

In the ritual of the *Sed* festival, the king opens the doors to the shrine to let the dawn light illuminate the statue of the god. Just before this was done, the king and priests would have witnessed the rising of the god before the sun on the eastern horizon. Due to the synodic period [at this point, those readers like myself who are unfamiliar with astronomical terms might like to consult the definitions on p. 41 – Ed.] of Mars the planet would be visible just minutes before the sunrise in a thirty-year cycle, but also at other times too. This period of time was determined to be the reign of the king, divinely ordained by the astronomical phenomena.

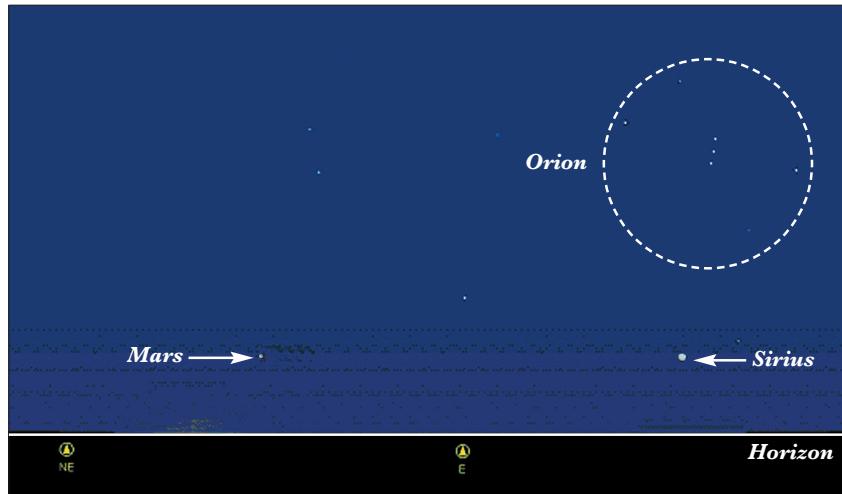
The king was identified with the planet Mars, which appeared to the ancient Egyptians as a most unique star. If watched by priests over its synodic period it appears to go round the sky against the direction of the decans and other stars. It will first appear before sunrise as

a very faint object and over the proceeding twenty-six months grow brighter until it comes to opposition [see, p. 41], when it approaches closest to Earth, outshining all the stars in the sky, then fading away until its last appearance in the west just after sunset. In certain years it will appear in the west like a very faint star during the last appearance of Orion and Sirius after sunset. Seventy days later, it will reappear with Orion and Sirius in their first appearance during the helical rising of Sirius and the beginning of the New Year. This of course happens in conjunction with the inundation and was deemed to be a period of re-birth and growth. There are some references to this time being called "The Birth of Horakhti".

The king at his coronation is re-confirmed as the Horus king. Horus is referred to as a sun god, but not the sun itself: he follows in the train of Ra, he travels on the barque of Ra and he travels with Ra. These may be references to any planet that travels along the ecliptic path in the course of many years. So it seems that Horus is a planet and Horus of the Horizon is the planet Mars. It may be that the significance of the king and his role was to be the earthly counterpart of this unusual star-like object. His sprint around the temple forecourt in the presence of the statues of the gods may be an analogy to Mars, as Horus, going round the ecliptic and encountering other gods in the sky.

At times when Mars is at opposition it will appear as the brightest object in the sky apart from the Sun and Moon. Mars will be seen to stand still, holding its station in the night sky for several days before appearing to travel backwards against its usual motion. It will then stop and keep station for a few days once again before moving east again and continuing with its annual motion against the background of fixed stars. This astronomical event is known to astronomers today as the standstill and retrograde motion of Mars. It is a phenomenon that applies especially to Mars.

This may be an explanation of how Horus consumes the other gods and attains their powers. As Mars seems to hold its position on the same region of the sky for a few months the background stars will be seen to pass into the western horizon and disappear. Horus could be



seen to eat the other gods in the same way that the sky goddess Nut eats the stars, Sun and Moon. In effect they are swallowed up in the west. Meanwhile Mars as Horus maintains its position relative to the observer but moves slowly east against the direction of the background stars. It will pass all the other

Above: *the heliacal rising of Mars at the same time as the heliacal rising of Sirius. "The Birth of Horakhti" 1804 BC from Karnak.*

Illustration by Chris O'Kane.

Below: *Merenptah greeting Ra Horakhti. Scene from the entrance to Merenptah's tomb in the Valley of the Kings. Photo: RP.*





Top: Mars at close opposition in Aries, Autumn 2003

Above: Mars at close opposition with the full Moon and city lights of Glasgow.

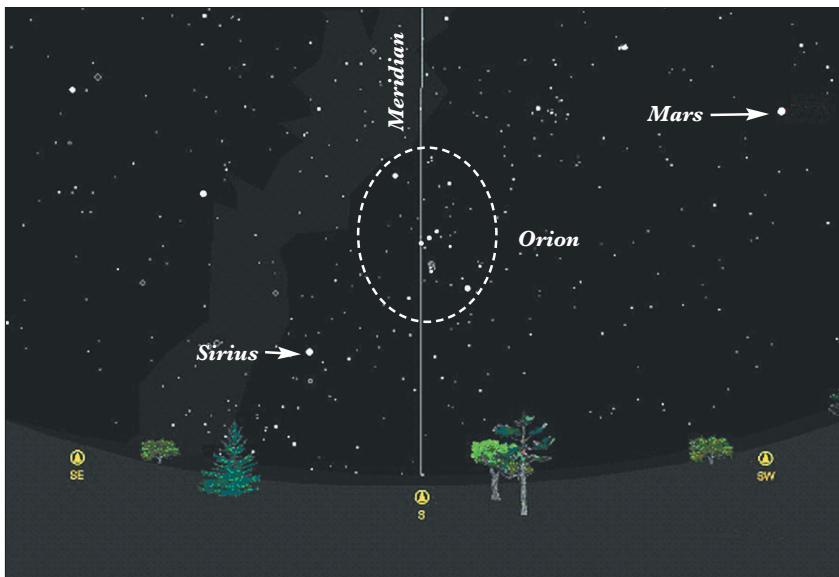
Above right: the heliacal rising of Mars with Venus.

Below: Mars at opposition near Taurus with Orion on meridian at midnight, 21st Dec 2005.

Photos/images: Chris O'Kane.

stars near the ecliptic over its months of travel. Because Mars has an orbital plane that is inclined to the plane of the solar system it will stray north and south of the ecliptic path by 1.85 degrees either way. Thus, Mars will be seen in some years either slightly above or below the ecliptic – possibly an explanation as to why Horus is eventually deemed to be King of Upper and Lower Egypt in the mythology.

Ultimately Mars, as Horus, will come to close opposition near the region of Orion, effectively finding his father, Orion/Osiris. When Mars rises it will be followed by Orion, then Sirius. It will after a few hours reach its highest position in the sky as it transits the meridian followed by Orion. Mars as Horus will set his father on high, on the southern meridian, shining in all his glory at opposition while taking up his throne at the right side of his father, west of Orion and near the bright star Aldebaran in Taurus. He would effectively have established *maat* by maintaining the order of the sky and the balance of nature on earth. To achieve all its oppositions and stations above and below the ecliptic, Mars takes seventy-nine years in total – a figure close to the eighty years that the great Ennead of gods take to decide that Horus should be King of Upper and Lower Egypt. Perhaps this is what the king was symbolically re-enacting on the earth, going against all his foes, conquering enemies, establishing the kingdom and administering justice. It was claimed that the “*ka* of the king was in Horakhti”. Perhaps the Pharaoh was like Mars, unique among the gods and



conqueror of all his enemies, defender of his people and symbol of justice and order.

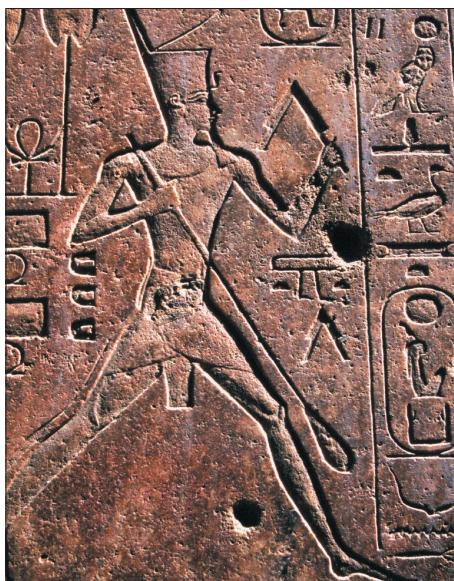
It is worth noting that Rameses II the great builder of temples and statues in the Nineteenth Dynasty commissioned two obelisks to be set up at the entrance to the temple of Luxor. These obelisks were dedicated to Ra Horakhti, whom Rameses credits with his victories and long life. One of the obelisks now stands in the Place de la Concorde in Paris.

Another obelisk was taken to Rome by Augustus around 10 BC and placed in the Circus Maximus. The obelisk, which came from Heliopolis and is attributed to Sety I, had a Greek translation written at that time by an Egyptian priest named Hermaphion. This was commented on by Ammianus Marcellinus in his *History of Rome* which was written around 450 AD. The translation clearly translates Horakhti as Mars. The Egyptians, Greeks and Romans knew this name and its identity. An understanding of Egyptian religion and mythology will most likely be found in a study of ancient observational astronomy. Before his death in the late 1930s

Budge said just this. In the twenty-first century we're still waiting for that study.

Chris O'Kane

Chris is a technician and astronomy researcher based at the Glasgow Science Centre. For more information about the Centre, see their web site, www.glasgowsciencecentre.org



Definitions of astronomical terms

synodic period:

for a planet, the time which elapses from one conjunction to the next conjunction of that planet.

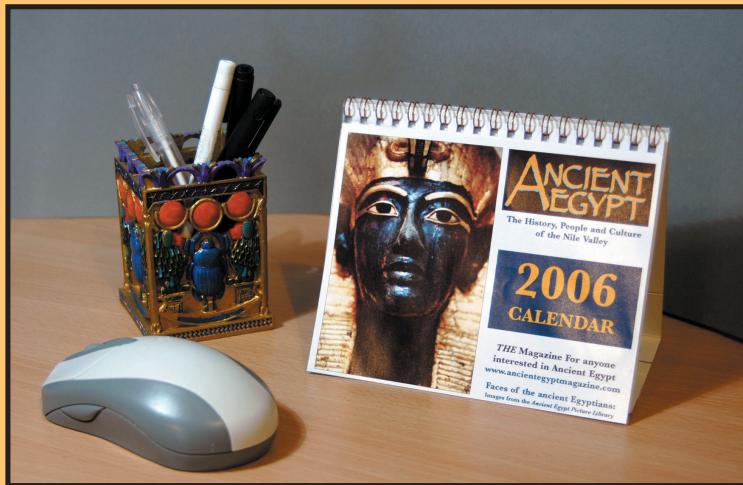
conjunction and opposition:

a heavenly body is said to be in conjunction with the sun when it is on the same side of the earth and in a line with it; it is in opposition to the sun when it is on the opposite side of the earth, the earth being in a line between it and the sun.

[With thanks to *Chambers's Encyclopædia* – Ed.]

Hatshepsut as Pharaoh running in the Heb Sed Festival. Scene from her Red Chapel in the Open Air Museum in the Temple of Karnak.
Photo: RP.

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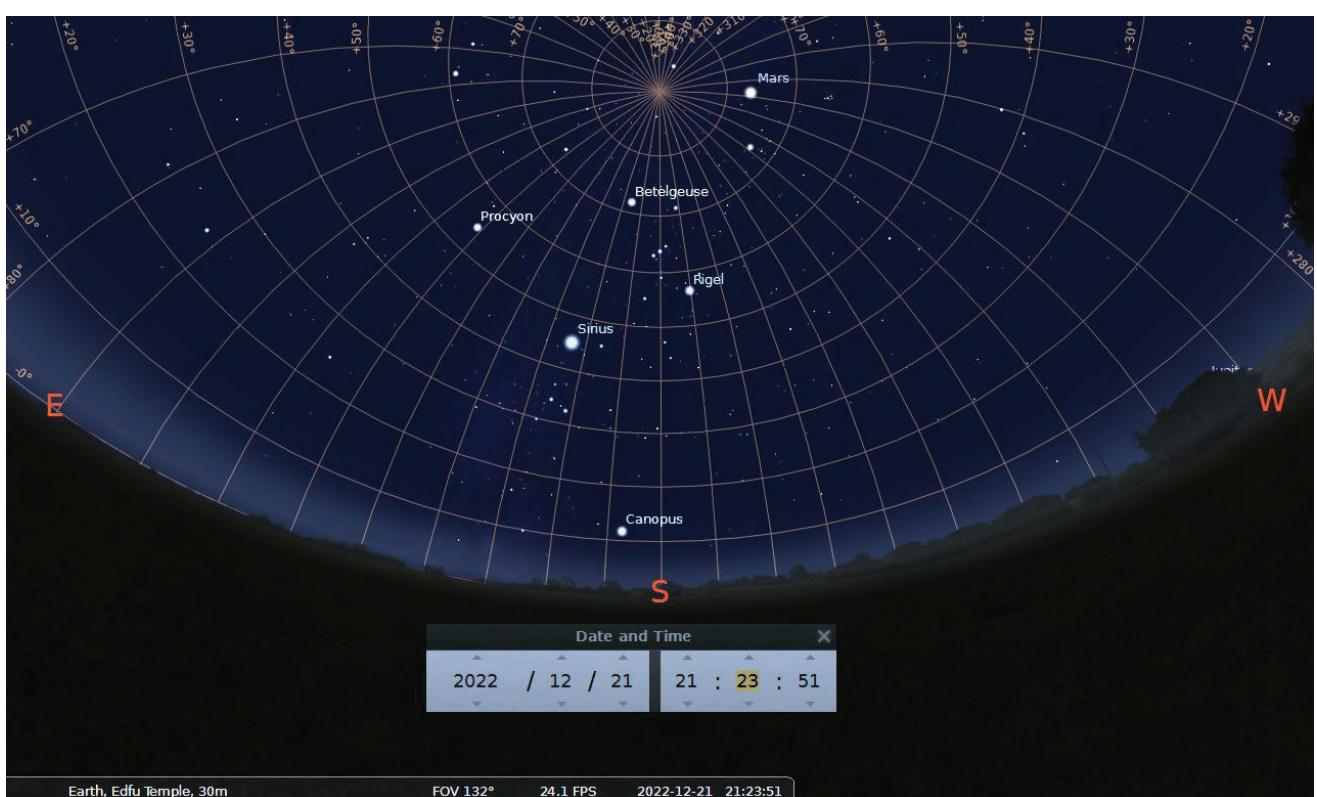
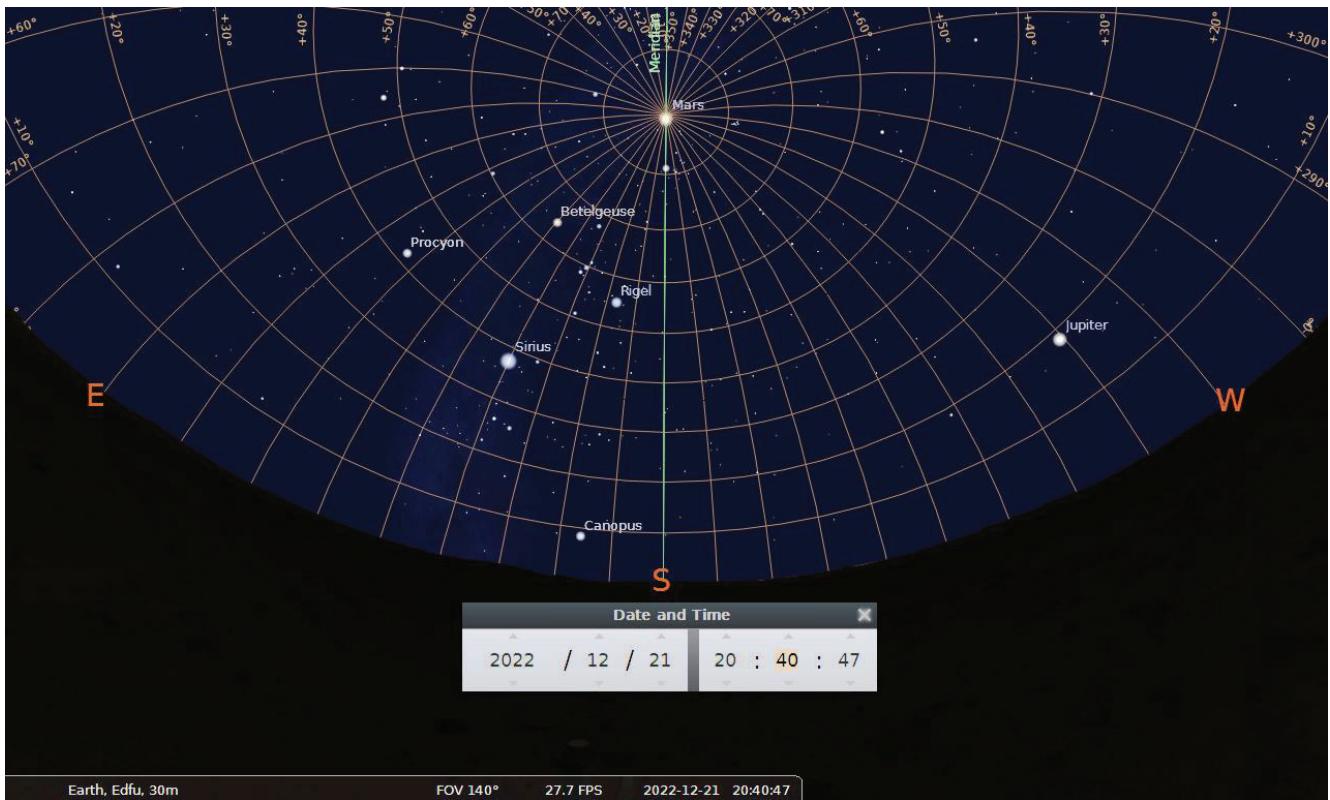


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Corrections to article:

Sidereal period of Mars is 32 years and not 30 as quoted.

Mars can disappear behind the Sun for up to 6 months depending on where it is in its orbital path. Not 70 days as quoted.