

Fields, Racetracks and Temples in Ancient Greece

by Richard Heath

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The fields of ancient Greece were organised in a familiar way: strips of land in which a plough could prepare land for arable planting. Known in various languages as furlong <https://en.wikipedia.org/wiki/Furlong>, *runrig*, *journal*, *machen* etc, in Greece there was a nominal length for arable strips which came to be associated with the metrological unit of 600 feet called a *stadia*. The length of foot used was systematically varied from the foot we use today, using highly disciplined variations (called modules); each module a numeric ratio of the Greek module, whose root foot was the English foot [Neal, 2000]. These modules are found employed throughout the ancient world, lengthening or reducing lengths such as the *stadia*, to suit geometrical problems; such as the division of land into fields (figure 1).

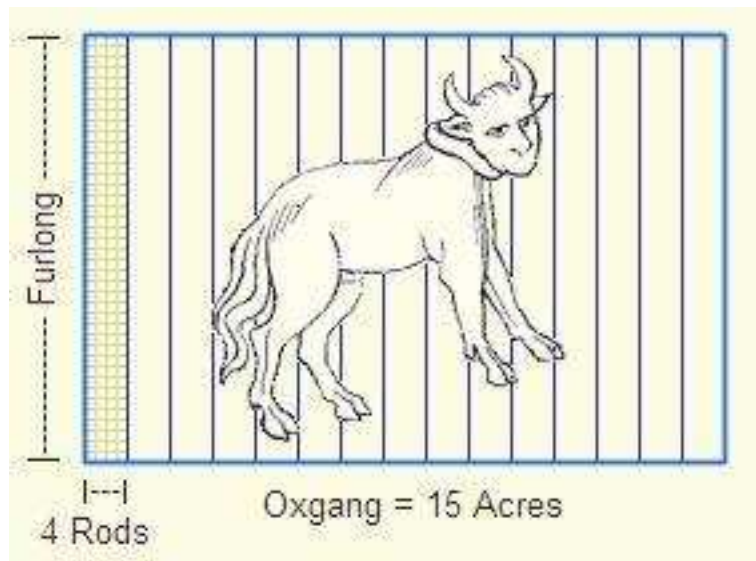


Figure 1 The land area of an acre seen as the amount of land tillable by one ox in a ploughing season

The Distribution of Land

The word *stadia* became implicit in our sports stadiums because ancient Greeks used field areas as racetracks for their competitions. Their greatest games was held at Olympia's racetrack, site of a pan-Hellenic Games now re-instituted (since 1886) as today's Olympic Games. Whilst the modern Olympics are competitions between states, racing was mythologically significant in ancient Greece. The original *stadia* were simply field-shaped runways; to an endpoint about a furlong (or "fur-rows

long") away. Later two straight tracks were joined together by a two semi-circles (or *sperium*) allowing indefinite lengths of race, and giving us the modern type of stadium.



Figure 2 The Racetrack at Olympia

A 600 feet long field became a racetrack by turning it into a wide road of fine hard standing, around 100 feet wide (figure 2). Low stone ridges sometimes marked the starting, ending and intermediate lines and these starting and ending ridges have allowed exact lengths to be measured (John Neal. 225). In both arable and running strips there were boundary stones at the corners and sometimes balks bounding the perimeter. Where rectangles could not fit marginal land areas, half rectangles and other rectilinear shapes were used because their areas could be calculated more easily. Most arable strips started as simple rectangles and were later adjusted, using rectangular geometry. This allowed for split inheritance within clan families. Fifth century Greek historian Herodotus proposed geometry came about in order to measure the field areas of Egypt and it was certainly used there in the building of their temples.



FIG. 50. Casting lots: Attic vase

Figure 3 from Thomson. 1949.

In ancient Greece the distribution of land between families, amongst other matters, were decided by lot - hence our word allotment and parking lot. A clan or village, would quantify the known land area as strips and then, "by fate" families would pull notes or objects, representing individual strips of land (their lots), out of a container (figure 3). When allocated in this way, family land was scattered amongst that of other families and, by using this method, the gods were seen as giving the land through "chance" or fate. Greek field games were dedicated to the gods and some arable strips were allocated "to the gods"; and it is for this reason that the dimensions of racing tracks came to have the same format as an agricultural field were given. In any case, agricultural fields belonging to a village could become "playing fields", when put to pasture. Fields given to the gods could also become sacred spaces such as groves and temples which, from at least 800 BC, were evolving to suit the arable dimensionality of allotted fields.



Figure 4 Model of early Heraion Temple House, Argive.

Jeffrey M. Hurwit wrote on the probable evolution of the Greek temple and in particular the Haraion on the Island of Samos [Hurwit. 1985. 75-77]. Small shrines to the god would employ a normal dwelling-like temple house (figure 4). In the case of the Heraion of Samos the house was elongated to 100 feet long of common Egyptian feet, and later a peristyle of columns around the building using wooden tree trunks (figure 5), perhaps echoing the sacred grove, belonging to the world of the gods. A statue of the god was placed, looking towards the entrance from the rear. Known as a "hundred-footer" or *Hekatompedon*, this became the norm for such rectilinear temples, the Parthenon at Athens being one hundred feet in width (of 81/80 feet [Berriman, 117-9]) rather than a length of 100 feet. (see also my analysis of the Haraion).

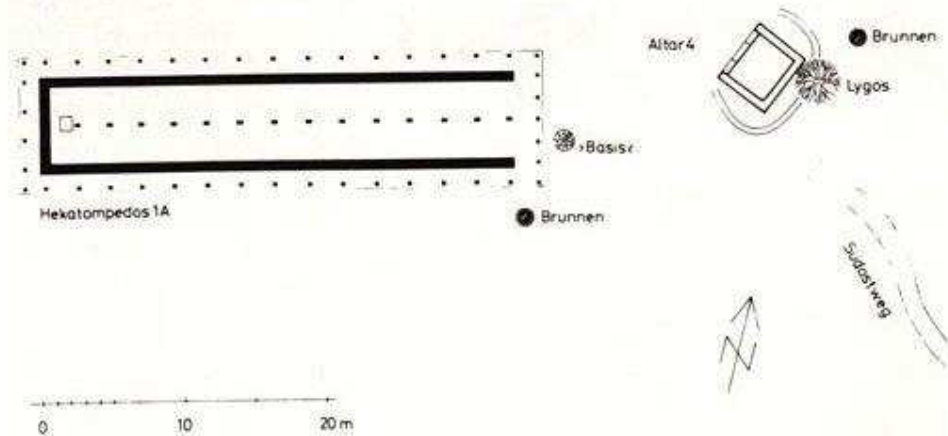


Figure 5 The Heraion of Samos: 8th century BC evolution of the peristyle temple
[Hurwit. 1985. 76]

Whatever other symbolisms were in play, the racetrack and the temple were fitting into the nominal dimensionality of arable land distributed by lot between families belonging to village communities and *their* gods. All three forms of land use display units of length belonging to an exact metrological system, parts of which are relevant today (Neal. 2000 and 2016). That such a system of exact measures existed in the ancient world was enthusiastically explored by nineteenth-century scholars but suppressed by twentieth-century scholarship. Metrology is as if forgotten by later generations, perhaps avoided by twenty-first century academics because it could history to be somewhat rewritten.

Symbols of the Gods

If fields, racetracks and temples were related structures in ancient Greece, can their design be assumed arbitrary? Why did racetracks come to be associated with the gods and why were idols of goddesses placed within temples sharing the rectangular format found in fields; for example: Hera, in the case of the Heraion, and Athena in that of the Parthenon. These goddesses appear to have arisen out of regional agricultural cults, appropriate to fields, fertility and the plough, whilst Greek races came to be seen as something entirely masculine.



Figure 6 The Peloponnese

The Peloponnese racetracks of Olympia and Epidauros, southwest of Athens, have a sacred setting. Both face mountains to the northeast, in the general direction of the midsummer sunrise: in fact 20 degrees north of east, rather than to the midsummer solstice sunrise on a flat horizon which is 30 degrees north of east. They could be aligned in common for various reasons:

1. A sacred hill or distant mountain, raising the horizon, caused the midsummer sun to rise further south.
2. Epidauros could have sought to imitate Olympia in this respect.
3. Games might have been linked to the sun rising from behind the hill above the end of the racetrack.

The Olympic games came to be held every fourth year, the time taken for the sun to reappear at exactly the same place on the horizon, whether raised or not, because of the quarter day extra each solar year. This loosely ties it to a solar calendar in which every four years there are $365 \times 4 = 1460$ plus one full day. I say that such a solar period can be loosely achieved since by observing the sun rising at exactly the same marker on the horizon every four years, 1461 days have passed and hence four solar years.



Figure 7 Common alignment of Epidauros and Olympia as 20 degrees north of east

It seems likely that societies using a loose solar calendar of four years would also have been observing the helical rising of the zodiacal constellations. This, as the name suggests, observes the constellation rising above the mountains in the north east, before dawn and at the solstice; this would have been Gemini or "the twins". At the feet of the twins lies Orion, still submerged below the celestial equator (zero degrees declination) due to the precession of the Equinoxes. In many traditions, the barley or corn god dies but is resurrected through his seed form, providing an agricultural metaphor for the eternal struggle between order and chaos, seen in periods of relative light and darkness within the year. And the twins are often shown engaged in or associated with competitive sports.

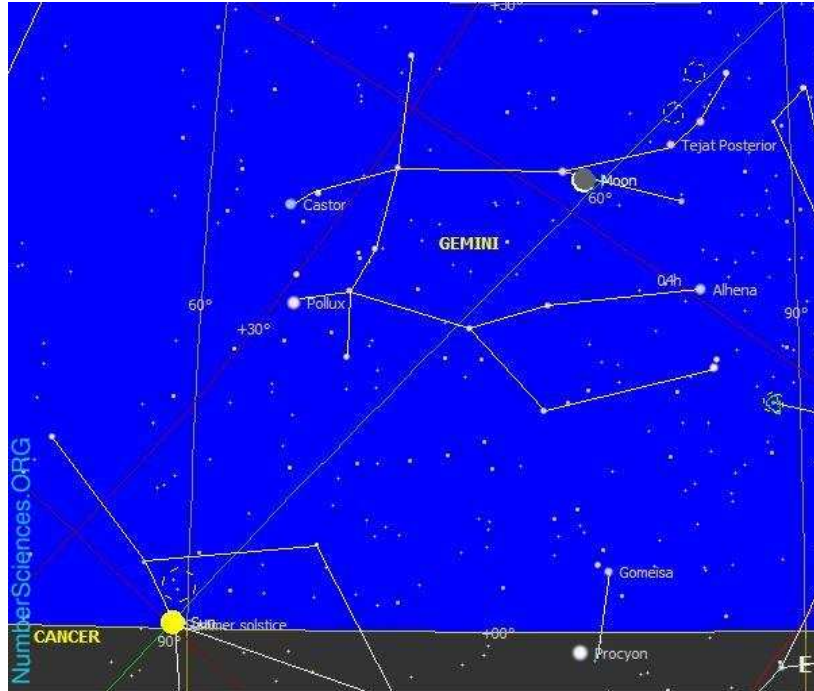


Figure 8 The location of the MSSR sun (altitude 6.5 degrees) at local sunrise for Olympia racetrack. At dawn on the true horizon, the Gemini twins stand above the Hill as symbol of the Games. At Epidaurus racetrack, the sunrise is later (altitude 8.625 degrees) to similar effect.



I therefore propose that around 800 BC Gemini was known by its helical rising before the midsummer point of the Ecliptic, within a loose solar calendar, and that a sacred hill enabled that constellation to appear at dawn above the hill. The most familiar myth of the celestial twins lives on in the Greek names of Gemini's brightest stars: a semi-divine Castor and a divine Pollux. The inequality of the twins is an ancient theme, first recorded 5000 years ago in the characters of a Sumerian king Gilgamesh (two-thirds divine) and "wild man" or hunter Enkidu (one-third divine), in the epic tale *Gilgamesh*. At its heart was the theme of competition between men born to a world in transition, from hunting and gathering, to the neolithic pastoralism established by the end of the Age of Gemini in Mesopotamia.



"The Boxers" from Akrotiri image: Carole Raddato from FRANKFURT, Germany [CC BY-SA 2.0 (<http://creativecommons.org/licenses/by-sa/2.0>)], via Wikimedia Commons

When the Bronze Age collapsed suddenly around 1200 BC, cultures were re-integrated by iron age tribes. At the time of the Greek racetracks, agriculture was losing its matrilineal roots due to patrilineal Indo-European tribes, most notably the Dorians. Conquest often left fields, communities and habits intact, with some religious and economic changes. This explains the gender ambiguities and naming anomalies and found in the Greek myths; such as that Zeus is clearly an Indo-European name whilst Hera local and, more naturally, the wife of the hero Herakles: "Her temple at Olympia, the oldest on the site, cannot be dissociated from the tradition that the Games were founded by the Argive Herakles " (Thomson. 1949. 281-2.). Hera has no children by Zeus, who came to dominate the Olympia racetrack

and religious complex. Instead she gives a virgin birth (*parthenogenesis*) to Hephaistos the Smith, who later relieves Zeus of his "headache" (having swallowed matriarchal goddess Metis). Splitting Zeus' head open with his axe reveals Athena: a transformed snake goddess, by another *parthenogenesis*. The goddess Athena had come from Troy, and her *palladion* (cult image) said to protect Troy. It survived Troy's destruction and was taken to Athens, and later to Rome. Athena appears on the cap of Zeus, just as the Minoan serpent goddess had a cat on her cap.

 <p>FIG. 37. Poseidon and Hephaistos at the birth of Athena: Attic vase</p>	
<p>from George Thomson, 1949</p>	<p>Serpent Goddess, Herakleion Museum, case 50, 63 Image: Richard Heath</p>

Traditions of the twins

The Maya of Mesoamerica had Hero Twins, whose father was the maize (corn) god *Hun Hunahpu* (Diane Wirth, 2003), probably the constellation Orion below the twin's feet. The twins defeat the Lords of Death (who killed their father) by dying then to be reborn, rather like the English story of John Barleycorn [https://en.wikipedia.org/wiki/John_Barleycorn]. The story of the twins relates to many other myths of resurrection, and Minoan Crete knew the story of Osiris (Orion), his brother Set who killed him and of his son Horus who defeats Set. The Pharaoh is Horus reborn and it is evidently the competition between two principles, inherent to the universe, which can be expressed in competitive sport and war.

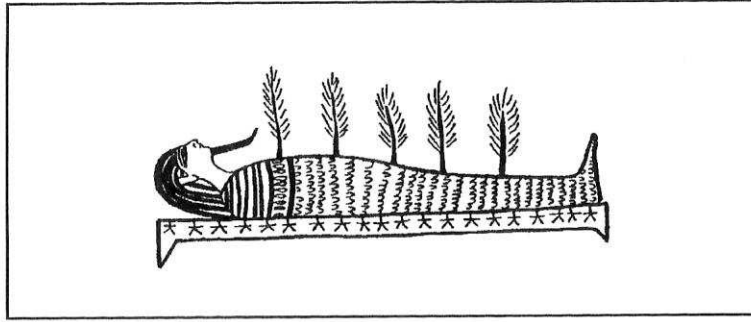


Fig. II.11 Osiris as grain god lying on a sky glyph with stars (redrawn after mural, Valley of the Kings, Egypt).

A god who must die only to be reborn is metaphorically presented in three ways: the resurrection of life within the arable field, the heroism of competition presented on the racetrack, the fertility of the young mother goddess who brings forth the twins: so as to link fields, racetracks and temples to the goddess. Two genders were being expressed and celebrated in the Greek fields given over to the gods: racetracks expressive of a divine contest and temples to the matriarchal goddesses expressive of fertility and new life.



Mother Goddess and twins

Bibliography

Herwit, Jeffrey M. *The Art and Culture of Early Greece, 1100-480 B.C.*. Cornell: Ithaca 1985.

Neal, John.

2000. *All Done With Mirrors*. Secret Academy: London.

2016. *Ancient Metrology: vol. 1: A NUMERICAL CODE*. Squeeze Press. 225-243, analyses some of the stadia that can still be measured, most in the Peloponnese, in terms of ancient metrology.

Thomson, George. *The Prehistoric Aegean*. Lawrence & Wishart: London 1949.

Wirth, Diane E. *PARALLELS: Mesoamerican and Ancient Middle Eastern Traditions*. Stonecliffe: Utah 2003. see Chapter Two.