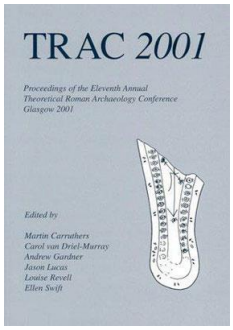

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Regarding The Stars

Carol Van Driel-Murray

At a TRAC some years ago I discussed the many symbolic roles of footwear in Provincial Roman society, and touched on the apparent cosmic imagery of symbols marked on 3rd and 4th century sandal soles. Then my interest was primarily in the mediating role of foot and shoe in rituals associated with earth, water and fertility and I had not paid particular attention to the symbols themselves or their relationship with the Graeco-Roman perceptions of the cosmos (van Driel-Murray 1999). Sandal soles from London and Aardenburg, both of the later 3rd century form the starting point (Figure 1). Both are impressed with the astrological symbol representing the planet

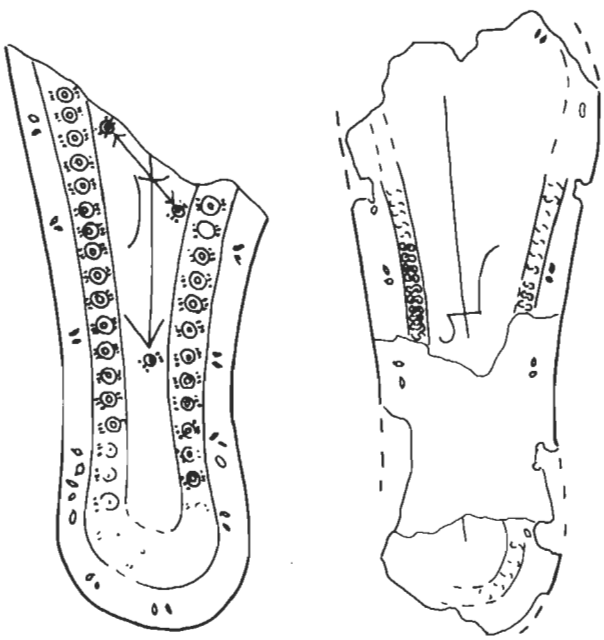

Figure 1. Sandal soles from London (Dowgate) and Aardenburg (Netherlands)

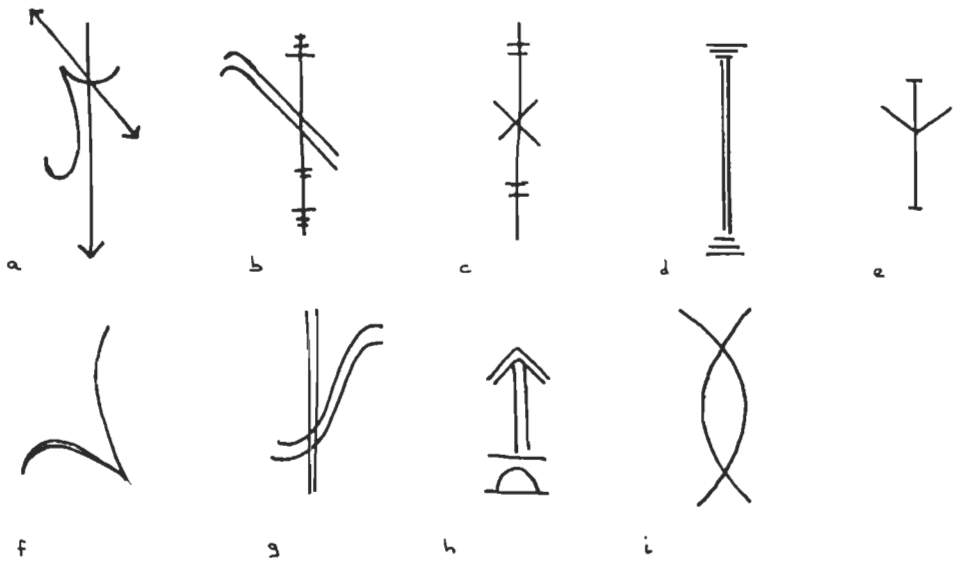

Figure 2. Symbols appearing on soles: a) Jupiter, Sagittarius; b–d) wells, shafts, Saturn (?); e) tree; f) Saturn and/or Capricorn; g) Saturn, Aquarius; h) Sagittarius, Libra (?); i) Pisces

Jupiter, and on the London sole this is combined with the zodiac sign of Sagittarius as well as conventional dot-circle Sun symbols. Other planetary and zodiac symbols on sandal soles occur widely throughout the north-western provinces, coming from a variety of sites, military and civilian, but none of which can lay claims to being intellectual centres of provincial culture (Figure 2). Both carrier and context are mundane in the extreme and argue for a wide dissemination of the cosmological theories represented (van Driel-Murray 1999, with references to figures).

We need to recognise that in antiquity, abstract measurement of the universe was not an end in itself but served to gain an increasingly accurate understanding of the working of the heavenly bodies and thereby to calculate their influence on the well being of humankind and to establish the ritually correct dates of important religious festivals. In the absence of fixed dating systems, the changes in astral bodies represent order and regularity, while the connection between stars and seasons inevitably give rise to speculation on greater systems and the ultimate control of a 'prime mover' (Wright 1995: 179). Intertwined with the geometrical, measurable conception of the heavens is the mystical belief that the souls of the dead are connected with the stars: as the body returns to earth, so the soul rises to an astral destiny (ibid. 122). Hence, astronomy and astrology, prediction, healing and science in their modern sense can hardly be separated in a meaningful way. Nevertheless, levels of astronomical practice can be discerned, which amount to different 'astronomical traditions' serving different purposes and requiring different skills.

Observation of the sun, without any theoretical or geometrical framework is sufficient

to record the solstices and equinoxes, in order to establish the cyclical progression of the seasons. More accurate computation of particular intermediate dates could be calculated by means of the shadows cast by the sun's rays, most notably in Augustus' monumental sundial in Rome and the surviving Roman portable sundials (Field 1996: 119–121). A recent study, supported by experiments, suggest that this is also the principle on which the dodecahedron is used to establish the agricultural calendar (Wagemans 1996).[1] By turning these curious objects on each face and allowing the sun's rays to pass through opposite holes to a fixed point, the angle of the sun can be measured, establishing the approach of the spring and autumn equinoxes and thus giving farmers warning of the period for optimal winter or spring sowing (ibid. Figure 3). In northern climates, waiting till the actual equinox had been observed would have left too little time, and it is the *range* of dates which seems to be crucial in the use of the dodecahedron. The final dates established by Wagemans for 28 of the dodecahedrons from a known location, vary for the spring planting between 4th March and 2nd May, and for the winter planting, between 9th September and 9th October. Remarkably, the date range varies by latitude, allowing southern farmers to plant much later in the winter, and earlier in the spring, than their northern counterparts. Such observations, though sophisticated in their working, are related to practical concerns and have little need for the mathematical and geometric computations which underpin Hellenistic astronomical theory. In contrast, the Hellenistic tradition focuses upon the continuous motion of the heavens, within a geometrical model of the universe. This model is predictive, both as to the course of heavenly bodies over long periods of time and as to astral influence on humankind – here again the mix of astronomy and astrology – but both requiring calculation of a different order to that of simple time keeping. The universe was visualised as a series of rotating spheres carrying the stars and planets on their predetermined courses around the earth. Although we now know that the theoretical basis – the centrality of the earth – is incorrect (the Heliocentric theory of Aristarchus of Samos had little impact and was widely reviled, Wright 1995: 153), the calculations were remarkably sophisticated and accurate: perhaps a humbling reminder to modern scientists.

To my considerable surprise, the symbols employed on sandal soles belong to this latter form of geometrical astronomy, and in particular to the predictive, astrological branch. Particularly noteworthy is that it is not the figures of the constellations which are used, but early forms of the symbols employed in zodiacal notation, which implies familiarity with the abstract notions of horoscopes and predictive calculation rather than merely reproducing the mythological personifications of the night sky.

The zodiac symbols derive from the astral notation developed in the late 1st century BC by Hellenistic astronomers. By this time the zodiac and most of the constellations had achieved forms similar to those we know today, and are depicted on the small (and thus handy) astralglobus now in the Römisch-Germanische Zentralmuseum Mainz (Künzl 1996, 1998; Gundel 1950 col. 2034). But the choice of symbols on sandals is rather restricted. Particularly noteworthy is the total absence of the more obvious planets, such as Mercury or Venus, nor are the zodiac signs represented evenly. On sandal soles only Jupiter, Saturn, Sagittarius, Pisces, Aquarius and possibly Capricorn are depicted. Furthermore, this is not the random use of the odd sign – one's own

zodiac sign for example – but a deliberate arrangement used in correct cosmological association and implying some familiarity with the cosmological theory in which these symbols had their origin.[2]

For astrologers, both ancient and medieval, the zodiac also possessed therapeutic functions, with constellations ruling over specific body parts and playing a role in matters of health and temperament. In contrast to the considerable disagreement in antiquity over the astrological groupings, meanings and attributes of particular planets and constellations, there was already a general consensus as to the body parts protected by each zodiac sign, a relationship which has lasted till the present day (Manilius II.453–465; Barton 1994; Fachan 1991: 49 and *passim*). As might already have been expected from a perusal of the symbols incised on sandal soles, Pisces is considered to rule over the feet, Aquarius over the legs. Here we are back to a simple protective function of symbols on items of clothing. The message may be simple, but it is expressed in symbolic terms which are intimately related to Graeco-Roman concepts of the cosmos and the influence of the stars on mankind. The chance discovery of ivory astrological tablets in a well at the healing shrine of Apollo Grannos at Grand in north-eastern France suggest that such astro-medical theories were far more deeply embedded in provincial consciousness than the dearth of surviving evidence would lead us to suspect (Abry 1993: 110–111). We are, in general, poorly informed as to the nature of cult practices and utensils, the role of horoscopes in provincial life and even the significance of particular shrines. But for a chance literary comment, the international renown of the cult of Apollo Grannos would also have gone unrecognised: Caracalla is said to have visited Grand for his health (Dio LXXVIII,15,6). The international and informed clientele visiting, and practising, at shrines such as this would be instrumental in the dissemination of Graeco-Roman astronomical theories, as the tablets themselves illustrate. Dating to the end of the 2nd century, they were made in Egypt and carry Egyptian iconography, with the zodiac represented by figures surrounded by the decans in Egyptian form and a Greek inscription which struggles to reproduce Egyptian phonetic hieroglyphs. Divination and healing are the means by which this kind of astral knowledge was transmitted, leaving little trace for the archaeologist.

There are, however, still further dimensions. In Graeco-Roman planetary theory, each planet rules over a diurnal and a nocturnal 'house' or constellation, and these combinations are crucial in the casting of horoscopes (Manilius book II.439–447; book V). It is somewhat disconcerting to find that the symbols most frequent on footwear correspond to the correct astrological houses and in a logical combination of earth-sky and water which goes some way to explaining the role of footwear in ritual deposits in wells and other watery contexts (van Driel-Murray 1999: 137) (see Figure 3).

Now these are the constellations of late Autumn from about November 23rd till the spring equinox around March 21 – dates with no obvious correspondence with major events in either the Celtic, Roman or Christian calendar.[3]

Capricorn, the fish-tailed goat, was the emblem of Augustus, and was carried by several Augustan military formations, including the British Leg. II Aug. and the Coh. 15 Voluntariorum Civium Romanorum (Barton 1994: 40; van Driel-Murray 2001) and given the negative aspect of footwear in certain contexts, the sign figure 2.f is more probably an early rendering of Saturn. But the same negative connotations, in the sense

Planet	Diurnal	Nocturnal
Jupiter ♃ (sky)	Sagittarius ♐	Pisces ♓ (water)
Saturn ♄ (earth)	Capricorn ♑	Aquarius ♒ (water)

Figure 3. Astrological Houses

of trampling and domination, could also be interpreted as representing a 'victory over the forces of winter', a message entirely appropriate for marking on the first sandals of the new summer. Once more, the message is simple, but it is being represented in a Graeco-Roman idiom, and bears no relationship to either Celtic or Germanic ideas of cosmic organisation. Like the actual notations used, the concepts of geometric astronomy, with fixed relationships between planetary spheres, the zodiac, the seasons and the diurnal cycle, are theoretical concepts developed in the 1st century BC and formalised in the scientific compilation of Ptolemy under Marcus Aurelius (Gundel 1950). Thus scarcely a century after this formalisation, both ideas and notation have gained widespread acceptance even in the periphery of the Empire and have, apparently penetrated deeply into ordinary provincial consciousness – so deeply, indeed, that the use of these symbols on something as mundane as footwear could be considered as normal by both maker and client. There is nothing elite or special about either the sort of footwear or the contexts from which they come

In circumstances where the Hellenistic theory of rotating spheres was apparently well understood, the ubiquitous pattern of concentric circles may also have to be regarded in a different light. These are not *just*, or not *only*, conventional sun symbols, but may also be intended as actual representations of the cosmic spheres, and, literally, of cosmic harmony, since the movement of the spheres was conceived in terms of real, mystical music (Wright 1995: 149–50). The majestic progression of the heavenly bodies, harmonious, everlasting and immutable, stands in stark contrast to the disorder and disruption of earthly existence: the revelation of this divine order gives the individual a sense of place, imparting meaning and order in this life and hope hereafter. The appeal of such messages in the turbulent 3rd century is manifest, having found expression long before in the Roman re-working of Eastern cults, such as Mithras and Isis, but now also, as is becoming clear, devolving on to mundane objects of personal

use.[4] In the Latin West, however, it is the aspect of cosmic harmony, rather than the calculations on which this is based, that became most influential, surviving to be taken up in early Medieval thought. Abstract computation remained embedded in the Byzantine, and ultimately Arab, East (Fachan 1991).

As has already pointed out, it is puzzling that astral notation is marked on the soles, and not the pictorial representations as on the Grand tablets, Mithraic reliefs or the manuscript tradition.[5] This would argue for a different medium of transmission, separate from the iconographic complexes associated with any particular Eastern cult, and perhaps representing an as yet almost invisible tradition using astrology for therapeutic purposes and for the casting of horoscopes. Modern discussions of ancient astronomy probably underestimate the role of horoscopes in the spread of the more (to our sensibilities) 'scientific' supporting methodology: it is noticeable that studies on ancient astronomy are more concerned with tracing the antecedents of modern observations and concerns than in understanding the role of astronomy in the daily lives of the ordinary people in the Roman Empire. There is plentiful evidence for the casting of horoscopes as a regular part of temple practice in Roman Egypt (Barton 1994: 87–9; Jones 1996: 99) but other than the ivory tablets from Grand, little from the West. Emperors such as Hadrian and Septimius Severus were positively addicted to horoscopes and consulted astrologers almost continuously: there is little reason to think that such concerns would be confined to the elite or only to the Eastern Empire (Barton 1994: 39–40).[6]

Although much has been made of 'Celtic divination' Martin (1993: 17) points out that there are no indications for the cosmology involved, and any correspondences are merely on the general level of the use of circles or half moon shapes. The introduction of the zodiac signs and the predictive horoscopes implied thus represent a clearly new element in provincial thought and perception of the role of the stars in human destiny on earth and after death, which Martin (ibid. 14) regards as a significant element in cultural change. Now we do not know what Boudicca or Arminius saw when they looked into the night sky. We cannot tell whether they distinguished the same groups of stars into the same discrete constellations as the Romans did.[7] It seems unlikely that they were aware of the cosmic spheres and a zodiac which ignores some of the most prominent northern constellations, around which Celtic and Germanic myths, legends and heroes must have been woven. Sometime in the 3rd century, it seems, these native myths were banished by the foreign – scientific – notions of cosmic structure, and the traditional stellar identities lost their relevance. The increasing role of astrology in later Roman society is not confined to the central elite, but extends to the furthest provinces. These 'doodles' on mundane artefacts, so easily dismissed as 'random', signal a profound transformation of cosmological beliefs and values, altering the way in which people actually experienced the heavens and creating a new structure in which astral influence on human affairs could be interpreted.

It is the accumulations of small signals such as this, which make me increasingly sceptical of the tendency to regard Roman provincial culture as little more than a thin veneer, covering an essentially unchanged native society underneath. Though the planetary notation and cosmic perception implied are drawn from elite scientific study, their employment is no 'dominant symbolic discourse' designed to cow the majority.

Elite astronomy entered public awareness via its use in divination, religious practice and medicine and had become part of everyday provincial culture, supplanting traditional belief and altering the very aspect of the universe.

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Notes

1. Experimentation with dodecahedrons in the Museum of Antiquities Leiden revealed the accuracy of the method, and this explanation is more satisfactory than the usual 'ritual object' or 'sceptre top'. Wagemans dismisses a Celtic background, since none is dated earlier than the 1st century AD, none have been found in the Mediterranean area and they are suited primarily for use in northern climates. Few are well provenanced, but an example from the temple at Elst and one in a female burial, suggest that determining the agricultural calendar was in the hands of religious specialists.
2. Although the available evidence is quite restricted, there is no apparent association between symbols and the age or sex of the wearer as reflected in the size of the shoes.
3. Here, I was thinking primarily in terms of the conventional dates of Samhain or Beltane or Imbolc, but the implications of the Gallic calendars (Cathy Swift this volume) still need to be assessed. The concept of significant moments in the agricultural year not necessarily being fixed in exact, calendrical, time obviously has implications for the interpretation of features other than just symbols on footwear. The date ranges given by dodecahedrons from different latitudes would also tend to support the idea of variable dates for festivals. That both dodecahedrons and the Calendars occur in essentially Roman contexts suggests that these are not so much 'Celtic' survivals as products of significant developments in native religious thought and practice stimulated by Roman concepts.
4. Both signs on sandal soles and symbolic patterns picked out in the hobnails are features of 3rd and 4th century footwear in particular.
5. For example the Leiden Aratea (Mütherich and Gaehde 1977: plates 18, 19; von Euw 1987) and the Roman Calendar of 354 (Salzman 1990).
6. Barton 1994: 76 for the horoscope of Hadrian; Fachan 1991: 95 for examples of ancient, medieval and modern horoscops.
7. Different cultures recognise different constellations, giving different names and we cannot project our perception on the past without good evidence. Even the Greek zodiac was not established till late: for instance Sagittarius was variously depicted as a two legged satyr or a centaur (Goold 1977: xxii). The Babylonians visualised the constellation Ram as man and did not recognise our constellation Crab, while their Pisces encompassed a much larger group of stars and was called Tail or Plume (van der Waerden 1956: 257).

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