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Some thoughts on ancient maps, travel, and the location of Greek rural sanctuaries

Axel Frejman

Keywords: extraurban sanctuary, wayfinding, ancient maps, spatial cognition, spatial nodes, periplous.

Parole chiave: santuario extraurbano, orientamento spaziale, mappe antiche, cognizione spaziale, nodi spaziali, periplous.

Abstract:
Two dimensional geographical maps are commonly used in today's society, and in archaeology. This article investigates alternative wayfinding strategies and how the use of such alters how we perceive space. It is likely that ancient Greek societies made use of itinerary maps rather than geographical maps. There is a discrepancy between how archaeologist discuss the location of Greek rural sanctuaries and how the ancient Greeks themselves most probably understood the placement. There is reason to believe that sanctuaries acted as nodes in the landscape. They would then not be understood as located in relation to something else, rather other things would be located around the node that was the sanctuary.

Le mappe geografiche bidimensionali sono comunemente usate nella società odierna e in archeologia. Il presente contributo indaga diverse strategie riguardanti l'orientamento nello spazio e come il loro impiego possa alterare il modo in cui percepiamo lo spazio stesso. È probabile che le società della Grecia antica usassero schemi di itinerari piuttosto che mappe geografiche. C'è una discrepanza tra il modo in cui l'archeologo analizza la posizione dei santuari rurali greci e come gli stessi Greci antichi ne abbiano probabilmente percepito la collocazione. C'è motivo di credere che i santuari fungessero da nodi spaziali nel paesaggio e che, in quanto tali, non sarebbero stati quindi percepiti come situati in relazione a qualcos'altro; piuttosto, altri elementi del paesaggio si sarebbero trovati nei ditorni del nodo rappresentato dal santuario.

Where are ancient Greek rural sanctuaries located? This question is easily answered by looking them up in an atlas. But, determining where the ancient Greeks perceived them to be located is a more complex undertaking. Modern Western society is heavily dependent on geographical maps (here taken to mean two-dimensional representations of space drawn to scale)[1]. Archaeologists are guiltier than most in this respect. The location of artefacts or the appearance of a particular building or site on a plan are constant concerns for the avid archaeologist, and the answers are most often provided in the form of a map or plan. In fact, an academic publication without a plan to scale would be considered unprofessional. Plans and maps serve a clear purpose in mediating, in the most objective way possible, the information uncovered during an archaeological investigation. However, if we accept that the things we use shape us as much as we shape them, then it follows that projecting the 'mapified' view onto an ancient society will affect how we understand it[2]. For example, large rural sanctuaries are in publications often discussed in terms of physical distance from the closest city, but the fact that Cartesian distance is not the only important factor when talking about distance is often not discussed. In this paper, I will question the cursory use of geographical maps when interpreting ancient places, using the example of large Greek rural sanctuaries.

[1] Golledge 2003, p. 25.

[2] On the theoretical move from things as symbols to things as part of the person, see, for example, Miller 2010; for an archaeological example, see Gosden 2005. The impact of cartography on our understanding of space has also been recognized: Monmonier 1991; Wood, Fels 1992; Lewis, Wigen 1997.

Fig. 1. Node map of the Stockholm subway (reproduced with permission). Compare to the Peutinger Table in fig. 2.

Geographical maps and itineraries

It is clear that maps are integral to modern Western society. We use maps to navigate our daily lives, and this has become even more prevalent with the advent of integrated maps and GPS on smartphones. This type of wayfinding is referred to as 'homing' or 'path integration', a practice whereby the traveller constantly updates their position in relation to a known base or point of origin. The traveller should at any point be aware of the general direction of and distance from the point of origin[3]. For example, floor plans at the entrances of official buildings tell you where you are and the layout of the rooms. The phenomenon also occurs at archaeological sites, where you are often greeted by a sign with a map of the site, with places of interest marked. Geographical maps are a very common tool in wayfinding today. More often than not, we ask where something is rather than how to get there.

To distance ourselves from this thoroughly modern viewpoint, we must ask what happens when your phone runs out of battery. A completely different approach to wayfinding must now be used, one based not on location but on interrelationship. Instead of depending on a geographical map, we depend on known stations along the way – that is, on nodes that interconnect and take you from one to the next. This type of wayfinding is known as 'piloting' or 'geocentric dead reckoning'[4]. When using this navigational strategy, travellers do not constantly make reference to one and the same point, but rather uses a sequence of landmarks to determine their present position. Despite the hegemonic status of geographical maps, this node navigation strategy is very common in modern society. Subway maps are a good example (fig. 1): these maps will not tell you the geographical location of the destination station, but you will find your way there easily enough by travelling through the other stations en route. In daily life, node navigation also comes into play when you give or receive directions. There is no point in saying that one of the best coffees in Rome can be found at 41°53'53.8"N 12°28'31.5"E[5]; rather, you need to describe a sequence of landmarks between your location and the coffee place, quite possibly choosing a longer route just because it is easier to navigate and involves clearer landmarks. The node navigation strategy is also reflected in our language, whereby we speak of getting from point A to B to C, but are less interested in the spaces in between. Not all space is equally important, it appears: some space has become place, and places can act as nodes.

Almost anything can become a node, but some features tend to more easily become nodes. Visually dominant features – for obvious reasons – often become landmarks; they are easy to spot and easy to describe[6]. These can be hu-

[3] Golledge 2003, p. 28.
[4] Golledge 2003, p. 25.
[5] Unless of course you have managed to charge your phone by now.
[6] Golledge 2003, p. 37.

man-made, conspicuous buildings, for example, or striking natural features such as waterfalls or mountains. However, there are also invisible nodes, so-called 'idiosyncratic nodes'[7]. These are places that have been given meaning by a certain group – the 'usual coffee place' or 'the place you crashed your car' – places where time and memory collapse into space[8]. They are meaningful only to the initiated, but can be as potent as the visually dominant landmarks for those who understand them. The common denominator for nodes is that they are of interest in some way, whether visually or culturally.

The choice of which nodes to use is also culturally dependent. Studies reveal that different cultural groups represent the same environment in different ways, or choose to emphasise different places in that environment[9]. We have no reason to believe that past and present societies understand space in the same way as modern Western society[10], although, as we shall see, the node navigation strategy is a common strand. We must examine the evidence from the specific society in order to form an understanding of how the people in it could have perceived space.

Looking for maps in Greece

Geographical maps are not unheard of in antiquity, though they are not very common. Around the Greek sphere, the earliest known maps come from Valcamonica in Italy and there are also several examples from Mesopotamia; one example from Nippur is even drawn to scale and notes the cardinal points[11]. Cartography was also practised in Egypt, as evident, for example, on the Turin map dated to around 1150 BCE[12].

Despite the evidence from other regions in – or close to – the Mediterranean, no incontrovertible examples of geographical maps have been preserved from ancient Greece, and there is only tentative evidence for Greek cartography having been influenced by the Middle East and Egypt[13]. Three artefacts have been suggested to be maps. The first artefact is a carving outside a mining tunnel at Thorikos, reportedly depicting a plan of the tunnel[14]. There are some problems tied to this map though: the mine consists of a single tunnel, you hardly need a map for a tunnel with one opening and one end; furthermore, we have no way of knowing if the carving is contemporary with the mine, it is a single instance and no other mine tunnels in the area have corresponding carvings. Despite these problems it is a curious find that merits further investigation. The second artefact is not actually a single item, but rather a coin type, specifically an Ionic silver tetradrachm which, on its reverse, bears an image that has been identified as the region close to Ephesus[15]. While one could conceive of a scenario where a map of this type was drawn by someone standing on top of the mountains observing the surrounding topography, this is unlikely[16]. The idea of a spatial representation on coins is, however, not unheard of: the Knossian labyrinth coins from the 5th–1st centuries BCE depict a labyrinth from a bird's-eye perspective[17]. Indispensable as maps of the labyrinth may have been, these 'maps' are more indicative of an iconographic tradition than they are actual representations a physical space. The third artefact is undoubtedly a map – the so-called 'Soleto Map' depicting parts of Apulia, dated to around 500 BCE and with Greek place names inscribed – but it is of questionable authenticity[18].

Regardless of whether the above-mentioned are actual examples of Greek maps, we can be sure that the knowledge necessary to produce and understand geographical maps did exist in ancient Greece. There are clear references to such maps in the ancient literature:

[7] Golledge 2003, pp. 34, 37.
[8] Bender 1999, pp. 36-37.
[9] Golledge 2003, p. 35.
[10] Bender 1999, pp. 36-41.
[11] The Valcamonica petroglyphs have been interpreted as geographical maps dating to the middle of the 2nd millennium BCE: Blumer 1964; Delano Smith 1987, pp. 78-80; Thrower 2008, pp. 3-4. The purpose of these maps is not known: they could have been produced for wayfinding, land organisation, art, or through sheer boredom. On Middle Eastern maps from around 2300 BCE, see Millard 1987, pp. 109-114. The so-called 'map from Çatal Höyük', which is sometimes identified as the earliest example of a geographical map, has convincingly been shown to represent a leopard skin and can therefore be disregarded: Meece 2006.
[12] Shore 1987.
[13] Harley, Woodward 1987, p. 130.
[14] Conophagos 1980, 184 figs. 9-25, 199; Dilke 1985, p. 26 also mentions the map. I am indebt to Roald Docter and Denis Morin for helping me with information on this issue.
[15] Johnston 1967.
[16] A notable feature that one would expect to see on the coin 'map' is the coastline. There is, however, nothing that could be interpreted as a coastline or sea on the coins. Furthermore, the correlation between the image on the coin and the actual topography is tentative at best, and impossible in most cases. The three features at the bottom of the image, which have been interpreted as the mountain ridges at Madranbaba Dağı, Karincali Dağı, and Akbaba Tepesi, appear to be individual items, set apart by the lines which have been interpreted by Johnston as rivers. Whatever the image represents, I find it unlikely to be a representation of roughly 20,000 km^2 of mountainous landscape.
[17] For a good summary of Knossian labyrinth coins, see Mileczarek 2013.
[18] Thrower 2008, p. 18 appears to accept the map as legitimate. The authenticity has been questioned by Yntema 2006, and I tend to agree that it appear very modern as absolute geographical location is portrayed without any information to guide a person travelling on the ground.

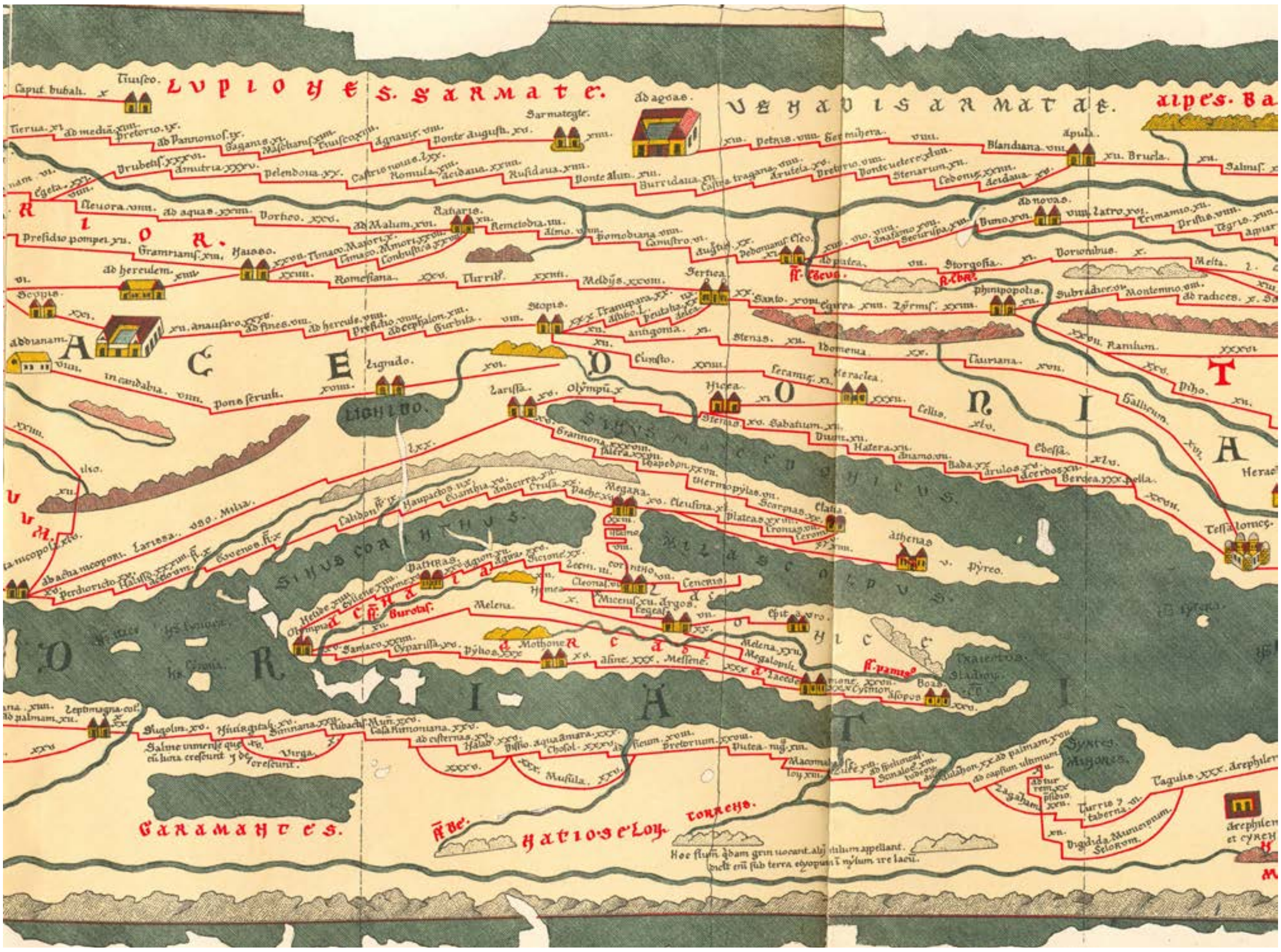

Fig. 2. Excerpt from the Peutinger Table depicting Greece, with the Peloponnesian peninsula in the middle; 13th-century copy of Roman original. Compare to the modern subway map in fig. 1.

The description of Aristagoras' map in Herodotos: *"It was in the reign of Cleomenes that Aristagoras the despot of Miletus came to Sparta; and when he had audience of the king (so the Lacedaemonians say) he brought with him a bronze tablet on which the map of all the earth* [γῆς περίοδος] *was engraved, and all the sea and all the rivers.* [...] *here are the Ionians, and here the Lydians, who inhabit a good land and have great store of silver" (showing as he spoke the map of the earth which he had brought engraved on the tablet), "and next to the Lydians" (said Aristagoras in his speech) "you see the Phrygians, to the east,* [...]"[19]. On a related topic, Herodotos dismisses the maps of his time: "*And I laugh to see how many have ere now drawn maps of the world* [γῆς περιόδους], *not one of them showing the matter reasonably; for they draw the world as round as if fashioned by compasses, encircled by the river of Ocean, and Asia and Europe of a like bigness. For myself, I will in a few words show the extent of the two, and how each should be drawn*"[20]. Concerning the planned invasion of Sicily during the Peloponnesian War, Plutarchos writes: "[...] *the youth in their training-schools and the old men in their work-shops and lounging-places would sit in clusters drawing maps of Sicily* [τὸ σχῆμα τῆς Σικελίας], *charts of the sea about it, and plans of the harbours and districts of the island which look towards Libya*"[21].

The Greek words here translated as 'map' could have several meanings, but, in their respective contexts, it is clear that they mean a geographical representation of space[22]. There were several other Greek geographers at work trying to understand the size and layout of the earth; the very term geography was coined by the Greek Eratosthenes[23]. Despite the Greeks' knowledge of two-dimensional representations, map-making was still mostly an academic venture[24]. We

[19] Hdt. 5.49.

[20] Hdt. 4.36.2.

[21] Plut. *Vit. Nic.* 12.1-2; See also Plut. *Vit. Alc.*17.3. Though the knowledge seems to have been schematic, Thucydides remarks on the general lack of knowledge about Sicily among the Athenians (Thuc. 6.1.1).

[22] The term *peri-* implies completeness, but also suggests the successive movements which result in the state of completion: Ceccarelli 2015, pp. 62-63.

[23] Roller 2015, pp. 2-4; Branscome 2010, pp. 5-10.

[24] Dilke 1985, pp. 22-38.

can question to what extent people made practical use of this in their everyday lives. We should furthermore ask to what extent the aim of ancient Greek maps, whatever their physical form, was geographical accuracy (in the absolute sense) or interrelational accuracy between places[25]. With no accurate maps at hand, and no way of surveying the landscape, you would still have had to rely on descriptions of routes between places – itineraries – to make practical use of a map, and we have several examples of this.

The form of navigation most commonly known to us from ancient Greece was based on known relations between places after descriptions by earlier travellers, the so-called *periploi*, or 'sailing around'. These are lists and descriptions of places along coastal regions. Only one has survived, namely the Carthaginian *periplous* of Hanno[26], although we have fragments and mentions of several others. Skylax of Karyanda is known to have sailed down the Indus River and then to Suez under the orders of Darius I, the fragments date to the second half of the 4th century and are known as the *periplous* of Pseudo-Skylax[27]. There is no evidence of Greek equivalents to the preserved Roman road maps and land itineraries; however, the road surveyors of Alexander the Great reveal that land itineraries were known during Greek times[28]. We also hear of navigation by asking one's way around – non-formalised oral itineraries – for example in Euripides: "*How hateful to a man is travel: and in the wanderer's hour of need, to see fields empty and solitary homes! No city, no informant, no way of knowing where to turn! Such vexation is now my own. How gladly I saw this house in the meadows of Zeus at Nemea!*"[29]. Amphiaraos has here erred off the known path and is unable to find it again; he needs help to get back onto a known itinerary.

The places on these itineraries are nodes, landmarks and cities that can be easily identified in the landscape. They can work as simply lists of places, as in the case of the *periploi*, or as images with the same information, as in the Peutinger Table (fig. 2) or the Dura Europos map[30]. The places, rather than the landscape, are the most important aspects of both types[31]. The places have stories; they carry meaning[32].

Ethnographic and early modern parallels

The importance of places and stories rather than exact location resonates well with the early development of European map-making. At first there was little difference between map-making, landscape painting, and the stories that were conveyed through their respective media[33]. Claes Jansz Visscher's *Leo Belgici* map from 1609 is a good example (fig. 3). This is a fairly accurately drawn map of the Benelux area that has been placed inside the shape of the traditional heraldry lion and includes grazing flocks, traders coming in to a city, an angel dropping riches from the sky onto the Low Countries, and many other allegorical images, no doubt representing the wealth which was expected after the peace treaty of Antwerp in 1609[34]. Another example is the sea monsters on old maps, which are remnants of the stories that were once part of the map, but which were gradually set aside in favour of purely geographical information[35] (fig. 4). We can conclude that it is not solely – or even primarily – geographical information that is important on many early maps; rather, stories, events, and myths are very important.

That geographical information is not the only important aspect is also true for map-making in other cultures. Take for example the people of Santa Clara in Peru who make maps based on kinscapes instead of landscapes[36], the Malanga of Papua New Guinea who produce sculptures in wood – understood as maps – as a way of reorganising the land rights after someone's death[37], or the Yolngu in Australia who make maps according to the shape of mythological animals and which need to be sung to be understood[38]. Most maps throughout history appear to be formalised versions of stories, moving between oral, written, and pictorial forms[39].

[25] The Greeks were clearly interested in accuracy – for example, Erathostenes' measurements of the circuit of the earth and land surveyors calculating distances in Alexander the Great's entourage – and theories about how to project the curved plane of the earth to a flat surface and to measure absolute location accurately through trigonometry – but in the end it seems most geographical information was still based on the reports of travellers: Roller 2015, p. 3.
[26] Dilke 1985, pp . 130-131.
[27] Hdt. 4.44; Graham, Shipley 2012, pp. 121-122
[28] Dilke 1985, pp. 29, 112; Plin. *HN* 6.61-63.
[29] Eur. *Hyps.* in *Select Papyri*, pp. 104-108.
[30] Dilke 1985, pp. 113-122.
[31] On the idea of places instead of spaces, see Ceccarelli 2015.
[32] Bender 1999, p. 42; Ingold 2000, p. 219.
[33] Mels 2006, pp. 713-714, 721-723; Ingold 2000, p. 233; Olwig 1996, pp. 630-636.
[34] Mels 2006, p. 723.
[35] Ingold 2000, p. 233. Interestingly, the practice of inscribing not just geographical information on maps has enjoyed a renaissance lately on modern tourist maps, where, for the sake of clarity, the main sights are often depicted in a small image on the map.
[36] Bender 1999, pp. 36-37.
[37] Bender 1999, pp. 38-39.
[38] Thrower 2008, pp. 9-11.
[39] Ingold 2000, pp. 232-234.

Fig. 3. *Leo Belgici* by Claes Jansz Visscher, 1609.

Spatial cognition and cognitive maps

Stories form itineraries, and the topological maps of interrelations that are formed by this are probably more important than precise Cartesian distances[40]. This situation is reflected in ethnographic as well as historical evidence, indicating that the itinerary type of navigation is, and has long been, a common solution to wayfinding[41]. This might be related to how we organize space in our minds. The general notion among researchers in the field of spatial cognition is that the human brain does not store geographical information in the manner of a geographical map[42].

Although there are culturally specific ways to understand space, the way the human brain stores and reactivates spatial information could not have changed within the time span covered here[43]. Spatial information is, in essence, memories of places we have experienced. It is organised hierarchically, whereby more important places produce stronger memories than less important ones, and the more important ones are also used as points of reference, with lesser features organised around them[44]. In practice, this means that we are, for example, inclined to remember the small shop as being next to the large impressive monument, rather than the other way around. The information is, however, not only visual: all senses appear to be involved in spatial cognition. The fact that blind people have no

[40] For a recent overview of the theoretical discussion on mapping and maps, see Bouzarovski & Barker 2015, pp. 158-162.

[41] For example, the Australian aboriginal's Dreaming tracks are based on nodes (Taçon 1999), as are the Greek *periploi*, both written and drawn itineraries of Rome (Dilke 1985, pp. 112-144), European strip maps from the 17th century (Golledge 2003, pp. 31–32 and fig 2.2), and the above-mentioned modern subway maps.

[42] Golledge 2003, p. 30.

[43] Though cultural differences in when the brain chooses to activate a certain spatial memory have been noted: Golledge 2003, p. 30.

[44] Tversky 1993, p. 15.

Fig. 4. Excerpt from the *Carta Marina* by Olaus Magnus, 1539, depicting parts of Scandinavia. Note how the size of rivers, lakes, and sea correspond to the perceived ease of travelling on them. Also, note the many figures on the map which represent stories from that region: for example, the sleds travelling over a frozen Kvarken. This is a rare event (at least nowadays) that is possible only under the right conditions and that has, to my knowledge, happened only twice during the 20th century (most notably to offer material aid to the Finns in 1940), but it does occur, and is thus represented on the map.

trouble wayfinding by stored smells and sounds is a good example of this[45]. I follow the constructionist view of how this operates, whereby we construct our spatial knowledge piece by piece, adding to a 'cognitive collage' that constitutes our spatial understanding of the environment[46]. In familiar environments, these collages can become dense enough to form 'spatial mental models', which store enough information to begin understanding the environment as a whole; this draws closer to what we would call a geographical map[47]. Both cognitive collages and spatial mental models are constructed by individual spatially coded pieces. This is strikingly similar to how itineraries made up of individual nodes work.

However, even the most accurate cognitive collages are still quite lacking in metric information. Systematic errors occur in our perception of space; for example, we straighten lines, make things more organised than they really are, judge distance wildly wrong compared to absolute measurements, and veer approximately 18° to the left or right when trying to walk in a straight line[48]. Geographical accuracy is the norm today, but we should acknowledge that humans do not appear to be well suited to handle space and distance in absolute terms.

[45] Golledge 2003, p. 25.
[46] Tversky 1993, pp. 14-15.
[47] Tversky 1993, p. 15.
[48] Tversky 1993, pp. 15-18; Golledge 2003, p. 26. An example of what this can result in is present on many early modern maps, where distance over sea is underestimated and distance over land is overestimated, corresponding to the ease of travelling across the two; see fig. 4.

With the above discussion in mind, we return to the question of where ancient Greek sanctuaries were located. The ancient sources do not refer to the locations of sanctuaries very often; rather, the locations appear to be taken for granted. This study of terminology concerning sanctuaries is far from comprehensive, offering as it does only isolated examples. I would argue that, despite their shortcomings in scope, the examples represent much that we could expect to find in a more extensive study. Another caveat is that any observed pattern might be a reflection of the literary genre rather than of actual ancient views. This problem is difficult to address, and we can only note that there are other ways in which location could have been described, but the ancient authors consistently chose to describe the location of sanctuaries in a similar manner.

For example, when describing Agesilaos' campaign in Korinthia, Xenophon tells us: "*Now when the people in Piraeum perceived that the heights were occupied, they gave no further thought to defending themselves, but fled for refuge to the Heraeum*"[49]. Likewise, concerning the Heraion at Perachora, when Jason wants to bury his dead children, Medea states: "*Certainly not. I shall bury them with my own hand, taking them to the sanctuary of Hera Akraia*"[50]. Pausanias tells us of the sanctuary of Nemean Zeus:"*In these mountains is still shown the cave of the famous lion, and the place Nemea is distant some fifteen stades. In Nemea is a noteworthy temple of Nemean Zeus*"[51]. It is important to note that Nemea is here the name of both the place and the god. We can assume that the name of one stems from the other; however, it is difficult to determine which came first. The god might have taken his epithet from the place, or it might have been the other way around. Furthermore, the god and the place are often synonymous, or become so, as Apollon Delphinios, Zeus Olympios, and Zeus Labraundos. Any hypothetical place in Nemea, distinct from the sanctuary of Nemea, would be so inextricably linked with the sanctuary that mentioning one would most certainly also allude to the other. It is also important to note that Pausanias says it was the temple (ναός) that was situated in Nemea, not the sanctuary. Nemea might therefore refer to the sanctuary in which the temple was situated, although the mention of Nemea as a place in the previous sentence implies that the reference is not limited to the sanctuary. When the Pelasgians were debating names for their gods at the sanctuary of Zeus at Dodona, Herodotos remarks: *"and presently they inquired of the oracle at Dodona concerning the names; for this place of divination is held to be the most ancient in Hellas*"[52]. Geographical location is not mentioned here, but, if it had been an issue, it could easily have been included in the description. An interesting case where the sanctuary is actually situated in a landscape is found in Pausanias' description of the Argive Heraion: *"The hill opposite the Heraeum they name after Acraea, the environs of the sanctuary they name after Euboea, and the land beneath the Heraeum after Prosymna*"[53].

In all but the last example, the sanctuary is the only named element, and, in the last example, the sanctuary is still the point of reference for the other named features. As I have mentioned before, the location seems to be taken for granted, or, maybe more correctly, it appears to be self-evident. The sanctuary is the location in itself. It was the most prominent feature in the immediate surroundings, and thus became eponymous. Based on our knowledge of how nodes form, large rural sanctuaries had every chance of becoming nodes. The node that a sanctuary represented would surely have been visually dominant, but the idiosyncratic historical and sacred importance of the place must have been at least as significant. As the most important feature in the area, it would have acted as a reference point for things around it.

Through an examination of modern, historical, and ethnographical evidence for understanding space and wayfinding, coupled with perspectives deriving from our understanding of spatial cognition, I think we can draw the conclusion that we are asking the wrong question if we ask where a sanctuary was located. In a society where navigation by absolute location is not the norm, one must describe one location by reference to others, i.e. express the interrelationships between nodes. As we have seen, sanctuaries were well suited to becoming nodes, and they appear to have been treated as such in the ancient sources. It seems that to ask where a large rural sanctuary was located is an anachronism – the sanctuary was not located somewhere; rather, things were located at the sanctuary. Consequently, if we want to tap into the mindset of the ancient Greeks, we should not ask where the sanctuary is, but rather how to get there.

[49] Xen. *Hell.* 4.5.5.
[50] Eur. *Med.* 1378-1379.
[51] Paus. 2.15.2.
[52] Hdt. 2.52.
[53] Paus. 2.17.2.

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