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PAUSANIAS' TEXTUAL, SPATIAL AND TEMPORAL SCHEMATA IN ELIS DESCRIPTION

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ABSTRACT

In the 2nd century AD Pausanias forms the text *Description of Greece*, an extensive work based on his travel reports of ancient Greece. Our research focuses on tracing schemata behind Pausanias description of ancient Elis, the city that organized the Olympic Games (*Πανόληρις*) in antiquity. We suggest that Pausanias was familiar with mnemotechnic, a rhetoric technique which was at its peak in his time. In mnemotechnic, the act of recall or remembrance was considered to be interrelated with the act of vision and to have a spatial analogue. We argue that in Elis description, Pausanias didn't construct a mnemotechnic artificial construct in order to memorize and recompose his experience. On the contrary, the city itself as a structure, served him as an ideal background for settling his stories. Mnemotechnic aims to aid the potential reader memorising a long succession of events and myths that otherwise would be forgotten through time. Thanks to this union of time with space elements our physical walking experience is mentally and culturally enriched.

The analysis of the text reverses the dominance of the first term of the dipole real - textual space. The text becomes the basic prerequisite for the interpretation of the real space. Thanks to Pausanias text,

- the settlements of Elis Agora were able to be identified. Otherwise it would be impossible for the archaeologists and researchers even to classify typologically the sparse building relics,
- old stories were revisited and were brought back to date.

KEYWORDS

Space, Text, Schema, Time, Archaeology

1 INTRODUCTION

The Description of Greece (Hellados Periegesis), is an extensive work consisting of 10 books based on Pausanias travel reports of ancient Greece. In books V and VI, called Eleiaka, Pausanias dedicates 42 chapters to the sanctuary of Olympia and 12 chapters to Elis description, the city that would organize the Olympic Games. (fig.01) Already from the beginning of the unit, when reaching the Altis of Olympia, Pausanias declares his methodological principles in the following narration: *I will now proceed to present an exegesis of the statues and the votive offerings...first I will narrate the logos of the dedicatory offerings and go over the most worthy of a logos.* (Paus. 5.21.1) So he informs us that his criteria of the narrative process do not depend on the spatial arrangement of the things that he is going to describe, but on what he feels is worthy to remember, worthy of a mneme (memory) and therefore worthy of a logos, worthy for a narration or exegesis. So, he will combine “a kind of motion through loci and stories that encapsulates the myths and history of classical Greece” (Tzifopoulos 2014). Under this view, we suggest that in the text referring to Elis, Pausanias seeks to apply a scheme, that is, he follows a way of description that is not necessarily based on a corresponding physical movement in physical space. The search for a shape to put in order the material offered, the parallels and comparisons, the flashback to old stories in order to better understand the new and unknown, are permanent features of Pausanias work (Παπαχατζής 1979, vol. 3 p.17).



Figure 1: Elis position in Peloponnese

Pausanias collects a material archive of the past—its monumental, historical, mythological, and religious remains—in an attempt to hold that archive, to enlighten the sublime of Greece, which had already begun disappearing in his time. So, his text is a means of presenting histories (historical quests) from the past. The narrative technique of flashback had been already used in Homer's texts. Based on present events and characters Homer recounts events of earlier times. These events enrich narration and facilitate attending of the plot of the epic, as they provide the reader with explanatory information.

In the case of Pausanias, events and stories from the past are linked to places and not to acting subjects. In fact, the description of the sites would not need this extra information in order to be comprehended. While in Homer's case, any removing of past time information from the text, will induce gaps in the narrative, (Bakhtin, 1981) in Pausanias text we could remove the stories without affecting the continuance of the leading around (periegesis). If we attempt to describe schematically the two textual structures, the first would be a continuous curved line, while the second one would be a web. The idea of the web simulates the structure of the human memory (fig 2).

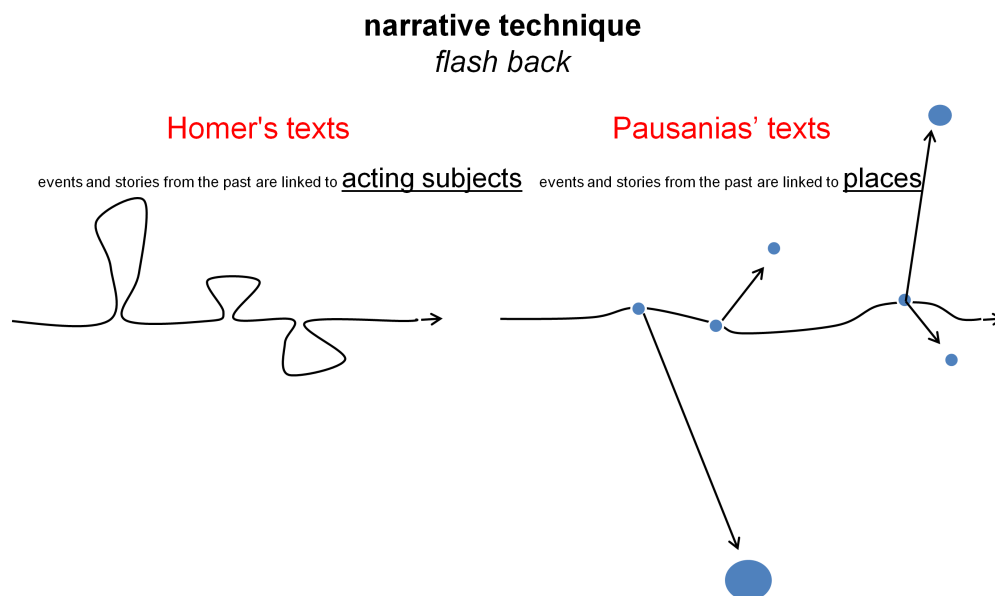


Figure 2: Diagram comparing Homer and Pausanias narrative technique

Bakhtin introduced the term *chronotope* in literature theory in order to analyze the inseparable between time and space as it appears in various forms of the novel. The chronotope has an intrinsic generic significance in literature where time is dominant.

Under this view, written narrative is mainly a temporal structure since time dominates space. In addition, the represented time and space can never coincide with the real, they are always an image of it. The uniqueness of Pausanias' case lies in the fact that the represented space claims the resemblance to the real. The basic chronotope in Elis narrative is the market. The whole

description focusses on the market. The dominant time here is that of the narrative itself rendering secondary the times of the stories that are related to the loci. In addition, the narrative time, in our opinion, has an analogy to the actual time of the narrator's movement between loci and therefore encourages us to investigate the spatial relations of the narrative. Here, the investigation of the ways that time is represented in the language of narrative is significant. (Cassirer 1955) Besides language is fundamentally chronotopic. (Bahktine 1981) In the end, we are more interested in the narrative itself as a structure than the represented loci, *imagini*, *ordo* in the narration.

Nowadays the study of what Pausanias saw in his time is still one of the most important sources about antiquity, for archaeologists and scholars. On the contrary in Pausanias time, his recording referred to a recent past, that is, to a "present," and it was not considered important as it provided common information (this was also a reason for the bad critics that the text received from its contemporaries). However, recording information from the past, that had been lost, would be proved important too. Pausanias transpositions from the present and the consequential shoring up of the past would find an ideal tool in Mnemotechnic, thanks to which old stories could be placed in existing places.

Of course, we can never be sure whether Pausanias eventually made use of the mnemotechnic. But as we intend to suggest, the analysis of the narrative according to the mnemotechnic rules verifies it. Although Pausanias' works were not meant to be uttered, they could benefit from the mnemotechnic. Firstly, its use would make it easier for Pausanias to memorize the stories that the locals told him during his on-site visit. Secondly, the application of mnemotechnic rules in forming his written work would facilitate its memorization by future readers and potential visitors of the places described. Last but not least, mnemotechnic was the ideal pretext for preserving the stories of the past since it would tilt them forever with Pausanias' selected places. For contemporary researchers, mnemotechnic offers the opportunity to explore the spatial and temporal schemata resulting from reading the text. The description of Elis is of particular importance because it literally guides the researchers, archaeologists and architects, to identify the few findings which would be impossible otherwise.

We attempt to analyze Pausanias text, by applying to it the three basic tools of mnemotechnic, namely *locus*, *imago* and *ordo*. The analysis of the text reverses the dominance of the first term of the dipole real - textual space. The text becomes the basic prerequisite for the interpretation of the real space. Our research aims on designing two types of diagrams in order to reconstruct the possible embodied movements of Pausanias in the area of Elis Agora.

The first type is based on the text and aims to the reconstruction of the time sequence (as a score). The second type is based on the map and aims to the reconstruction of the space relations.

2 LITTERATURE REVIEW

According to Liddell & Scott lexicon the Greek word Περιήγησις (periegesis) means: *τό ὁδηγεῖν καί ἐξηγήσθαι τὰ ἄξια σημειώσεως* that is, leading and explaining the notable things. (Liddell and Scott, 1846 vol C, p 541). In greek language *περιήγησις* is a compound word consisting of the preposition *περί* and the verb *ἡγήσθαι*. The word *περί* relates to *περι-γραφή* which means *de-description* and the verb *ἡγήσθαι* relates to *ἀφ-ήγησις* or *ἐξ-ήγησις* which means *to narrate* or *to explain*. Description is considered to give precedence to a simultaneous experience, and so to a spatial perception, whereas narration relates to a successive experience and thus emphasizes in the temporal aspect of the plot. The word periegesis seems to include both the aforementioned notions.

Pausanias prefers the word *ἐξ-ήγησις* (exegesis) which was in use in his time, whenever he focuses on an object, be it a statue, eikon, structure, building, local mythistory, literature, etc. (Frazer, 1898). Besides he is influenced by Herodotus' *Historie*, *logoi* and *opsis/theoria* (Tzifopoulos, 2014).

If Pausanias could manage to "link" the places visited, to the stories from the past, then he would give life to these stories and would bring them to the present. Since then, when ever a traveler would visit the site or a reader would read the text, these stories would be automatically recalled. This view could partly explain Pausanias' conscious tension to often avoid describing the important buildings of the places he visits. On the contrary he focusses and comments on objects and settlements not widely known but worth to remember as they relate to old stories.

Not only the idea of forming schemata when composing texts so as to render them easy to memorize, but also spatial foundation of these schemata had already been invented in classical antiquity. In Pausanias time (late antiquity), *mnemotechnic* was at its peak. Mnemotechnic was a rhetoric technique by which the rhetors could improve their memory and thus better memorize the lengthy speeches that they very often had to give. Since in antiquity there was no typography, not even paper, where people could easily keep notes or write their thoughts we easily realize the importance of a trained memory.

Mnemotechnic attracts its origin from classical greek antiquity, the 5th century B.C. and is based on the belief that by nature, through our senses, we tend to inscribe in our inner world, the external perceptual stimuli, as images. Moreover, greek philosophers, i.e. Aristotle, claimed that optical configurations would enforce remembering (Αριστοτέλης 1912). In his book *On memory and recollection*, he introduces the idea of a reality inter-mediated by figures and suggests that,

- we can easier store images than scenarios,



- memory is only activated when it has an image as an object,
- the most effective way to remember something is to integrate it into a spatial system, in order to classify it and
- we can only think by images because the way we think is similar to the way we construct geometries.

So the act of recalling or remembering was considered to be interrelated with the act of vision and to have a spatial analogue.

Cicero's *De oratore*, and Quintilian's *Institutio oratoria*

According to Cicero's *De oratore* and the anonymous writer's book *Ad Herenius* (Yates 2006) the mnemonic technique is as follows:

Firstly, the rhetor must define pre-assigned locations using them as spatial foundations (*locus*). Secondly, he must create images of what he needs to remember (*imago*). Once the images have been formed, they have to be placed in the locations (*locus*).

Thirdly, in order for the rhetor to control and remember the way that locations are associated with the images, he must have a visual sense of their arrangement, of their organization. (*ordo*) So whenever he wishes to make a speech he recalls the place (*locus*) where he has settled his images (*imago*) and then he moves on the predesignated route (*ordo*) in order to visit them. We may argue that finally the temporal development of the speech becomes analogous to the movement in space.

According to Quintilian (Yates 2006) the loci can be houses (rooms, corridors, atriums), colonnades, porticoes, arcs or even better streets and cities.

As far as *imago* is concerned its definition is more complicated since there are two categories of images: images that refer to things (*res*) and images that refer to words (*verba*).

For the anonymous writer of *Ad Herenius* the *imago* must have a mimetic relation with the real object. It must provoke the visual recall of what must be memorized. An image is a kind of a picture, a portrait of the object that is to be remembered. Quintilian on the other side suggests that *imago* may operate as symbol or sign, which, when installed in *locus*, provokes memory.

Both categories could literally be forms, notes or idols (*formae*, *notae*, *simulacra*). The above idea of image reminds us of the modern philosophical ideas on image as were defined by Bergson and later developed by Deleuze in his essays on cinema.

The very assumption that Pausanias uses the artificial construct of mnemotechnics, prompts us to investigate and render schematically the hidden geometry that governs the textual structure. The real space, which serves to Pausanias as the canvas where he weaves his narrative, already has a complexity. As Pausanias states "...the market-place of Elis is not constructed after the fashion which prevails in Ionia. It is built in the older style...", (only exception, is the important right

angle that the two galleries -stoas shape). What he implies here, is that Agora's plan is not a product of an urban design. On the contrary it reflects the development of the social cultural relationships through ages. It is obvious that this complexity would appear in his text.

Italo Calvino, as John Peponis and Sofia Psarra point out in their studies, (Peponis 1993) (Psarra 2017) bases the organization of his book *Invisible Cities* on a spatial structure. His own canvas, on which he will weave his narrative, consists of symmetries, repetitions, reflections, rotations, inversions and pure geometric shapes. The shapes (synthetic rules) used are similar to those of baroque classical music. Calvino deliberately chooses the ultimate geometric order to emphasize the complexity of the stories he describes.

Our analysis on Pausanias' text focuses on creating diagrams that describe the structure of the text through shapes that are governed by the above rules. The human mind tends to interpret -by discovering hidden geometries- every phenomenon, no matter how complex it is. And vice versa, man likes to compose complexities that arise from pure shapes and geometries. The artificial construction of Pausanias while initially based on simple geometric shapes (linear and radial arrangements), acquires its complexity when connected to real space. If the diagrams from the invisible cities are baroque scores, then the diagrams from ancient Elis resemble to modern music scores. This is why we search for revealing the inner rhythm of the narrative and rendering it spatially in diagrams.

3 METHODOLOGY

3.1 Mnemotechnic and Periegesis

Frazer quotes that Pausanias wanted to describe all the most notable objects and narrate all the most memorable traditions which he found existing or current in the Greece of his time (Frazer 1898). Although we don't have any historically documented proofs, we may suppose that Pausanias was familiar to mnemotechnic due to his high level of education. We can never be certain of the reasons that motivated Pausanias to use the mnemotechnic. This technique could have been a useful tool during his journeys due to the lack of any other technological means of recording reality. On the other hand Pausanias lived in an era when it was highly esteemed to have a well stocked memory and fund of knowledge. The readers of *Ellados Periegesis* were in majority rich well educated roman citizens who had probably learned the mnemotechnic. They ought to cultivate their memory through their study of rhetoric -the so called Second Sophistike was at its peak. So the idea of mnemotechnic may have been used by Pausanias in order for his work to be memorable by the potential readers and potential visitors of Greek monuments. It would not be easy for them to carry ten papyri (ten books of *Periegesis*) on their travels as guides.

In the VI book, Pausanias starts his description of the city of Elis with the phrase: memorable in Elis are... (ἐν δὲ Ἡλιδι τὰ ἄξια μνήμης εἶναι...)(VI 23.1). So, he renders the things that are worth seeing, things that are worth to remember. Then he physically scans the landscape and searches for any traces of memory it contains: sites encountered become texts to be read, while encountered texts (inscriptions, oral histories, miracles, marvels, poetic accounts) are transformed into sites of memory.

Before proceeding to the textual analysis of Pausanias description we shall briefly refer to the history of this important city. Elis is situated in northwest Peloponnese, in the area where Peneus river leaves the highlands of mountainous Eleia, (Acroria), and full of water, crosses revitalizing the forested areas of the western Peloponnese, named Hollow Elis (Koili elis), to the Chelonite bay.

As Frazer comments: *The city of Elis stood on the border between these two districts, on the edge of the plain where the river Peneus issues from the hills. The village of Palaeopolis ('old city'), at the south-western foot of the hills, a mile or more to the south of the river, occupies the site, or part of the site, of the ancient Elis. Between the village and the river rises the ancient acropolis, a hill about 460 feet high, conspicuous by its peaked form and by a ruined Frankish tower which crowns its summit. This hill is now called Kaloskopi ('fair view') ; the Venetians called it Belvedere* (Frazer 1898).

The River and City were in a peaceful coexistence. The sanctuaries and the public buildings are constructed slightly higher than the river bed, which can even pass through the streets of Elis, offering great service to the city and King Augeia, according to the narration of Heracles' feats. Although the city experienced many disasters, raids, earthquakes, human, state, social and geophysical upheavals, its executioner was her "old companion" Peneios. The swelling of the river during the christian era led to the occupation of the city with successive floods and river-washes. However, the river mud has also been the cause of preserving the city's traces. The well-kept secret, three meters away from the current surface of the soil, was revealed after the construction of a river dam and the controlled flow of its waters that enabled the excavations in its bed. The city that Pausanias visited around 160 a.D at the time of its last peak, a century before its first major destruction by Herules, is gradually been revealed...

We suggest that in Elis description, Pausanias didn't construct a mnemotechnic artificial construct in order to memorize and recompose his experience. On the opposite, the city itself as a structure, served him as an ideal background for settling his stories. Besides, it should be noted, that the time order of the loci as they appear when reading the text, corresponds to various real spatial arrangements. Other additional elements that could define the actual spatial arrangement must be sought (fig. 3).

Pausanias' narrative is not intended to replace the map, he is probably not interested in that. He seems more interested in constructing a sequence of points of interest. In our study we attempt to analyze Pausanias' textual Elis description by applying to it the three basic tools of mnemotechnic, namely *locus*, *imago* and *ordo*.



Figure 3: Diagram relating the textual to the real space

3.2 PAUSANIAS' METHOD

Pausanias' mnemotechnic structure focuses mainly on the market of Elis, the Agora (forum), which, as he claims, *is built in the ancient manner* with stoas separated from one another and with streets passing through them (VI.24.2). His view coincides with historic documentation according to which, Elis is almost exclusively a classical and post-classical creation (Donati, 2015). Pausanias' statement describes accurately the geometric structure of the real space which didn't have the usual typical design of the contemporary Roman Forums. Elean agora was not like the symmetrical and compact agoras defined by stoas and other monumental public buildings on all sides, often found in the grid-planned Hellenistic cities of Ionia. On the contrary it was characterized by a topological geometry. Here, points distant in space and time become the key elements of the organization of construction through their interrelationships. This geometry serves the Pausanian narrative plot which is based on the mnemotechnic model. The topological geometry of the Elis Agora has the logic of a web.



Table of *loci* and *imagini* in Elis description

| | l o c u s | i m a g o |
|-----------------------|---|---|
| 1 st group | 1st Gymnasium (Xystus, Plethrium) | -story of Xystus -story of Sacred Track -story of Plethrium -altar of Idaean Heracles surnamed Parastates (Comrade) -altar of Eros -altar of Anteros -altar of Demeter and Daughter -Cenotaph of Achilles |
| | 2nd Gymnasium (Square) | -story of Square image of Zeus |
| | 3rd Gymnasium (Maltho) | -story of Maltho -bust of Heracles -relief of Eros and Anteros -image of Sarapion -story of bouleuterion called Lalichmum |
| 2 nd group | Street of Silence, | -story of street of silence |
| | Sanctuary of Artemis Philomeirax, | -story of Artemis Philomeirax |
| | Baths | |
| 3 ^d group | Grave of Achilles, | |
| | Hellandodikai' Room | -story of Hellandodikai |
| | Western stoa (stoa of Hellandodikai), | -altars to Zeus -story of Hellandodikai's stoa |
| 4 th group | Coreyrean stoa, | -story of Coreyrean stoa -statue of Pyrrhon -tomb of Pyrrhon |
| | Open air space inside Agora | |
| | | -temple and statue of Apollo Akesios (Healer) -stone images of Helios and Selene (sun and moon), -temple and wooden statues of Graces, -statue of Eros, -temple of Silenus and statue of Silenus and Drunkenness, -story of Oxylus, -story of Sixteen women |
| 5 th group | tomb of Oxylus | |
| | building for the women called the Sixteen | |
| | Outside Agora (between Agora and city) | |
| 6 th group | temple of the Roman emperors | -explanation of temple of the Roman emperors |
| | temple of Aphrodite, | -statue of Aphrodite |
| | precinct of Aphrodite, | -statue of Aphrodite |
| 7 th group | precinct and temple (temenos) of Hades, | -explanation of the worship of Hades -homeric version of the story of Hades |
| | sanctuary of Fortune | -statue of Fortune |
| | shrine of Sosipolis | -image of Sosipolis |
| 7 th group | Outside Agora (city center) | |
| | city center | -statue of poseidon |
| | theater and a shrine of Dionysus, | -image of Dionysus |



| | | |
|-----------------------|---|--|
| 8 th group | shrine and statue of Dionysus | -story of worship of Dionysus |
| | | -festival of Thyia |
| | Outside Agora (Acropolis of the Eleans) | |
| | Sanctuary of Athena. | -image of Athena -explanation of the term <i>Ergani</i> |

Firstly, he describes the shape and position of the three Gymnasiums and their connection (two streets) with the baths (*λουτρά*) and Agora. He then describes the two Stoas that form an L-shape. Finally, he concludes with the description of the other buildings and open-air sanctuaries. In terms of Gymnasiums and Stoas, his description has spatial designations and implies a movement. Scholars place Gymnasiums on the west side of the city with certainty, which coincides with the description of Pausanias who, when coming through the lowland *Sacred Road* (Πεδινή οδός) that connects Elis with Olympia, approached the city from the west. Therefore the succession of the three Gymnasiums follows his movement from west to east.

Then he continues in describing the two streets that lead from Gymnasium to baths and Agora, providing very precise topological information of their relation. After describing the two stoas of Agora, he relates the west one with the building called *Hellandikaion* where the aforementioned street from Gymnasium to Agora, leads.

His following description of Agora starts with the two Stoas that define its western and southern boundaries. The L shape is clearly oriented from north to south. This is how the interior is identified [(*εν τω νηπιθρίω χώρο της αγοράς*)...in the open space of agora], He describes them with a clear reference to their orientation. The West Stoa (Stoa of Heallanodikai), a large three-aisled stoa in the Doric order, defines the western boundary of the agora and separates the public area from the city's western suburbs. Along the southern side of the agora, the South Stoa (Corcyreaki Stoa) has an unusual double-sided arrangement with colonnades on both sides. As Pausanias notes, the South Stoa faces the agora and the exterior (city) (VI.24.4–5). The double-sided ground plan was likely to have been inspired by its dual function between the agora and the urban sanctuary of Aphrodite later described by Pausanias.

In this first part of Elis description we have a sense of a subjective cinematic shot in motion as if Pausanias was holding a camera, and was panning in on every site he approached. Konstan argues that Pausanias' description doesn't intend to replace a map, nor again a set of directions; "it is an ordered list of places, which one can visualize, as though one were *Hermes in the Odyssey*, swooping over land and seaward *Calypso's remote island in the Ocean (Od. 5.28-54)*" (Konstan 2015). Pausanias is careful to give to his readers, locations, not as a means of guiding their steps as they move from one monument to another, but as a sort of a spatial layout, that one can envisage in the mind's eye.



After this point of narration Pausanias adopts another manner in his description. He divides the rest of the sanctuaries, buildings, statues, etc in two categories; those inside and those that lie outside the open main space of Agora. He doesn't provide the reader with any more information about their exact oriented or relative position. He treats them as constellations of points and provides them with mini narrations. These stories are like tags attached to each site. They are a way of making the endless points of interest interesting and memorable (fig.4).

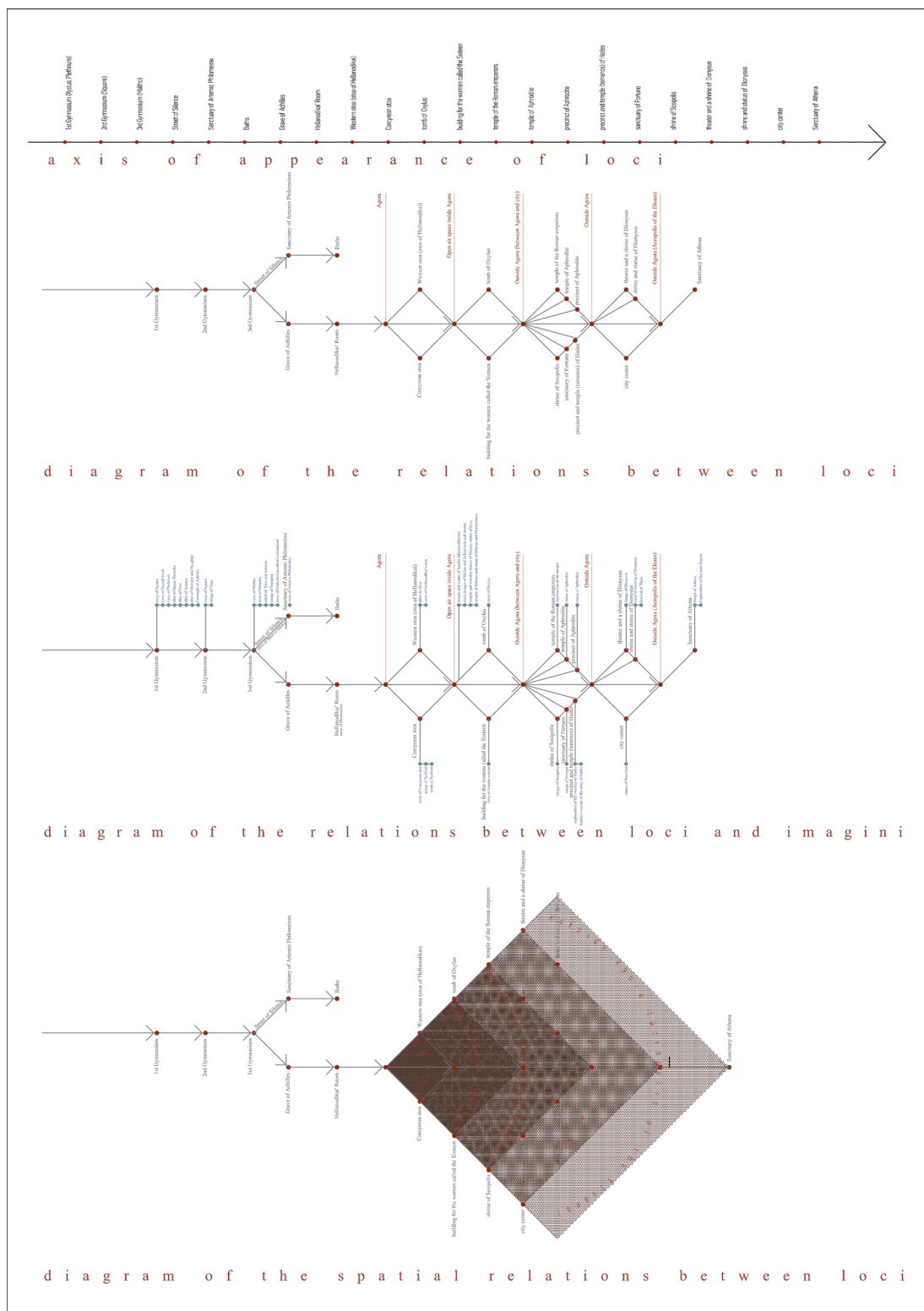


Figure 4: Diagrams of Pausanias narration related to mnemotechnics

Pausanias includes no maps or plans in his book— but locales in sequence, such as you might come across on a promenade. And it is just such a set of associations between places one might walk along and things to be recollected that formed the basic principle of ancient mnemonic techniques (Konstan 2015).

In terms of mnemotechnic what previously described is the *ordo* of the loci. The mnemotechnic *ordo* is somehow related to the writer's narration or the reader's comprehension or the visitor's real walk.

Although the mnemotechnic artificial construct is considered as a spatial model, it is also a narrative one and as such it unfolds over time. In this sense it is a temporal structure. According to the contemporary view of musicology, rhythm, is a basic organizational element of our time perception. (Touloumis 2005) The rhythm is defined as a sequence of time sections perceptible to our senses. In this sense the mnemotechnic model, when perceived by a human body, becomes a rhythmic one, a succession of perceptual intonations (Michalopoulou, Touloumis 2015) (fig. 5).



Figure 5: Excerpt from a notational diagram showing the rhythm of the locus-imago-ordo as they appear in Pausanias text

Besides, the mnemotechnic rules that define the choice of loci -according to which, symmetrical arrangements must be avoided, and unusual associations should be pursued because they are better captured by memory- meet in the aforementioned definition of rhythm their ideal version. The rhythm in antiquity according to Nietzsche's view was a crucial tool for memorizing (Nietzsche 1882).

The mnemotechnic rule that sets every fifth locus to be an exceptional one, could be considered to create the regulatory foundation of the model and to function as the metre of (mnemotechnic)

synthesis. In the model of Elis description, the 5th locus refers to the entrance to the Agora, the 10th, to the building of the sixteen women, and the 15th to the sanctuary of Sosipolis. All three are quite crucial due to both their location in the real space and their links to the previous book of the *Eleiaka* unit which mainly describes Olympia. The abnormal non-Euclidean geometry of the loci composition in Elis serves the above-mentioned rule.

Pausanias' mnemotechnic model derives from the real space and time, in particular, the market of Elis and the real time distances of the loci. In narration the loci are organized in a structure that has incorporated the narrator's embodied movements such as walking, standing, turning and the psychological duration of them (Fig.6).

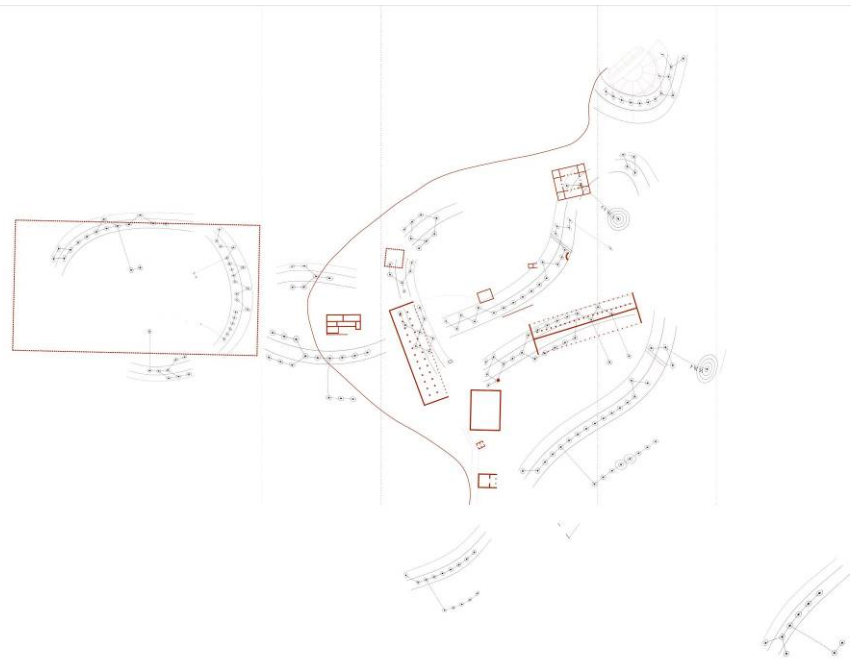


Figure 6: diagram showing the rhythm of the locus-imago-ordo in the real space

A primary exploration of the succession of loci during the flow of reading indicates the orientation of the narrator's movement in the actual space from the west to the east. The historically documented view that Pausanias approached the city from the west reinforces the above argument.

Apart from this basic analogy between real and textual space, it is difficult to trace the exact Pausanias' movement, by following the succession of individual spaces in the text. During the flow of linear reading of the text, stories, descriptions, statues and memory images in general, are not situated in the previously arranged well-known places, but on the contrary, very often, the places are organized and classified, often by breaking the model of the physical space so that the stories can be correlated and memorized.



For example, after the reference to the Building of the Sixteen Women (*δεκαεξί Γυναικών*), there is no description of the nearby Theater and Sanctuary of Dionysus, but of the quite distant and ruined Temple of the Roman Emperors.

4 RESULTS

When analyzing the use of temporal and spatial determinations in the text, (Cassirer 1955) such as prepositions, adverbs and participles, we may distinguish the units where the narrator's movement is implied, and the privileged points where a somatic stance is implied accompanied by the contemplation of the places (*locus*) and images (*imago*) observed and described (fig.7).

- VI.23

[23.1] *ἐν δὲ τῇδε τὰ ὄρεα μνήμης γυναικῶν ἔστιν ἀρχαῖον*: καὶ ὅσα ἐς τοὺς ἀθλητὰς πρὶν ἢ ἐς Ὀλυμπίαν ἀφενεῖσθαι νομίζουσιν, ἐν τούτῳ σφίσι τῷ γυμνασίῳ δρᾶν καθέστηκε· πλάττονται μὲν ὠφίηται διὰ τῶν δρόμων περὶ ὧν τοῖς· *ὁ αὖτις δὲ αὖτις περιβόλος καλεῖται Συστάς*, ὅτι Ἡρακλεῖ τῷ Ἀμφιτρυόνης ἐς ἀσκήσιν ἐγένετο, ὅσα τῶν ἀκανθῶν ἐφόνοτο ἐνταῦθα ἐπὶ ἐκαστῇ ἡμέρᾳ σφῶς ἀναΐζειν. [23.2] χωρὶς μὲν δὲ ἢ ἀμύλλαν τῶν δρομέων ἐστὶν ἀποκεκρυμμένος δρόμος, ἀνομιᾶται δὲ ὑπὸ τῶν ἐπιχωρίων ἱερῶν, χωρὶς δὲ ἐνθα ἐπὶ μελέτῃ δρομῶν καὶ οἱ πένταθλοι θέουσιν. *ἔστι δὲ ἐν τῷ γυμνασίῳ καλούμενον Πλεθρον*: ἐν δὲ αὐτῷ συμβάλλουσιν οἱ Ἑλλανοδίκαί τοὺς καθ' ἡλικίαν ἢ καὶ αὐτῷ διαφέροντας τῷ ἐπιτηδεύματι· συμβάλλουσιν δὲ ἐπὶ πάλῃ. [23.3] *εἰσὶ δὲ καὶ θεῶν ἐν τῷ γυμνασίῳ θωμοί*, Ἡρακλέους τοῦ Ἰδαίου, Παρσσάτου δὲ ἐπὶ οὐλῳ, καὶ Ἐρωτος καὶ ὧν ἡλικία καὶ Ἀθηναίων κατὰ ταῦτα ἡλικίᾳ Ἀντήριμα ἀνομιᾶσιν, ἀληπρότε τε καὶ τῆς παιδείας, Ἀρχαλεῖ δὲ οὐ βωμὸς, κενὸν δὲ ἐστὶν αὐτῷ μνημεῖον ἡ ἀκακίας· τῆς πανηγύρεως δὲ ἀρχομένης ἐν ἡμέρᾳ βίητι περὶ ἀποκλίνοντα ἐς δυσμὰς τοῦ ἡλίου τὸν δρόμον αἱ γυναῖκες αἱ ἡλικία ἄλλα τε τοῦ Ἀρχαλέως δρᾶσιν ἐς τμῆν καὶ κόντεσθαι νομίζουσιν αὐτῶν.

[23.4] *ἔστι δὲ καὶ ἄλλος ἑκάστων γυναικῶν περιβόλος, ὃς ἔχεται μὲν τῷ μετρίῳ, τετράγωνον δὲ ὀνομάζουσιν ἐπὶ τῷ σχήματι*: καὶ παλαιᾶται τοῖς ἀθλοῦσιν ἐνταῦθα ποσύνται, καὶ συμβάλλουσιν αὐτοῖς τοὺς ἀθλητὰς οὐ παλαιόντας ἐπὶ ἐπὶ δὲ ἡμῶν τῶν μαλακωτέρων ταῖς ἡλικίαις, ἀνάκειται δὲ καὶ τῶν ἀγαλμάτων τὸ ἑτερον, ὃ ἐπὶ ἡμῶν Σωσάνδρου τε τοῦ Σμυρναίου καὶ ἡλικίου Πολυκτερος τοῦ Διὶ ἐποιήθη. [23.5] *ἔστι δὲ καὶ τρίτος γυμνασίου περιβόλος*, ὀνομα μὲν *Μαλῶ* τῆς μαλακώτερος τοῦ Ἰδαίου ἑνεκα, ταῖς δὲ ἐφίβωσι ἀνάκειται τῆς πανηγύρεως τὸν χρόνον πάντα. ἐστὶ δὲ ἐν γυνῇ τῆς Μαλῶδος πρόδρομος Ἡρακλέους ἀρχὴ ἐς τοὺς ὤμους, καὶ ἐν τῶν παλαιστῶν μὴ τῶπος ἔρματα ἔχον ἐπιειργασμένον καὶ μὲν καλούμενον Ἀντήριμα· ἐκεῖ δὲ μὲν φοινίκας ὁ ἔρμα κλάδων, ὃ δὲ ἀφελῆσθαι περὶ τῶν φοινίκων ὁ Ἀντήριμα. [23.6] τῆς ἐσοδοῦ δὲ ἐκαστῶν τῆς ἐπὶ τῆς Μαλῶδος παιδὸς ἐστὶν ἐκὼν πύκτου: καὶ αὐτὸν ἔφασκον ὁ νομοφύλαξ ἡλικίᾳ γένος μὲν Ἀλεξανδρῶτα εἶναι τῆς ὑπὲρ Φάρος τῆς νήσου, Ἰσπαριῶτα δὲ ὄνομα, ἀφικόμενον δὲ ἐς ἡλὸν ἀπὸ τῆς οὐλῆς δοῖναι. τούτῳ μὲν αὐτῷ ἀντὶ τούτου γεγόνησαν αἱ τμῆαι· χρόνος δὲ στεφάνου τε τοῦ ἐν Ὀλυμπίᾳ καὶ εὐεργεσίας αὐτῷ τῆς ἐς ἡλικίᾳ Ὀλυμπιάς ἐβδόμη πρὸς τοὺς δέκα τε καὶ διακοσίων, [23.7] *ἐν τούτῳ τῷ γυμνασίῳ καὶ βουλευτηρίῳ ἔστιν ἡλικίας*, καὶ ἐπιδείξειν ἐνταῦθα λόγων τε αὐτοσχεδίων καὶ συγγραμμάτων ποσύνται παντοῖαν· καλεῖται δὲ Ἀρχαίων τοῦ ἀναθέντος ἐπιγνώμων, περὶ δὲ αὐτῷ ἀσπίδες ἀνάκεινται, θεὰς ἑνεκα καὶ οὐκ ἐς ἔργον πολέμου πεποιημένα.

[23.8] *ἔκ δὲ τοῦ γυμνασίου πρὸς τὰ λουτρά ἐρχομένων δι' ἀγυῶν τε ἡ ὁδὸς Σισυῆς καὶ παρὰ τὸ ἱερὸν τῆς Φωλαγμενῆς ἐστὶν Ἀρτέμιδος*: τῇ μὲν δὲ θεῷ γέγονεν ἡ ἐπίκλησις ἀπὸ τοῦ γυμνασίου γέγονεν: τῇ ἀγυῇ δὲ Σισυῆ ὄνομα ἐπὶ λόγῳ ταῖς τετρίαις λέγουσιν. ἄνθρωποι τοῦ Ὀλύμπου στρατεύματος ἐπὶ κατασκήνῳ τῶν ἐν ἡλικίᾳ ἀποσιμεφθέντες καὶ ἄλλοις διασκεύασμένοι κατὰ τὴν ὁδόν, ἐπεὶ δὲν πληροῖν γίνονται τοῦ τεύχους, φέγγονται μὲν μὴν ἐπὶ αὐτοῖς, ἐπακροῦσθαι δὲ εἰς τε παρὰ τὴν ἐνὸς πυθῶντος δυνήσονται, αὐτοὶ λαμβάνοντες παρελθόντες ἐς τὴν πάλιν κατὰ τὴν ἀγῶν ταύτην καὶ ἐπακούσαντες ὁποῖα ἐβόωντο ἐπὶ αὐτοῖς αὐθις ἐς τοὺς Αἰτωλοὺς· καὶ ἡ ἀγυῇ δὲ ὄνομα εἰληφέν ἀπὸ τῶν κατασκήνων τῆς οὐσιῆς.

- VI.24

[24.1] *ἐτέρα δὲ ἑοδὸς ἔκ τοῦ γυμνασίου φέρει μὲν ἔς τε τὴν ἀγορὰν καὶ ἐπὶ τὸν Ἑλλανοδικαῖον καλούμενον, ἔστι δὲ ὑπὲρ τοῦ Ἀρχαλέως τὸν τάφον*: καὶ ταύτη τὴν Ἑλλανοδικὰν ἵενα καθέστηκε ἐς τὸ γυμνασίον· εἰσὶσι δὲ πρὶν μὲν ἡλίου ἀναστῆναι συμβολαῖοντες δρομῆς, μεσοῖσι δὲ τῆς ἡμέρας ἐπὶ τὸ πένταθλον καὶ ὅσα βαρεῖα ἄλλα ἀνομιᾶσιν.

[24.2] *ἡ δὲ ἀγορὰ* τοῖς ἡλικίοις οὐ κατὰ τὰς ἡλικίας καὶ ὅσα πρὸς ἡλικίᾳ πύκτου εἰσὶν Ἑλλάνων, *πρόμῳ δὲ πεποιοῖται τῷ ἀρχαιότερῳ στοῇς τε ἀπὸ ἀλλήλων διεσπασίας καὶ ἀγυῶν*: αὐτῶν ὄνομα δὲ τῆς ἀγορῆς τὸ ἐφ' ἡμῶν ἐστὶν παρὰ δρομῶν, καὶ οἱ ἐπιχωριοὶ τοὺς ἵππους παιδεύουσιν ἐνταῦθα. *τῶν στοῶν δὲ ἡ πρὸς μεσημβρίαν* ἐργασίας ἐστὶ τῆς δουρίου, διασπασίας δὲ αὐτῆς ἐς μίαν τρεῖς οἱ κίονες· ἐν ταύτῃ διαμερεῖται τὰ πολλὰ οἱ Ἑλλανοδίκαί. [24.3] *ποσύνται δὲ πρὸς αὐτοὺς καὶ βωμοὶ τῷ Διὶ καὶ εἰσὶν ἐν τῷ ὑπαίθρῳ τῆς ἀγορᾶς οἱ βωμοὶ πλεῖστοι οὐ πολλοί*: καταλόνται γὰρ οὐ χρεῖσται ἀπὸ αὐτοσχεδίων οἰκοδομοῦμενοι. *κατὰ ταύτην τὴν στοῶν ἵοντι ἐξ τῆς ἀγορᾶς ἔστιν ἐν ἀριστερᾷ παρὰ τὸ πέρας* τῆς στοῆς ὁ Ἑλλανοδικαῖος. *ἀγυῇ δὲ ἡ διείργουσα ἀπὸ τῆς ἀγορᾶς ἐστὶν αὐτὸν ἐν* τούτῳ τῷ Ἑλλανοδικαῖον οἰκοῖσι δέκα ἐφετῆς μνήμης· οἱ αἰρεθέντες Ἑλλανοδίκαί καὶ ὑπὸ τῶν νομοφυλάκων ὅσα ἐς τὸν ἀγῶνα σφῶς διδοσύνται.

[24.4] *τῇ στοῇ δὲ ἐνθα οἱ Ἑλλανοδίκαί διαμερεῖται ἔστιν ἐγγὺς ἄλλῃ στοᾷ· τὸ μεταξὺ αὐτῶν ἀγυῇ μία*. ταύτην ὀνομάζουσι *Κορυμναῖον* οἱ ἡλικίοι· ναοὶ γὰρ ἐς τὴν σφετέρην Κορυμναῖον ἐλθόντες ἐλθῶσι μύσαν τῆς λεῖπας λέγοντες λαβόντες τε ἐκ τῆς Κορυμναῖον πολλὰ λίσσονται οἰκοδομῆσθαι τὴν στοῶν ἀπὸ τῶν λαφύρων τῆς δεκάτης. [24.5] ἐστὶ δὲ ἡ κατασκευὴ τῆς στοῆς ὁμοῦ καὶ διπλῆ, τῇ μὲν ἐς τὴν ἀγορὰν τοὺς κίονας, τῇ δὲ ἐς τὰ ἐπὶ κείνῃ τῆς ἀγορᾶς ἔχουσιν· κατὰ μέσον δὲ αὐτῆς οὐ κίονες, ἀλλὰ τοῖχος ὁ ταύτην τὸν ὄροφον ἀνέχων ἐστὶν, ἀνάκειται δὲ καὶ κίονες ἐκαστῶν πρὸς τῷ τοίχῳ. κατὰ δὲ τῆς στοῆς τὸ ἐς τὴν ἀγορὰν ἔστιν ἐγγὺς Πύρρονος τοῦ Πιστοκράτους κίονας, σφοδρῶς τε ἄνδρος καὶ ἐς βέβαιον ὁμολογίαν ἐπὶ οὐδενὶ λόγῳ καταστάντος, ἐστὶ δὲ καὶ μνημεῖον τῷ Πύρρῳ οὐ πόρῳ τοῦ ἡλικίου ἀσπῆτος· πέτρα μὲν τῷ χωρίῳ τὸ ὄνομα, λέγεται ὡς ἡ πέτρα δῆμος εἶη τὸ ἀρχαῖον. [24.6] ἡλικίᾳ δὲ *ἐν τῷ ὑπαίθρῳ τῆς ἀγορᾶς τὰ ἐπιφανέστατα ναὸς ἔστι καὶ ἀγάλμα Ἀπὸλλωνος Ἀκαιοῖς*: σηματοῖν δ' ἂν τὸ ὄνομα οὐδὲν ἡ ἀλλοτρίᾳ ὃ καλούμενος Ἀλεξάνδρος ὑπὸ Ἀθηναίων. *ἐτέρῳ θι* δὲ ἡλικίᾳ πεποιῖται καὶ Σελήνῃ λίθου τὰ ἀγάλματα, καὶ τῆς μὲν κέρατα ἐκ τῆς κεφαλῆς, τοῖς δὲ αἰκνῆτες ἀνέχουσιν. *ἔστι δὲ καὶ Χάρμην* ἱερὸν καὶ ἔρματα ἐπὶ τῆς ἐσθῆτι, πρόσωπα δὲ καὶ χεῖρες καὶ πόδες λίθου λευκοῖ· ἔχουσι δὲ ἡ μὲν αὐτὸν ῥόδον, ἀσπράγγον δὲ ἡ μέση, καὶ ἡ τρίτη κλῶνα οὐ μὴν μωρήσιν. [24.7] εἶναι δὲ αὐτὰς ἐπὶ ταῖς οὐδὲ ἐκείνῃς τῆς ἀντὶ εἰρημίας, ῥόδον μὲν καὶ μωρήσιν Ἀφροδίτης τῇ ἐρᾷ εἶναι καὶ οἰκεία τῷ ἐς ἄδων λόγῳ, Χάρμης δὲ Ἀφροδίτῃ μάλιστα εἶναι θεῶν· ἀσπράγγον δὲ μελαίναν τε καὶ παρθένην, ὅς ἄρα οὐδὲν πῶ πρόσεστιν ἐκ γῆρας, τούτων εἶναι τὸν ἀσπράγγον παῖνον. τῶν Χαρμῶν δὲ ἐν τῇ δεξιᾷ ἀγάλμα· ἔστιν ἐστῆς· ἔστιν δὲ ἐπὶ βάρθου τοῦ αὐτοῦ. [24.8] *ἔστι δὲ καὶ Σελήνῃ ναὸς ἐνταῦθα*, ἰδίᾳ τῷ Σελήνῳ καὶ οὐκ ὁμοῦ Διονίσιον πεποιημένους· Μῆθη δὲ οὐκ ἐκπύματα αὐτῷ δίδωσι. θνητὸν δὲ εἶναι τὸ γένος τῶν Σελήνων εἰκόσται τις διὰ μάλιστα ἐπὶ ταῖς τάφους αὐτῶν· ἐν γὰρ τῇ Ἑλλάδι χωρὶς Σελήνῳ μνημῖα καὶ ἄλλα Σελήνῳ Περσικῶν ἐστὶν. [24.9] ἡλικίᾳ δὲ *ἐν τῷ ἀγορᾷ καὶ ἄλλα τῶνδε εἶδον*, ναοὶ στήλαι· ἐστὶ δὲ οὐκ ὠφίηται, καὶ ταῖς μὲν οὐκ εἰσὶ, τὸν ὄροφον δὲ δρυὸς ἀνέχουσιν ἐργασμένοι κίονες. τοῦτο εἶναι μὲν ὁμοιογενεῖς οἱ ἐπὶ τῶν μνημῖα, ὅπου δὲ οὐ μνημονεύουσιν· εἰ δὲ ὁ γένος ὄντινα ῥόδῳ εἶπεν ἀληθῆς λόγῳ, οὐλοῦτο τοῦτο τὸν μνημῖα εἶη. [24.10] *πεποιοῖται δὲ ἐν τῷ ἀγορᾷ καὶ ταῖς γυναικῶν οἰκῆταις τὰς ἐκακίστας καλούμενας*, ἐνθα τὸν πλεον ὠφίονται τῇ ἡγῶν. *ἔχεται δὲ τῆς ἀγορᾶς ναὸς ἀρχαῖος στοῇς ἐν κίονῳ πεποιημένος*, ὃ δὲ ὁροφὸς κατεβύθη καὶ τῷ ναῷ καὶ ἀγάλματι οὐδὲν ἐλείπετο· βασιλεῖσι δὲ ἀνέστη Ῥωμαῖος.

Figure 7: excerpt from textual diagram of spatial and temporal determinations: *ἐστίν, ἐστι, ἐν, εἰσὶ παρὰ, ἐπὶ, ὑπὲρ, ἀπὸ, ἐν δεξιᾷ, ἐγγὺς, μεταξὺ ἔχεται, ἐκ πρὸς, ἐρχομένῳ δι', δι' αὐτῶν, φέρει, ἀπέχει*. The middle part (VI. 24.1, 24.2) where the movement from Gymnasium to Agora is implied is full of determinations, whereas the next part –the description of Agora- is more *static*.

The alternation of the movement areas with the stance points that defines the ordo and the correlation of the locus with the imago, form the overall rhythm of the structure. For example, the street between the Hellanodikaion building and the Stoa of Hellanodikae is defined as an area of motion within the text, while a stance point can be traced at the official Entrance of the Market from the city.

Analysis of text organization and of the optical fields formed between the buildings, indicate a limited area of the Entrance to the City Market (fig.8), from where, one can visually scan the described loci, in accordance with their order of appearance in the text, by making a complete

spin in the clockwise direction. That is, following a physical rotation in the direction from left to right, as is the direction of writing.

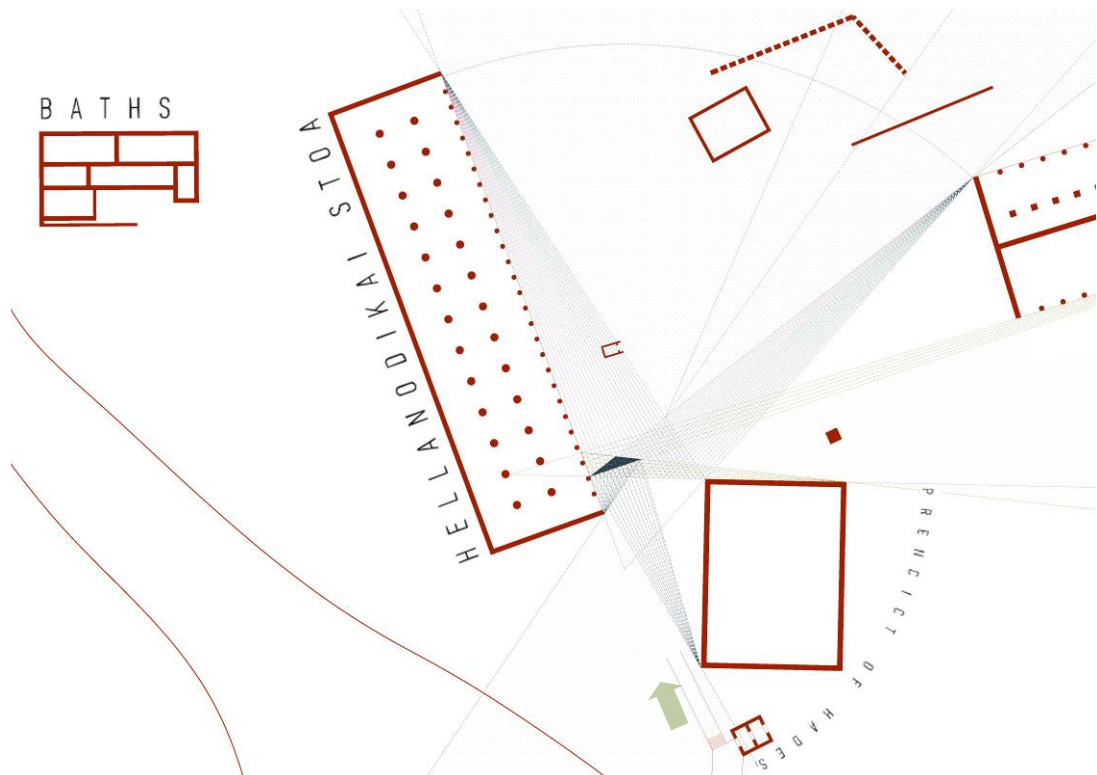


Figure 8: diagram showing the entrance of Agora from the city centre. The isovists define a privileged area, where one can stand and have a wide view of the inner open air space of Agora.

We could assume that, when entering the market, Pausanias stood in this area and conceived the plan of his mnemotechnic model, where he included as loci what he could see from there (fig.8). He then followed a path by describing the individual loci and installing in them, the stories he wanted to highlight (fig.9).

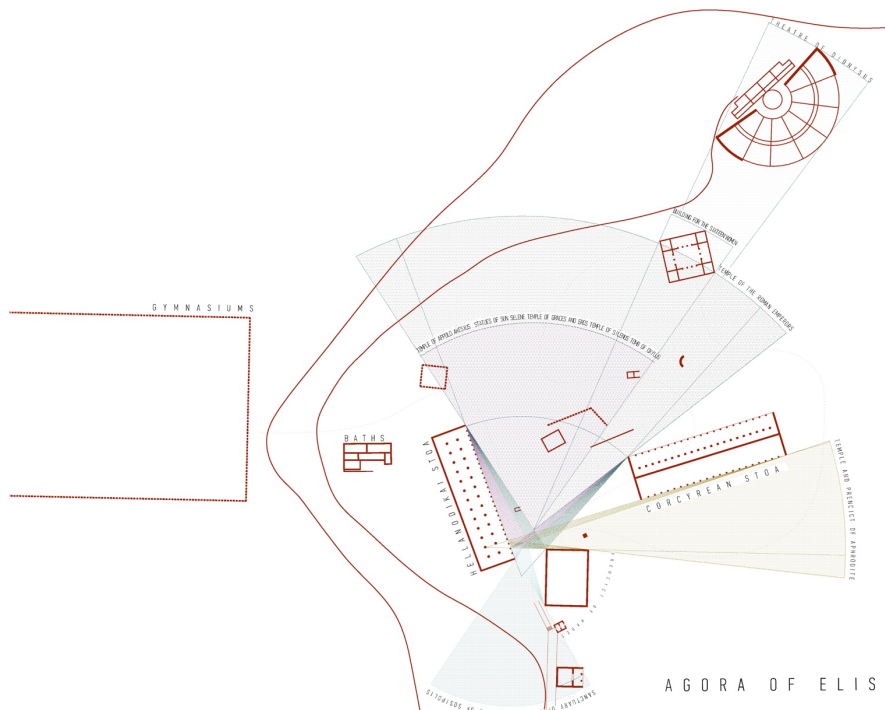


Figure 9: diagram showing the Agora's *loci* linked with the potential optical fields

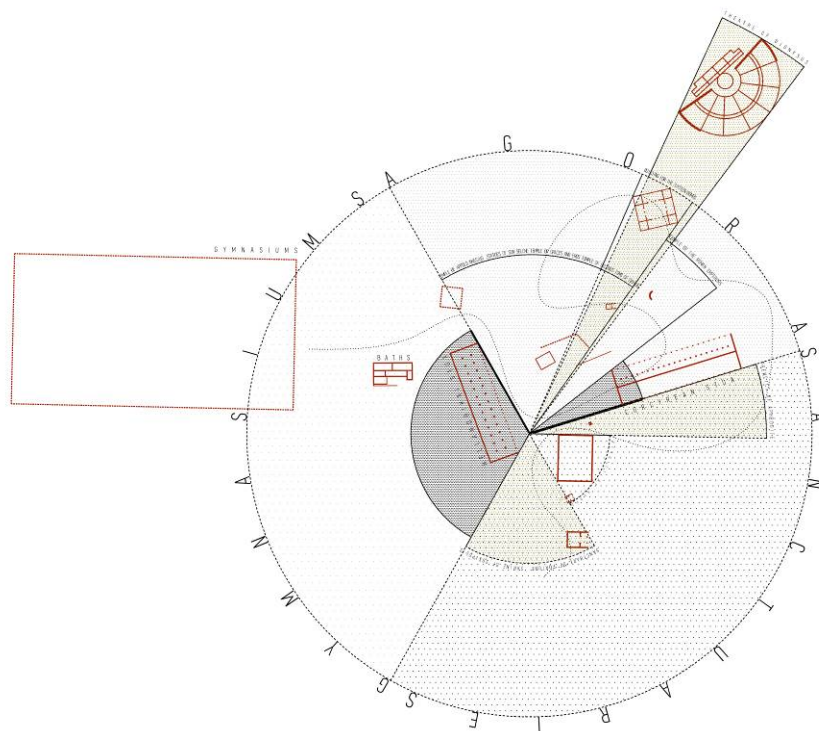


Figure 10: diagram showing the Agora's *loci* linked with the potential Pausanias movement

5 CONCLUSIONS

The city of Elis has its own unique spatial structure. Its unusual spatial arrangement has resulted from a specific function (social life) (Garyfalia Palaiologou and Sam Griffiths 2018). Athletes would be hosted and trained in Elis before their participation in the Olympic Games. The Olympic Games were sports but they also had a sacred character, that is, they were held in honor of Zeus. This is why the sports facilities and the sanctuaries of Elis were situated in the commercial and administrative centre of the city, the Market (Agora). Agora did not have a normal shape as it had resulted from successive additions and modifications over the centuries. Only the Stoa of the Hellanodikai (western stoa) and the double-sided Korkyrean stoa (South stoa) were built in the Hellenistic period, ie. the period when Elis was formed through a uniform urban plan as a city (until then it was a set of small settlements). One of the goals of the construction of the galleries was to partially rectify, to better organize and to connect with the urban fabric, the huge space of the Agora.

It was inevitable then, that the aforementioned uniqueness of the city influenced the conception of the central idea of Pausanias's narrative. Pausanias had two problems in explaining Elis: he had to find a way to describe the difficult irregular shape of the city center and at the same time tell the stories he considered memorable. Our hypothesis that he created a mnemonic artificial construct that solves both his problems, makes his spiritual conception genius.

Thus Pausanias begins the description of the city from the Gymnasiums and not from its entrance or the market center. And since the organization of the text attracts its origin from this real space, this space syntax passes into the text. The syntax of the space becomes the syntax of the text. And finally, through the text, a new space is created, a new place which contains both the geometric characteristics of the city, and the additional elements, concerning the composition of Pausanias, based on the triptych ordo – locus - imago.

The analysis of Pausanias text in Elis case reverses the dominance of the first term of the dipole real - textual space. Even more, the text becomes the basic prerequisite for the interpretation of space. So the artificial, although ancillary, ultimately determines the referential meaning, that is, the perception of space that follows the sensory experience.

Thanks to Pausanias text, the settlements of Elis Agora (commercial, ritual, social, political centre) were able to be identified. Otherwise, it would be impossible for the archaeologists and researchers even to classify typologically the findings (gymnasiums, galleries, sanctuaries, temples) due to the sparse building relics.

Two mnemonic layers underlie the structure of the text: the first one is composed by the containing *loci* of Elis Agora and the second by the contained *imaginis*. Pausanias carefully refers only to the necessary data of the places. His interest is rather to focus on the images, sculptures,



paintings, stories than to describe spatial features. The only reason we are mentally wandering around the *loci* is to see these images.

Our research was aided by the designing of two types of diagrams. The diagrams of the first type, consider the site of Elis Agora as a map and mainly are based on spatial characteristics. The diagrams of the second type transcribe the structure of the text and are developed linearly as scores, following the narration of Pausanias, on the axis of time. Our ultimate goal was to associate the two types of diagrams and reconstruct the possible embodied movements of Pausanias in the area of Elis Agora.

They are both ruled by the conventions of a visual culture. And these conventions are most energetically when walking in the real place where the dimensions of the imaginary begin to overtake those of vision and where vision simultaneously leaves a trace and becomes a material deposit in the mind. This is the privileged instant when the real coincides with its representation. And this is the place where memory becomes visible (fig.10).

REFERENCES

- Αριστοτέλης, (1912) 'Περί μνήμης και Αναμνήσεως', *Μικρά Φυσικά*, μτφρ. Γρατσιάτος Π., Αθήνα: Φέξη
<http://lyk-lechain.ilei.sch.gr/lyklec/stuff/ancient/aristot/a008.pdf>
- Bakhtin M. (1981) *The dialogic imagination Four essays*, trnsl. Emerson Caryl and Holquist Michael, Austin: Texas University Press.
- Cassirer E. (1955) *The philosophy of symbolic forms vol.1 Language*, New Haven & London: Yale University Press.
- Cicero, (1954) *Rhetorica Ad Herennium*, trnsl. Caplan Harry, Massachusetts: Harvard University Press.
- Donati, J. (2015) 'The Greek Agora in its Peloponnesian Context(s)', *Classical Archaeology in Context*, pp. 177-218. doi: 10.1515/9781934078471
- Donati, J. (2017) 'A regional approach to ancient urban studies in Greece through multisettlement geophysical survey', *Journal of field archaeology*. doi: 10.1080/00934690.2017.1365565
- Frazer, J. (1898) *Pausanias's description of Greece*. London: Macmillan and co., limited.
- Konstan, D. (2003) 'The joys of Pausanias', *Travel and Memory in roman Greece*, pp. 57-62. Oxford: Oxford University Press.
- Konstan, D. (2014) 'Seeing Greece with Pausanias', *Three Centuries of Greek Culture under the Roman Empire*, pp. 257-266. Barcelona: Publicacions de la Universitat de Barcelona
- Liddell H., Scott R., (1925) *A Greek-English Lexicon*, Oxford: Oxford University Press.
<http://myria.math.aegean.gr/lds/web/view.php>.
- Michalopoulou, K., and A. Touloumis, 2015. "Structural Correlations between Music, Architecture and Cinema: Rhythmical Description of the Parthenon Frieze." In *Proceedings of the 10th International Space Syntax Symposium*, edited by K. Karimi.
http://www.sss10.bartlett.ucl.ac.uk/wp-content/uploads/2015/07/SSS10_Proceedings_028.pdf
- Nietzsche, Fr. (1882), *Die Frohliche Wissenschaft*, (The Gay Science, transl. by Kaufmann, W. in



1974), New York: Vintage Books.

Yates, F. (2006) *The art of Memory*. London: Pimlico.

Pausanias, (1918) *Description of Greece*. Translated by W.H.S. Jones, Litt.D., and H.A.

Ormerod, M.A., in 4 Volumes. Cambridge, MA: Harvard University Press. Urn:cts:

greekLit:tlg0525.tlg001

Palaiologou, F. and Griffiths, S., (2019) “The uses of space syntax historical research for policy development in heritage urbanism” Scitaroci, M.O., Scitaroci, B.B.O. and Mrda, A. (eds.) in *Cultural Urban Heritage: Development, Learning and Landscape Strategies*. pp. 19-34. Cham: Springer.

Psarra S. (2018), *The Venice variations: tracing the architectural imagination*, London: UCL Press.

Παπαχατζής, Ν. (1979) *Παυσανίου Ελλάδος Περιήγησις* Αθήνα: Εκδ. Αθηνών.

Πεπονής Γ. (2003), *Χωρογραφίες, ο αρχιτεκτονικός σχηματισμός του νοήματος*, Αθήνα : Εκδ. Αλεξάνδρεια.

Squire M., Elsner J., (2016) ‘Sight and memory: The visual art of Roman mnemonics’, *Sight and the Ancient Senses*, London: Routledge.

Touloumis, A. (2005), ‘Issues of inscription in temporal experience’. In: van Nes, A. (ed.), *Proceedings of the Fifth International Space Syntax Symposium*, Delft: University of Technology, Vol. II, p.421-430.

Tzifopoulos, Y. (2014) ‘Inscriptions as literature in Pausanias’ *Exegesis of Hellas*’, *inscriptions and their uses in Greek and Latin Literature* Oxford: Oxford University Press. Doi: 10.1093/acprof:oso/9780199665747.001.0001