

MAPPING THE PERCEPTUAL SITE STRUCTURE. THE CASE OF AIOLOU STREET

Abstract

The presentation deals with mapping issues, highlighting multiple and different ways of recording and analysis of public spaces, with emphasis on their perceptual structure. Though mapping the invisible becomes visible, the unique character of the place is determined and its potential is highlighted. The study focuses on the objective and subjective elements of the space, the materials and intangible (physical and anthropogenic) as well as on the human activities. In this approach, the analysis of the space involves not only practices, but aesthetic, psychological and ideological dimensions, while man and the way he perceives and behaves in space, shapes its perceptual structure.

Aiolou street in the center of Athens, is our main research area, trying to highlight its special character through mapping which is being explored as a process of identifying the elements that constitute and attribute the identity of the place, which will then feed the architectural design. The research was carried out within the framework of the course "Environmental Issues" of the 7th Semester, with theme "Urban spaces in the city", aiming to investigate methods of recording the quality elements of a road with a strong physiognomy, a great history and an important role in the operation of the historical center of Athens.

Keywords: Aiolou str, perceptual structure, mapping

Introduction - About place and landscape

Every place of value has a distinctive character which appears through the features of its landscape where the landscape is considered to be the overall and collective perception, the real, emotional and ideological image that the place offers. Each form of perception (vision, hearing, touch, taste, touch), together with the emotional and logical processing that each person makes in conjunction with the temporal dimension, contribute to the knowledge and experience of the identity of the place. The man with each of his senses also perceives a part of the space and imparts meaningful content and feeling, so each place through the landscapes acquires various dimensions and in contemporary consideration we are talking about decorative, acoustic, landscape of touch etc.

Identity is composed of a set of characteristics that have material substance but also mental components that shape the spiritual content of a place. It is a palimpsest of spatial and social phenomena as they evolve and transform over time. The place thus becomes a concept to be dealt with in all its dimensions, because apart from real ones, which are material and measurable, it has ideological dimensions, which are immaterial and have psychological dimensions. But it also has a Logos and Myth ie elements of its intellectual property, but also emotionally charged elements.

As we shall see, the notion of the identity of a place is constituted by its natural, spatial and human data, as well as by aesthetic qualities, ie, visual, acoustic, olfactory, tactile. The physical data determine the form and structure of the site, the spatial concern the architectural physiognomy of the space and its urban structure, while the human ones concern the social activities, the historical, the economic and the demographic

characteristics. In addition to physical, spatial and human data, the identity of a place is associated with aesthetic qualities, visual, acoustic, olfactory, tactile. The color of the landscape that changes every season, the scents, the flavors, the sounds, all together make up the place and contribute in some way to the timeless communication between the present and the past (Βασιλαρά, 2010).

Above all, apart from spatial and social elements, a place (such as a city) is an expression of the time that becomes the most critical and determinant parameter for its form and identity, as will be seen below in the example of Eolou Street .

In this approach the space ceases to be treated dryly and rationally only, but develops interest in an aesthetic, psychological and ideological approach. The man himself as well as the way he perceives his space is the maker of the perceptual structure of the place and in this case of Eolou Street

The Issue Of Cartography

The possibilities that modern mapping provides have contributed significantly to the perceptual approach of the place. The aim is to capture the true state of the place at the moment the researcher and the reader have it, and the reader can live, perceive in the same way the same experience. Thus, mapping becomes a tool for recording, analyzing and interpreting not only objective but also subjective reality. Modern maps re-describe the world with a view. They settle and visualize perceptual data, and geography ceases to be the only organizational principle, but it becomes a process that determines the association and representation of the elements at a conceptual level.

It is now possible to study how a person recognizes, orientates, experiences, and understands his / her space, that is, how he perceives it. The basic principle in this approach is that what we perceive differs from the subjective one

Mapping is the means of interpreting the messages of the place, since it enables real acquaintance with the spirit of the place, its appropriation and overall view. It feeds the design and synthesis process through its creative use, as the design can include psychological, emotional and perceptual functions.

Aeolou Street

Aeolou Street is located in the heart of the historic center of Athens and is one of the oldest and perhaps most important streets of the city. The road was named after Aeolos, the god of winds in Greek mythology, starting from the heart of the old Athens center of the 19th century and ending in the Roman Agora in Plaka. It is the oldest road in the modern urban fabric that was created in the middle of the 19th century as part of the new city plan and has significant historical references linking ancient monuments and attractions. Today, most of Aeolou is a pedestrian street, and it is one of the city's most popular and busiest shopping streets, bringing together recreational uses, administrative activities and various urban functions

Through the example of mapping of Aeolou Street, the methods of capturing the quality elements of a road with particular characteristics were investigated. Students created maps in their own way of expression capturing their personal moment and reality.

The methodology of approaching the subject concerned the emergence in a subjective and objective way of the elements that constitute the physiognomy of the road. The maps that have been created give an insight into the way in which the space is experienced, being an additional tool for urban planning and road evaluation, with the ultimate goal of reading and recognizing its perceptual structure and then being able to intervene in it. Thus, students created a series of Mind Maps on Aeolou Street, exploring the way people perceive and collect data from their environment through senses or human behavior in relation to the environment. In this context, Conceptual maps were created, which deal with a subtractive treatment and representation of site data by alternative means. The place is treated as fluid and dynamic, with constant movement. The maps contain the subjective dimension and the momentary mapping while the place is approached with psychographic terms¹

In the framework of the research, the axial movement and the relation with the surrounding urban fabric were recorded, with an emphasis on the relation of the structure with the unstructured space as well as the relation between the public and the private zones. It also attempted to capture the way people move, stand, interact, and ultimately the way they can deepen the space through their senses.

On the issue of Sound and Odorous Landscapes, the research focused on issues of tension, attraction and avoidance, as well as sounds and concentration of people. The recording of these "odors" was done by "scanning" the road in two hours, from 8am. until 10 pm, while the source of the odor or sound was recorded on the map with the corresponding points whenever and where they are observed. The sounds and smells of Aeolus, particularly recognizable, signify and characterize, we would say the place.

At the same time, people's movement and attitude were recorded to associate sensory properties with human use of the road.

The odors are marked in the space where they are perceived, with different colors each, while the intensity refers to the source of origin and the color density to the distance from the source and the perception. The parts with difficulty in the sense of odor are recorded by the faded color, the warm colors reflect the pleasant odors while the cool colors, the unpleasant.



Smelling map, Vasilara, 2015

¹ The perceptual maps that Kevin Lynch first depicted in the 1950s also belong to the great unity of mental maps. Kevin Lynch proposed the visualization of urban space as a set of typologies that are closer to the fragmented way in which we create our own mental maps. Suggests the use of maps driven by databases to understand our position within a relationship system. Through 5 entities, points, nodes, paths, regions and boundaries, he managed to capture the different perceptual ability of each individual in a subtractive plane that gains objective dimensions. Later Joseph Stephanou added to these 5 entities the gradients and the scale, adapting the method to the reality of the Greek space

The sounds are characterized by concentric circles, where the center reflects the source of origin. The radius of circles reflects the perception of the acoustic scale, while the number and frequency of cycles represents the continuity or incidence. Warm colors represent pleasant sounds, while the cold color, the unpleasant.



Sounding map, Vasilara, 2015

The mapping of sounds and odors leads to conclusions about the qualities of space, as the way we perceive the place includes, as already mentioned, the sensory data. We have noticed that the sound is not only expressed in the concept of "noise pollution", which in the case of Aeolos street refers to troublesome vehicle noises, which are mainly found at crossroads with traffic routes. There are also "good" sounds, mainly man-made (human voices, guitar music, etc.) that are recognizable and enjoyable and often part of his cultural identity and deserve preservation and recognition (such as the sound of latern, which is often heard on the road). Also, odors, such as roasted meat on a particular section of the road (Monastiraki area), characterize the area, so that it is recognized even when the sense of vision is isolated.

Cartographic Approaches of Perceptiveness relate to qualities that have to do with the recognition of Area Psychology. One of these is the recognition of the kind of *psychological freedom* that a space allows to practice by the user (Στεφάνου, 1995). We distinguish spaces that allow the expression of absolute freedom or restricted under certain prohibitions or when only one use and certain behavior is possible. In collective perception the expression of this quality again is done with lines, signs, levels, volumes. The map of socialization - isolation can be included in this category, which expresses the possibility for the passers-by to feel that they come into contact with other people or that they can be isolated. It has been observed that uses are the main factor shaping the corresponding conditions. There is also variation depending on the time period. Day-night contrast is typical. Criteria for data processing and capturing were age, staging areas, lighting in the area, security or insecurity created on a case-by-case basis

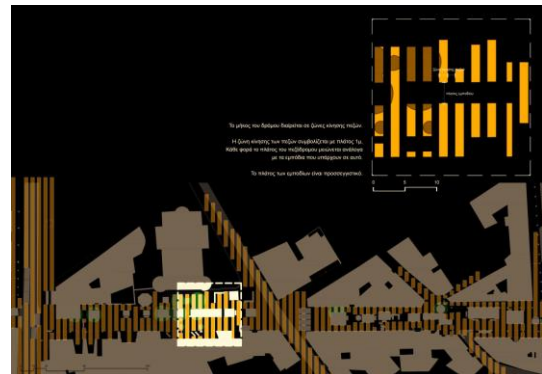
Conditions of psychological freedom are created by those considered to be Dangerous or safe points. The corresponding map was created to capture the signs of security or insecurity depending on the density of people at the time (whether it was day or night), depending on shop hours (whether it was closed or open stores) , depending on the lighting of the road or the proportion of road junctions. It was finally noticed that the presence of the car creates safety conditions. Depending on psychological freedom, they can create the points that one feels comfortable or uncomfortable. It has been observed that trees with the creation of a microclimate that cause, the roads with a wide width, the free sidewalks, the kind of usage of the street shops, the specific period of time affect accordingly psychologically the people-users.



Socialization- isolation and safe-dangerous areas of Aeolou str, students: Alexiou,Andrianos, Kipreos

The difference in the psychological distances of the sites from the typological ones is another point that helps to understand the mechanisms of perception and formation of the image of a place. The variety of stimuli, frequent or non-intersections, the scale of Blocks, social differences, the marginal points of a place, increase or decrease distance.

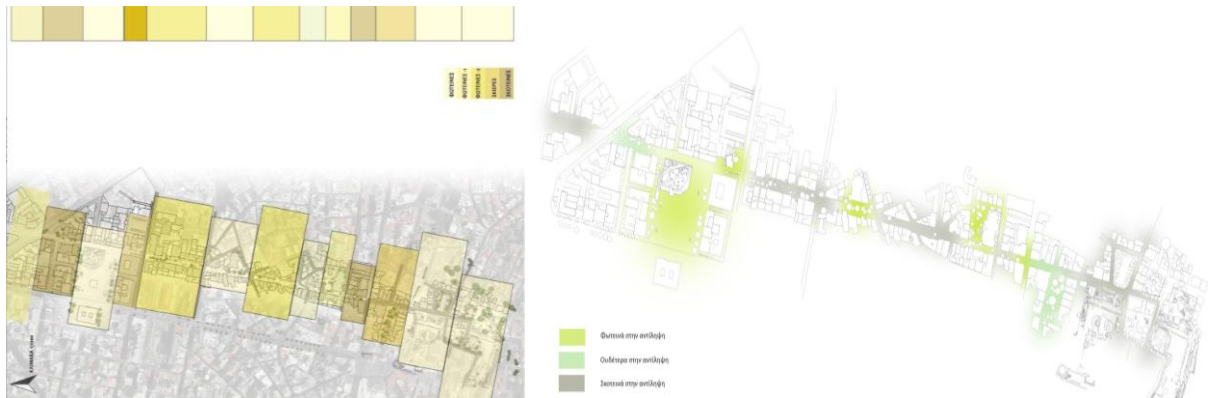
Based on these observations, the students proceeded to create maps that capture the obstacles and dams of Aeolou street, which physically or artificially impede or make impossible an activity, movement, vision, odor, touch, hearing and psychological distance. In the case of this study, activity is meant the move the pedestrian on the street and as obstacles the tangible objects in it that prevent pedestrian traffic. The way of mapping these conditions is particularly interesting as the length of the road is divided into pedestrian zones. The pedestrian zone is marked with a width of 1m. each time the width of the pedestrian street is reduced depending on the obstacles in it. The width of the obstacles is approximate. The parameter of psychological distances also reinforces the pauses and continuations of the road. Intersections are a cessation of traffic and often also signify a change in the identity of the road. The pace at which the functions and passages appear from one spatial unit to another constitute pauses and continuations on the road.



Obstacles and Dams of Aeolou street, students: Anagnostopoulos,Georgiadou, Michos

The exploration of perceptual shadowing is another mechanism of the perception of the image of the place that the students attempted to record. It refers to the degree of confusion that the user acquires in a space. In each place there are bright surfaces, linear or spot data that are accessible from a orientation point of view clearly readable and understandable without any special effort and corresponding shadowy figures, complex, difficult to read and in the orientation, the labyrinthine expressing the dark part of the image of the place. In Aeolus the architectural morphology of the buildings, dense or sparse vegetation and the urban planning itself played a decisive role. Additionally, the movement or presence of pedestrians and vehicles has, in many places, identified perceptual shading. The selection criteria for creating this map were entirely personal and have to do with not only the personal appreciation of each but also with the time of recording. Students themselves have proposed, so that the map is displaying a more objective dimension, to collect data from several, different hours and days to complete questionnaires and eventually all be synthesized. As typically seen on the map, depending on the level of

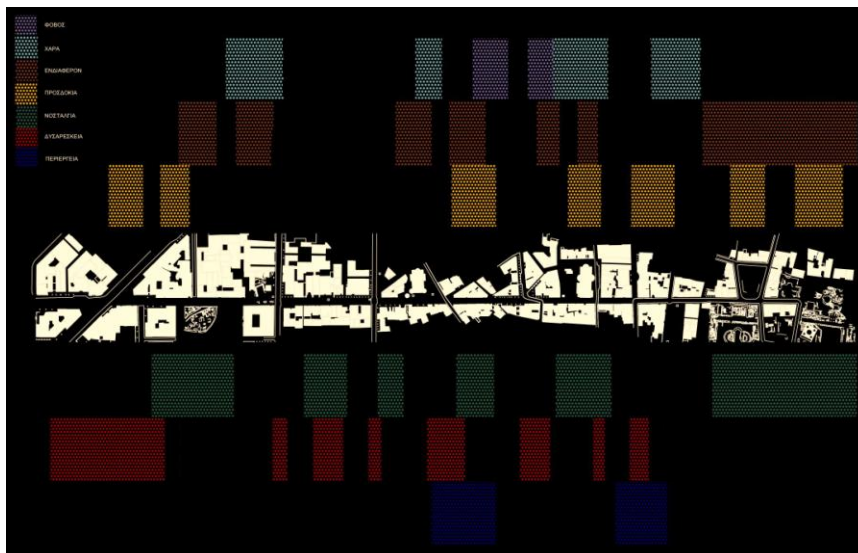
perceptual shading, the road is divided into several sections. At the beginning and end of that the brighter areas are distinguished, since from the one side we have the Roman Forum and from the other the Kotzia square, where the open spaces give the impression of light band. Bright points are also illustrated with points that have typically identifiable elements.



Perceptual shadowing, students: Fragiadakis, Papavasiliis, Ioannidis

Another approach to the perceptual structure of the site is the psychometric figures, which were diagrammatically recorded. The originality, the variety of elements, the recognizability, the enforcement power, the degree of transfer, the ability to create intense images, the degree of information, the sensitivity, the commonality, the appropriation, etc. are some of the recorded scores (on a scale). In Aeolou street the signs of psychometric representations were recorded on the basis of the ones expressing intensity, those that express the impossibility and recognizability, the signs that are surprising, those that are highly contagious or those that create a special atmosphere. And here the criteria are subjective. In order to be able to draw more secure conclusions one way would be to place specific and predetermined psychometric sizes at different points of the road from various participants and observers of the city

This category also includes maps depicting emotions. The course along the footpath is characterized by intense alternations. The human reaction was studied emotionally in relation to the environment produced on the road. By recording the feelings that are probably created, one concludes that, in general, they are positive with predominantly those of interest, joy and nostalgia, more in the southern part. The historicity of the street is reflected in the architecture of its buildings, covering times from antiquity to the present, so that both the interest in the distant past and the nostalgia for Athens of the past centuries are combined. Catering shops promote social interaction and cohesion, which is positively recorded (as a joy). In the northern part of the road, near Omonia, feelings become negative (dissatisfaction) because of the vertical roads with a large and somewhat unregulated traffic. Another point emphasized and related to the perceptual structure of space concerns capacitors. Every place and landscape has a capacitor of its symbolism, something that focuses its interest, its recognizability and its readability. Aeolou Street, as recorded and imprinted by the students, has a rich history, important historical events depicted in its features, the important monuments that witness the whole of its evolution, the buildings, the squares, the temples. All of these create strong capacitors of the particular physiognomy of the road and reflects elements of speech and myth.



Emotions, students: Anagnostopoulos, Georgiadou, Michos

Also, the sensory data created by the site were recorded, through maps related to the recording of the impressions that the user derives through his five senses. So odorous, audible, tactile, but also tasteful, as we would say, maps were produced. Vision maps, as more widespread and predominant in the mode of expression, do not really belong to this category.

In this category of maps belongs also the recording of the unpleasant sound, that is noise. Where noise is not necessarily the loud sound but the unwanted sound. Even here the element of subjectivity is obvious. For example, a kind of music for someone can be recorded as noise. Using a sonar the students recorded the intensity heard by a passing one during the day along Aeolou street. The sonar was placed at the height of the ear with an open timer and recorded the noise level along the entire length of this route. At points where stopping could not be avoided, the measurement was interrupted. The process took place six times, from 8.00 am to 8.00 pm, every two hours. The sonar recorded the counts automatically into txt files, which through the excel were expressed as six charts (one for every two hours). For a more complete study, parallel recording of the sounds could take place alongside the recording of intensity. This, of course, requires a recorder with a pair of condenser microphones, so as to ensure high sensitivity and detail, without deformations, which at the present moment the students did not have. Observing the charts as a whole, it is understood that the point at which the lowest intensity occurs is at the height of the Kiristos Clock, since there are only dwellings at this point. Then, throughout the day, there is a significant increase in the location of Ermou street. This is due, on the one hand, to the fact that traffic is increasing and, on the other hand, to the point where the pedestrianized section of Ermou stops and the traffic of pedestrians is mixed with the circulation of vehicles. Another low intensity section is the section located at the height of Kotzia Street. This is due to the opening created by the square, which has the effect of reducing the reflections of sound in the buildings and consequently the reduction of its intensity. Finally, it is important to note that the overall sound intensity is high, mainly due to the increased and illegal traffic two-wheel motorcycles in the pedestrian street

The end result is the collection of illustrations by students of the street based on numerous individual experiences, memories and subjective impressions, what is called the perceptual structure of the space and the creation of perceptual maps that push us to overlap the static landscape with our lively dynamic experience, impressions and our personal presence.

Conclusions

Mapping, as we have seen through the presentation, involves methods of identifying, recording, understanding and interpreting space, and highlighting the material and intangible elements that constitute its identity. Space readings reveal its special conditions and its complex and multidimensional features, which are transformed over time.

Through mapping and with Aeolou Street as application field, we have discovered a multitude of phenomena and we have identified a space that changes, unfolds, expands and contracts daily while still strolling in the heart of the city during the crisis.

Through research, the issue of the mutation of spatial data and human activities emerged as an important concept in mapping in relation always to the planning process. Planning is not a static or unambiguous process, it should in every way incorporate the variable and multidimensional elements of space, and include human energies and interactions. Mapping, as a basic tool of analysis and synthesis, ultimately, of the space should serve as a means of understanding the city and society that are constantly evolving over time.

To sum up, we could argue that mapping is a central issue for architecture - not just as a scientific record of a place but also in the design and production of new architecture. Mapping reveals the area, makes it invisible - visible, identifies the unique and particular character of space, highlighting its potential. The elements highlighted through mapping are those that lead to design and architectural creation through a creative and dynamic process. Mapping is therefore a basic tool for re-interpretation, reconstruction and creation of space and it is an important tool (and part of) the design process.

Bibliography

- Appleyard D, Lynch K, Myer J, (1964) *The view from the road*, MIT
- Corner James,(1999), *The Agency of Mapping: Speculation Critique and Invention*, edited by Denis Cosgrove
- Cosgrove, D., 1998(1984). *Social formation and symbolic landscape* , 2nd edn., Madison: University of Wisconsin Press.
- Radovic Darko, Boontharm Davisi, (2013), *In the Search of Urbanity, Measuring the Non-measurable*, IKI & flick studio co
- Kevin Lynch, (1960), *The image of the city*, MIT
- Vasilara A., (2013), *NON VISUAL ASPECTS OF LANDSCAPE. ODOUR LANDSCAPE*, JURNAL "SUSTAINABLE, DEVELOPMENT, CULTURE, TRADITIONS", Volume 2/2013, Syros Institute
- Queria D, Schifanella R, Aiello L-M, McLean Kate (2014), *Smelly Maps: The Digital Life of Urban Smellscapes*, Researchwigner.org
- Moles A.(1970), *L' affiche dans la societe urbaine*, ed. Dunod, Paris
- Βασιλαρά Αρχοντούλα (2010), *Σημείωση και Καταγραφή του Οσμητικού τοπίου*, Διδακτορική Διατριβή, ΕΜΠ
- Στεφάνου Ι., (1996), *Η αντιληπτική δομή του τόπου*, περιοδ.. ΑΡΧΑΙΟΛΟΓΙΑ ΕΙΔΙΚΑ ΘΕΜΑΤΑ ΠΕΡΙΒΑΛΛΟΝΤΟΣ 7ΟΥ ΕΞΑΜΗΝΟΥ. Υπαίθριοι Χώροι και Φύση στην Πόλη, Διδάσκοντες: Σ. Αυγερινού-Κολώνια, Καθ.ΕΜΠ, Α. Βασιλαρά, ΕΔΙΠ Δρ ΕΜΠ, ακαδημαϊκό έτος 2015-2017. ΆΣΚΗΣΗ: Χαρτογράφηση της οδού Αιόλου, ΣΠΟΥΔΑΣΤΙΚΕΣ ΕΡΓΑΣΙΕΣ ΤΩΝ: Αναγνωστόπουλου Α, Τιμαγένη Α, Γεωργιάδου, Μίχος, Παπαβασιίλης, Μένανδρος, Ιωαννίδης, Αλεξίου, Ανδριανός Π., Κυπραίος, Φραγκιαδάκη