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## Boundaries Between a City and Its Suburbs: the Case Study of Two Greek Cities, Volos and Larissa

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# **Boundaries between a city and its suburbs:**

## **The case study of two Greek cities, Volos and Larissa**

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It is generally accepted that there aren't any plain boundaries between a city and its suburbs. Different investments have been applied on the subject, such as that by Mills and Hamilton, or the "edge city" theory by Joel Garreau or even the "urban field" concept by Friedman and Miller. The previous theories describe the resulting space as "a thick, fuzzy boundary between rural and urban uses". On the other side, though, there are cases of cities in which the limits between them and their suburbs are clearly distinct. Resultantly, it is interesting to investigate the topological and morphological constitution of space, which occurs beyond the urban net, through the phenomenon of suburbanisation. In order to clarify the spatial morphology among urban and suburban space, two case studies in Greece will be examined, Volos and Larissa, two middle class cities, that have a different way of suburban development. Finally, through a comparative presentation of the case studies results, there will be extended conclusions that concern the contemporary Greek sub-urban space.

### **1. Introduction**

The current paper tries to investigate the existing vague landscape between urban and suburban space. It targets to read out the alphabet of space between a city and a suburb, feeling the **genius loci** existing in the area. Consequently, the paper intends to define the in-between space and study briefly its features, clarifying the circumstances and the factors that constitute space under a certain way.

The paper, also, constitutes a part of a wider research -within the bounds of my doctor of philosophy- titled as: "The phenomenon of suburbanisation in Thessaly, Greece: Typology of houses and morphology of urban space in the suburbs of Thessalian cities", in the Department of Planning and Regional Development, University of Thessaly. It should also be underlined that this paper focuses on the **apprehensive layout** basically and that it examines closer the Greek urban and suburban features.

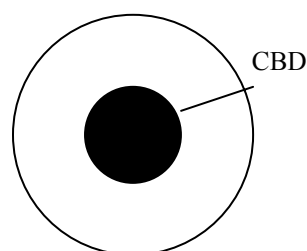
Particularly, the paper consists of three sections and has the following **structure**: In the first part are briefly introduced theories that describe the middle space between a city and its suburbs. In the second part we will have two case studies in Thessaly- Greece, Volos and Larissa, which experience the phase of suburbanisation and are representative of Greek urban reality. Finally, in the last -third- part of the paper there will be a presentation of conclusions that rise from the comparative presentation of the two case studies and helps us realize what exactly is taking place in modern Greek sub- urban reality.

## 2. Theories that describe the middle space between a city and a suburb

### Suburban space and city: different approaches

It is a fact that a fluid situation characterizes the space between a city and its suburbs. Usually, such boundaries are rather imperceptible, even if, notionally, a suburb is situated on the outline of a city. Specifically, Mills and Hamilton<sup>1</sup> describe this borderline case as “*a thick, fuzzy boundary between rural and urban uses*”. For this reason, it would be useful to define such space and analyze the landscape in between a city and a suburb.

A closer examination of the previous subject, in accordance with economic principles, shows that **economists** claim that urban development extends to that point, over which urban uses can no more push off rural uses. As a result, we meet central administration and business districts in the centre of a city, with the housing district following and finally industry being situated on the outskirts of a city. This approach is described in the following diagram (*fig.1*):



*Fig.1, diagrammatic rendering of the economists' approach*

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<sup>1</sup> Mills, Hamilton (1994), pp.147-148

Specifically, new economic geography<sup>2</sup>, as was set out by Krugman (1989), Fujita (1993) and Thisse (2000), concludes to the point that transporting cost and other geographic factors regulate the distribution of activities in space. Resultantly, enterprises prefer to be set in districts with satisfactory access to the market, usually situated on the periphery of a city.

Analyzing the previous theory, as regards the critical point between city and suburb, it is mentioned that a sense of fluidity is included. As far as the boundaries of a city are often transformed- moved in accordance with market laws (law of supply and demand), it is expected that boundaries between the city and the suburb are also changeable.

Another different **anthropocentric approach** of the subject is that one, which counts that the boundaries of a city are set out by the citizens, the human relations between them and their own theories of urban living<sup>3</sup>. It is also underlined that a city cannot be set apart from its residents. The manpower, with its activities, is the main factor that defines the city limits. In a different case we discuss about a continuous net of infrastructure and housing, without boundaries between city- suburb- rural space.

Another investment is that by Joel Garreau which insists that there is a new urban formation with special planning features, in the marginal point between a city and a suburb, called as **edge city**. The edge cities as described by Joel Garreau were first set up by the establishment of a shopping mall on a road junction. After that working places were added and of course some residencies accommodating the new working class, while we also meet the rest facilities requested for comfortable living (Garreaus' edge cities).

Apart from the previous theories, another one is that of **urban field** theory, describing the middle sub- urban space. The term of "urban field" was first introduced by John Friedman, describing a huge multicentral district with low density. The form of that district is developed by a complicate net of economic and social bindings (Metaal). Substantially, Friedman describes an endless city, without any sort of urban development limits.

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<sup>2</sup> See Πετράκος (2000), pp.299-231

<sup>3</sup> Λέφας, Siebel, Binde (2003), pp.17-21, Particularly they claim "How can we define the city?- is it its buildings, the activities within the city, the myths that surround it, the people that live in the city, or these that used to live in the city, or even the people that are going to live in it tomorrow, is it the tracing of roads, the happenings in the public space or all above together?"

Furthermore, the idea of **middle landscape**, according to Peter Rowe, concerns crucially the United States rather than Europe. In European cities, the in-between space, from the kind of high-rise to the periphery, has a structural difference: it is more homogeneous and it is not so “no-man’s land” as it is in the States<sup>4</sup>. However, there still exists the concept of an endless city, with its features carrying on to rural areas.

On the other side, though, it should be underlined that there are different cases of urban formations, clearly limited and separated from the nearby suburbs. These case studies concern cities, which can no more expand, because of the **physical bas-relief**. Rivers, mountains, lakes and other similar ground irregularities are usually the physical limits, over which a city cannot be developed. As a result, every suburban formation is shaped on the perimeter of the existing city, at a distinct distance. In substance, in such a case there is not any vague boundary between the initial city and its suburb.

### **Structures and transformations in space**

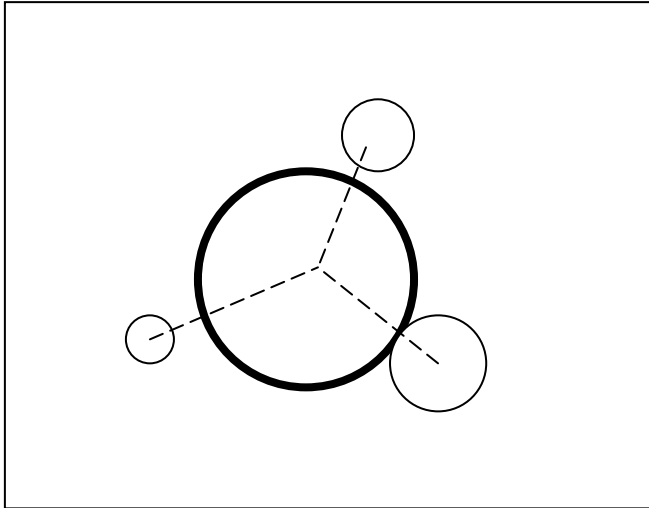
As regards the **topological layout** of space between the city and the suburb, the latter is often set up as an extension of the city. That is because shapeless urban formations are set up, by arraying new housing in space, often called as settlement. In order, though, to discuss about the pure phenomenon of suburbanization and not an expected city extension-development, these urban formations should acquire some elementary urban features. Among such features we meet the creation of a new suburban centre, the development of urban net, the connection of blocks with the existing transport net, the development tensions of tertiary functions, the existence of infrastructure, the ensuring of green spaces, as well as the improved access into the surrounding area.

Furthermore, referring to the **apprehensive layout of space**, the working out of the previous topological layout drives to the following solution:

City (*initial cell*) – suburb (*satellite-urban formation*) – binding, represented as following (*fig.2*):

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<sup>4</sup> See Αίσωπος, Σημαιοφορίδης (2001), pp.100-107



*Fig.2, City- suburb, schematic representation*

In terms of the present paper and in case of simple arraying new housing in space on the periphery of an existing city, without arrangement and interrelation, there will not be real suburbanization, but a simple expansion of the city. Finally, we realize that in order to clarify the boundaries between a city and a suburb, there should be particular terms that concern both formations, urban and suburban.

### **3. Two cross- section case studies of Thessalian region**

#### **The case study of Larissa and Volos**

In order to see in practice what exactly takes place in that vague middle landscape between a city and a suburb in Greece, we chose two representative case studies from Thessaly, Volos and Larissa, through which we will study the phenomenon of suburbanization, expecting useful conclusions for the Hellenic region.

#### **Larissa**

The elaboration of mathematical factors that assess the geometric city structure show that the phenomenon of suburbanization occurred in Larissa city the last two decades, which is from 1980 and on. Particularly, one can assume that the regions of Giannouli and Nikaia compose Larissa's suburbs at the moment (*fig.3*).

Analyzing the space structure between Larissa and its suburbs, it should be mentioned that there are two categories of space: on the one hand we meet the clearly

limited urban region on the north, east and south part of the city, while on the other hand we meet an edge city on the northwest of Larissa.

As far as the first space category is concerned there are distinct boundaries at the north part of Larissa, over which the city can no more be developed because of the Pinios river existence (*fig.4*). The river beds clarify the point up to which the urban net can be expanded and after which the suburb is shaped. The Apmelokipoi district on the north is the last clearly described (by Pinios beds) urban part of Larissa. Apart from that, on the east, the districts Agios Georgios, Lahanokipoi, Stathmos and Haravgi are the eastern city pockets, once the old national road from Athens to Thessalonica, the railway lines and the military airport area do not allow any further urban development to that direction.

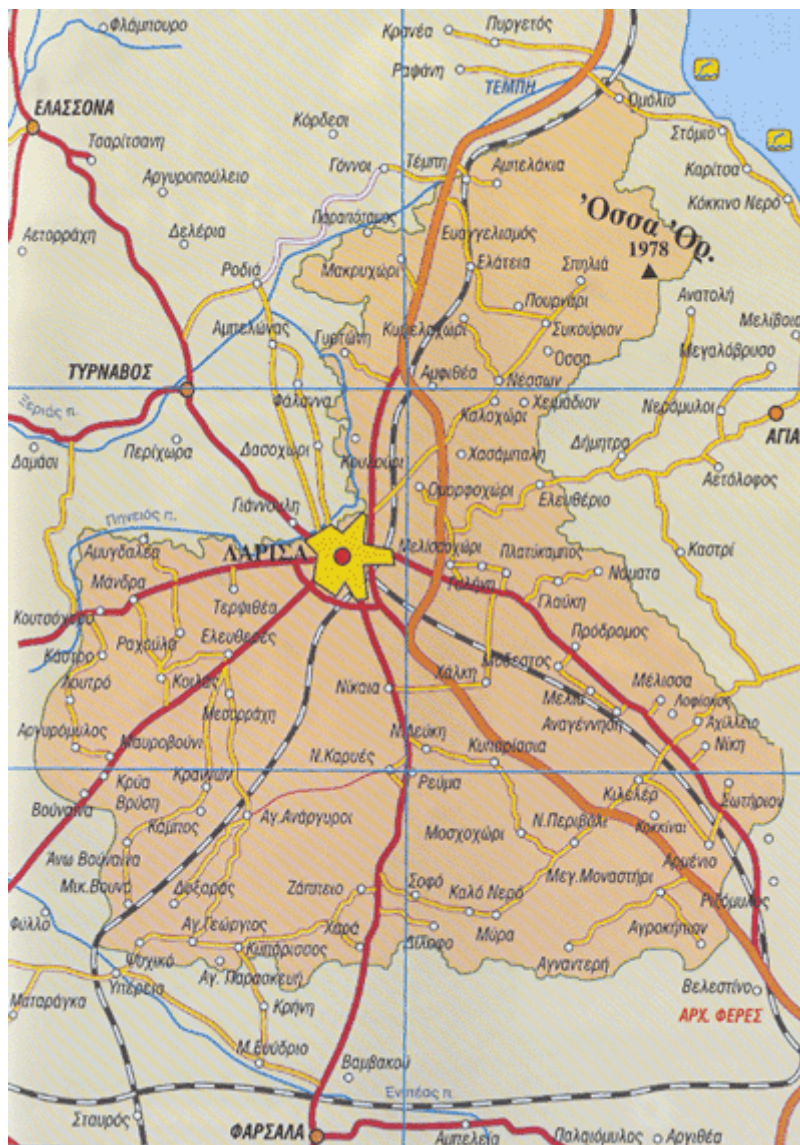


Fig.3, The city of Larissa and its nearby suburbs

On the other side, on the northwest of Larissa, where there is no physical obstacle, but the endless Thessalian plain, the city is not verified from its suburbs. Specially, the districts of Ippokratous and Papastavrou, which are parts of Larissa's urban net, are developed along Grigoriou Lampraki Avenue. This road is the one that drives to Giannouli suburb and, in real; it integrates the city of Larissa with Giannouli district (fig.5). The urban diffusion observed in this part of the city definitely goes in hand with the edge city theory, as described above.

Finally, thinking about the urban development to Nikaia's suburb on the southeast of Larissa, there is not observed any similar phenomenon as in Giannouli. Even if free space (Thessalian plain) exists in this side of the city, Nikaia's suburban net is clearly defined from Larissa's urban net (fig.6).

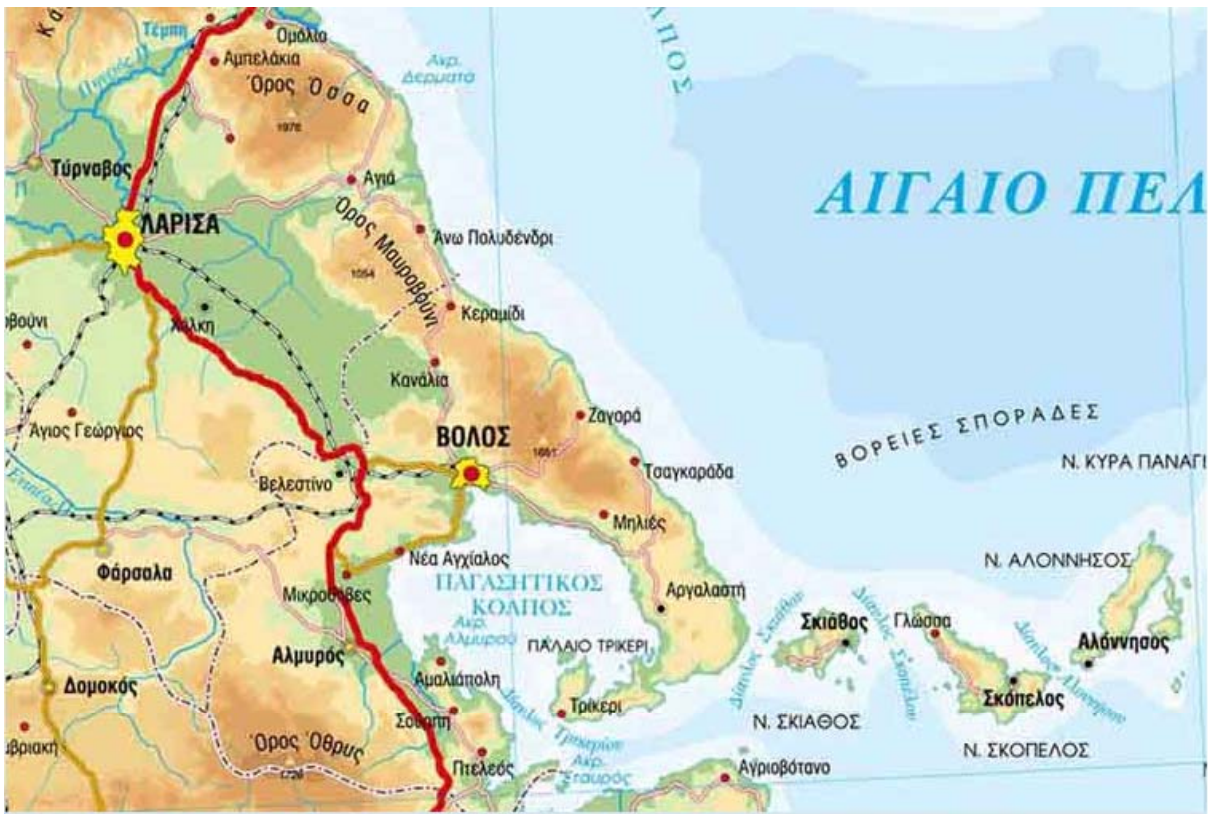


Fig.4, geophysical map of the Thessalian region



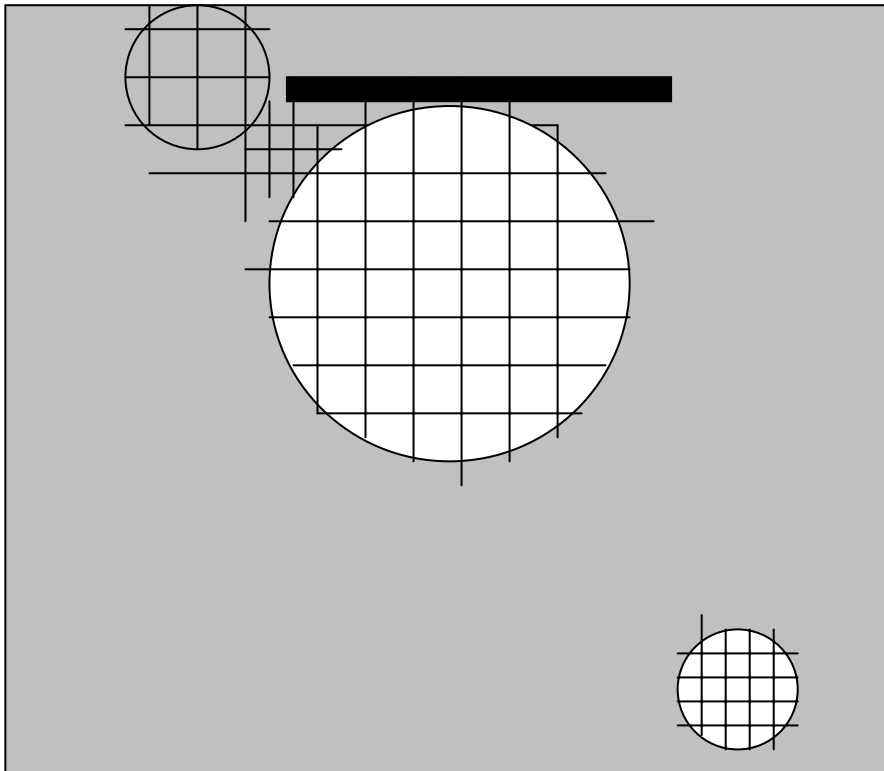
Fig.5, Giannouli's suburb



Fig.6, Nikaia's suburb



The following schematic diagram occurs when trying to represent the previous described urban and suburban actions (*fig.7*):



*Fig.7, schematic diagram of urban- suburban formations in Larissa*

Before trying to analyze the previous diagram, we should mention that Larissa is a medium sized Greek city, in which suburbanisation takes place the last two decades and is still in evolution.

Also, as regards the apprehensive layout of the city and its expansions, then we talk about an urban formation established on an empty base (Thessalian plain). The only existing physical obstacle is Pinios River on the north side of the city, which does not allow any further urban development. On the northwest side of Larissa, though, shopping malls are set up along the basic road axis that drives to Giannouli. As a result, residential and commercial uses were combined, as working places and new housing were established nearby the market place. Therefore, an edge city occurs besides Larissa city.

Thus, it should be underlined that the creation of an edge city on the northwest is totally different from the phenomenon taking place on the southeastern part of Larissa, where Nikaia suburb is situated. Over this side we meet clear boundaries between the initial city and the new suburb, even if the suburban formation was set up on an empty

base (Thessalian plain) as well. However, the economic circumstances, the geographic position of Nikaia and the residents' choices were totally different from the case study of Giannouli and as a result space was constituted in a different way.

## Volos

In reference to Volos city it should be mentioned that suburbanisation arises during the 00's and on, almost two to three decades later than the rest European cities. The districts of Ano Volos, Nees Pagases, Agria and Melissatika (*fig.8*) compose the city suburbs, a fact that is proved by using mathematic factors which assess the geometric city structure.



Fig.8, site map of Volos and the nearby suburbs

In Volos the in-between space situation is different from that in Larissa. Specifically, the physical bas-relief does not allow a boundless urban development to every side of the city. The Mount Pelion on the east of Volos is one of the most important physical obstacles which limit clearly the urban net. Thus, the suburb of Ano Volos is distinctly apart from the city, once every single house is situated on inclined ground, with the equivalent internal tidying up and the according sight to Pagasitikos gulf. Something similar is met on the northwest side of Volos, where Melissatika suburb is situated (*fig.9*). This settlement is also perched on the hill of the district and has similar morphological features to Ano Volos suburb.



*Fig.9, the suburb of Melissatika perched on the hill*

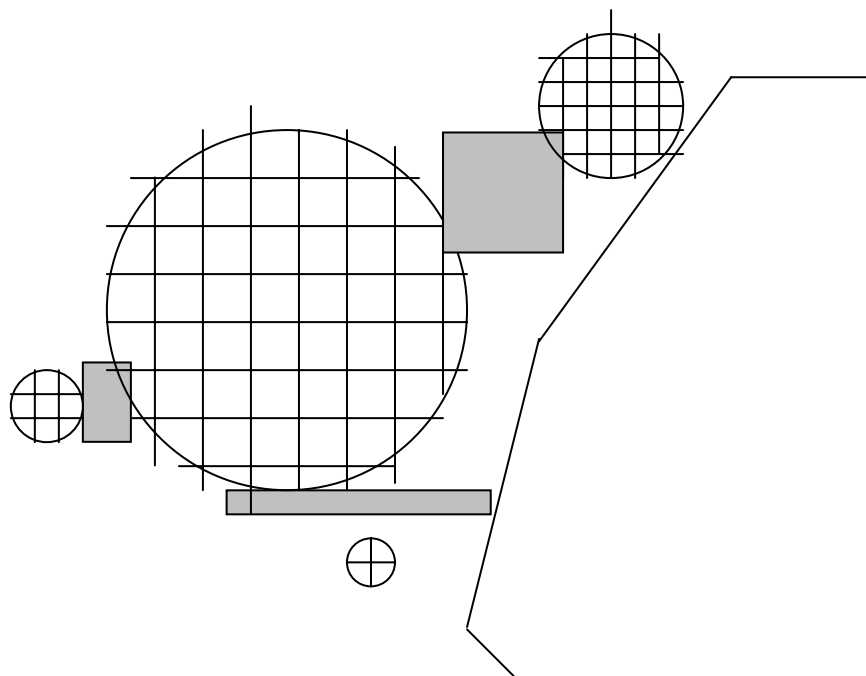
Furthermore, the Bourboulithra gorge as well as Pefkakia hill on the southeast of Volos limit the urban development to that side. This is why the districts of Nees Pagases (Alykes) and Agios Stefanos (Soros) are situated quite far from the last boundaries of Volos, shaping though two important suburban regions (*fig.10*).

Besides, we meet distinct boundaries also on the eastern side of the city, where Agria is established. The Goritsa hill is the next physical obstacle which inhibits the city expansion even to that direction. As a result, the district of Agria is totally apart from the tight city limits.



*Fig.10, the suburbs of Agios Stefanos and Nees Pagases*

Resuming the features of middle landscape between Volos and its suburbs, one could claim that space is perceivably organized, which schematic is given in the following way (*fig.11*):



*Fig. 11, schematic diagram of urban- suburban formations in Volos*

Consequently, Volos is a medium sized city, in which suburbanisation is taking place – in an initial phase though- and where physical obstacles in space do not allow an unlimited urban development. So, there is an initial core (Volos) with new suburban formations set up around it, just like satellites, smaller and less developed than the main city. Conceptually, also, the urban space is clearly bounded from the suburbs, without any vague points in space.

### **Concluding remarks**

1. The comparative presentation of the two case studies from the Thessalian region shows that there are two main categories of space boundaries: a. plain boundaries and b. vague boundaries. In the second case, the concept of “boundary” declines its original meaning, once we discuss about a diffused city, which is continuously developed and expanded.
2. Consequently, one can claim that a city is clearly bounded when the physical bas-relief imposes such a configuration (i.e. in case there are hills, mountains, rivers, lakes etc), which inhibits the city expansion. In a different case, when the initial city is situated in a plain and there are not any physical obstacles that contain the urban development, then vague landscapes may arise, usually characterized as edge city, diffused city etc.
3. Usually the intensive bas-relief of Greece bounds clearly the cities from their suburbs (for example Volos). However, there are other cases where we meet the diffused city formation (Larissa for instance), as shown from the comparison of the two Thessalian cities.
4. Comparing the two suburbs of Larissa, Giannouli and Nikaia, we conclude that the existence of plentiful free space around a city is not enough in order to be established a diffused city. On the contrary, it is necessary to co-exist the according economic and planning development circumstances, under which a vague landscape is set up, describing the intermediate space between the initial city and its suburb.

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