

Roof Pattern as a Characteristic Architectural Element for Urban-Rural Classification of Greek Settlements

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Key words: Rural, architecture, settlement, roof pattern, classification.

SUMMARY

In Greece, the primer differentiation between rural and urban architecture, continues to demonstrate the early twenties debate that postulated detached houses for the first and apartment buildings for the second.

In fact, rural architecture in Greece is stamped by the grouping of detached houses in small villages with population under 2000 inhabitants, in a distance between each other of 4 to 6 km, providing vernacular architectural elements for each settlement's "microstructure" (houses typology). In concern with the representation of the "macrostructure" of settlements, the primer differentiation results from the roofing pattern and the density of the buildings.

The topic of rural housing pattern and its "macrostructure" representation is surveyed in the case study of two island's settlements, in order to evaluate the state of rural and traditional architecture, in respect of the reevaluation of the urban-rural relationship.

The used empirical methodology that involves evolutionary theory concerning vernacular architecture, classifies the built environment according to geographical regions, in order to define typological differences. In Greece, settlements with population under 2000 inhabitants, were classified in categories according to a legislation of the eighties, by the evaluation of five criteria (position, architectural interest, dispersion, population growth and size). The same legislation provides the definition of a dominant architectural type for each settlement, in order to specify its building standards.

The case studies on the surveyed islands (in the Aegean sea), elaborates a classification of rural settlements according to roof patterns, which has been developed for a long period of time, from Byzantium to nowadays .

The morphological element of roofing pattern project each settlement's "macro-structure", and its differentiation throughout the historical evolution of each micro-regions.

Neoclassicism (pitched roofs) influenced prosper territories even in areas with plane roofs tradition and stamped the urban intention in some areas.

The architectural characteristics of settlements in rural Greece vary depending on the geographic region and the historical period of origin of each settlement. Dominant

architectural characteristic for their classification is the roof pattern (plane or pitched) that appears in the environment. The settlements that existed before the year 1923, (chronology of the constitution of the territorial extent of modern Greek state), are distinguished initially in the settlements of continental Greece, where the pitched roof pattern dominates and in the settlements of the Aegean Sea islands, where plane roof pattern dominates.

Contrary to the existing situation, at the early 20th century, the building and urbanization patterns developed building concentration in blocks of flats and led most urban settlements to the adoption of multi-floors buildings with plane roofs, in areas where the architectural patterns by the end of 19th century had established the neoclassical values and the one or two floor buildings with pitched roofs. In rural areas as the surveyed cases studies of two islands in the center of Aegean Sea, imitation of urbanization's pattern inserted pitched roofs in villages where tradition preserved plane roofs.

Aiming in the aesthetic upgrade of the appearance that each settlement project in the environment, the modern legislation framework formulates building regulations, valuing the uniqueness and identity of each settlement. For this purpose, the historical origin of each settlement is investigated and the dominant roof pattern is described. Due to the fact that the Greek settlements were founded in different historical periods (Byzantine, Frankish rule, Ottoman domination and modern era) and were influenced particularly by migrations of populations, they present variety of architectural elements, that often diversify neighboring settlements, even neighborhoods of the same settlement.

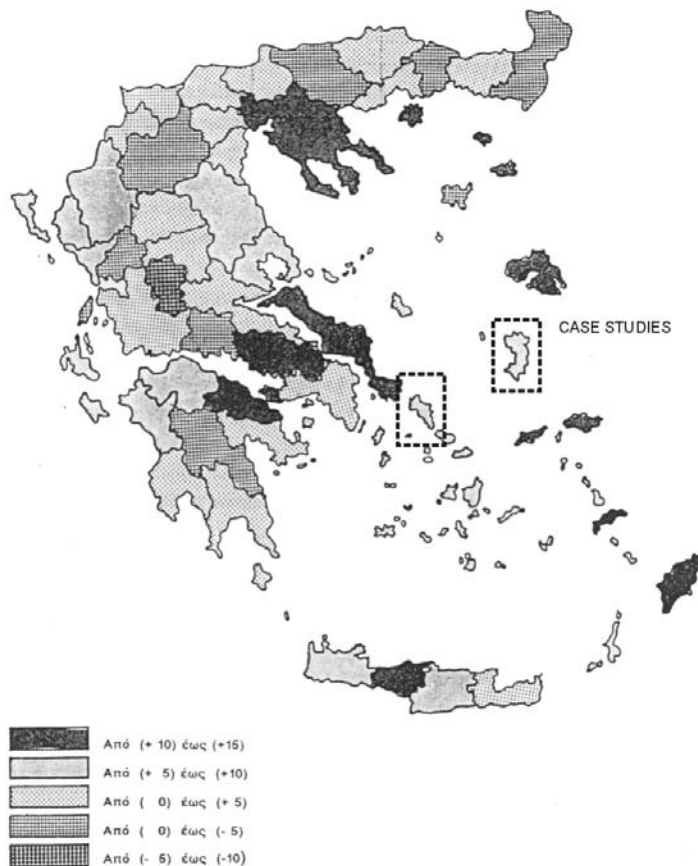
Roof Pattern as a Characteristic Architectural Element for Urban-Rural Classification of Greek Settlements

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1. INTRODUCTION

The evolutionary theory¹ concerning vernacular architecture, classifies the built environment according to geographical regions, in order to define typological differences. In Greece, settlements with population under 2000 inhabitants, were classified in categories according to a legislation of the eighties, by the evaluation of five criteria (position, architectural interest, dispersion, population growth and size). The same legislation provides the definition of a dominant architectural type for each settlement, in order to specify its building standards.

The cases studies of Chios and Andros islands (on the Aegean sea), elaborate an architectural survey for its rural settlements, which has been developed in a long period of time, from Byzantium to nowadays. Both islands present a positive population variation the last decade.



¹ Oliver P., ENC. OF VERNACULAR ARCHITECTURE OF THE WORLD, Cambridge Un.Press, Cambridge, 1997.

The morphological element of roofing pattern which is the characterizing element of each settlement's "macro-structure", and its differentiation throughout the historical evolution of each geographical region of each island, is evaluated. On these islands, the 98% of the population is living in settlements with population inferior to 2000 inhabitants, meaning that the 98% of the population is counted as rural.

2. CHIOS ISLAND

Rural population inhabits 106 settlements. From these 106 settlements the 25% is located at an altitude over 500m., 18% is located between 350 and 500m. of altitude, 30% is located between 150 and 350m. and 27% is located on the seashore, under 150m of altitude. The 50,3% of these settlements has a population under 500 inhab., 49% between 500 and 1500inhab. and only 0,7% of the population between 1500 and 2000 inhab.

The geomorphology of the island defines three major groups of settlements: one group includes the settlements of the northern part of the island, another the settlements of the central part and a third group, includes the settlements of the southern part. Each group is also divided in distinct zones. The geo-morphology describes high altitudes on the north, medium to the center and lower to the south.

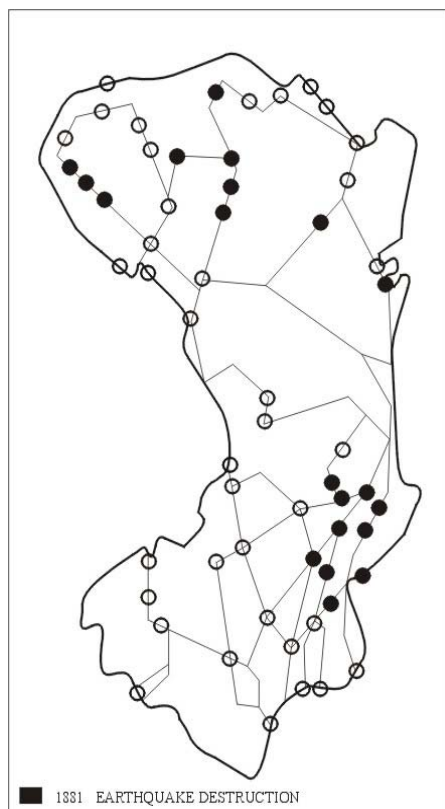
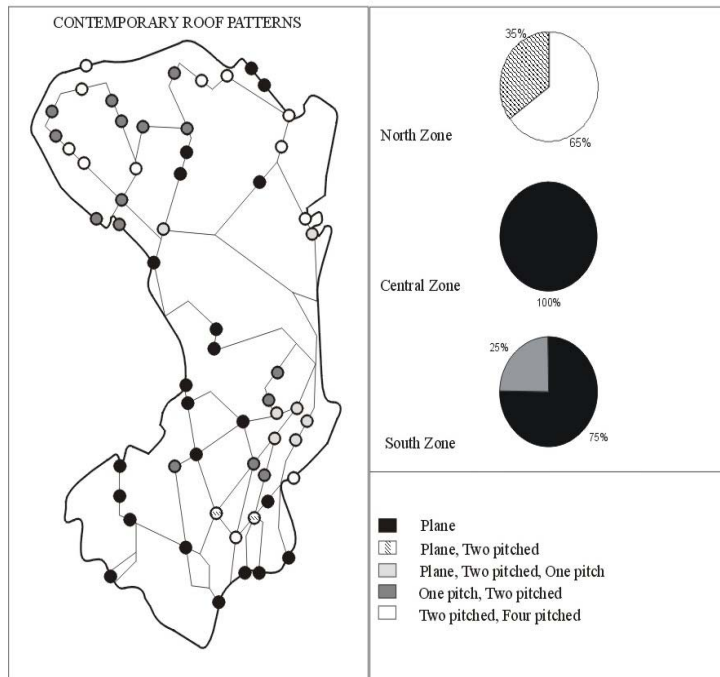
The oldest maps of Chios island come from travelers, from Chr. Buondelmontius (1470) and from A. Thevet (1575), showing the built areas.

From bibliography we know that at least ten sites were populated during the late Byzantine era (1100-1346). During the Genoan occupation (1346-1566), most of the settlements of the southern part were created, the villages for the production of gum the "mastichohoria". The settlements of the east part of the central zone were created mostly during the turc occupation (1566-1912). The 19th century was a disaster for Chios island, due to the turc massacre (1828) and the earthquakes (1881) that contributed to the abandonment of the island. After 1912, many Greek refugees from the near sea shore of Asia Minor, settled on Chios island including the northern part of the island, on sites where ruins of the past were still present. After the Second World War, as a result of the development of tourism, many new settlements are rising along the beautiful coasts of Chios island.

These rural settlements present great architectural diversity, according to the different geographical unity and the historical period of their origin. The representation is diversified, due to the roof pattern of the houses:

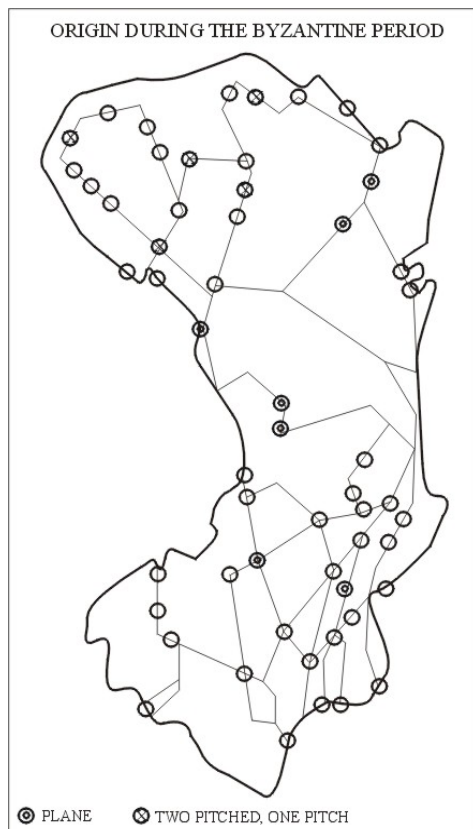
- Settlements with one diversity: *plane rooftop* houses
- Settlements with two roof patterns, three diversities:
 - *plane roof top* houses and *roof with two pitch* houses
 - *one pitch* houses and *two pitch* houses
 - *two pitch* houses and *four pitch* houses

- Settlements with three roof patterns, one diversity:
 - *plane roof top houses, roof with one pitch houses and roof with two pitch houses*

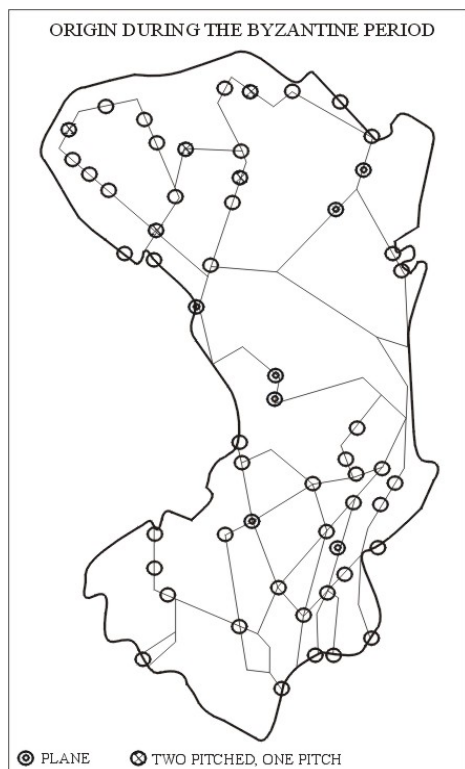
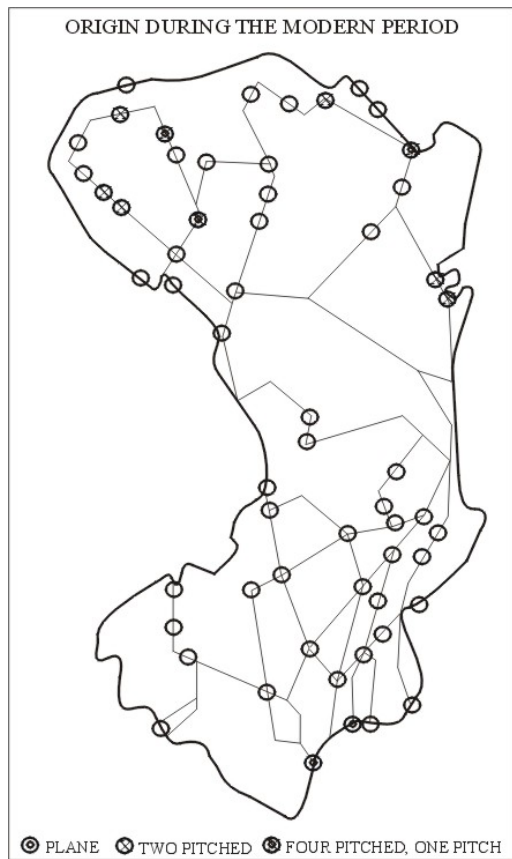


The result of this classification proved some general diversification between the geographical groups of rural settlements.

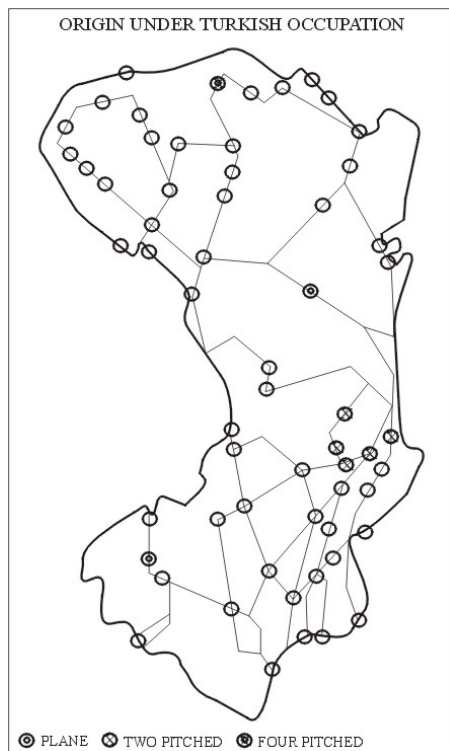
- The 75% of the southern part settlements has houses with plane roofs, 15% combines houses with plane roof and roof with one pitch and 10% combines roofs with one or two pitch
- On the central part, 100% of the houses has plane roofs. On the west central settlements and on the eastern central settlements, there is a combination of houses with plane roof and houses with one or two pitch.
- On the northern part, 65% of the houses have tiled roofs with two or four pitch and the rest 35% combines plane roof and roof with two pitch.



- Roofs with one or two pitch and a small incline without tiles, are seen in many settlements of the southern part. It is presumed that they are replaced roofs on destroyed by earthquake houses.
- Plane roof combined with one or two tiled pitch with a 30% incline, are present on the northern part of the island which has been repopulated after the First World War.

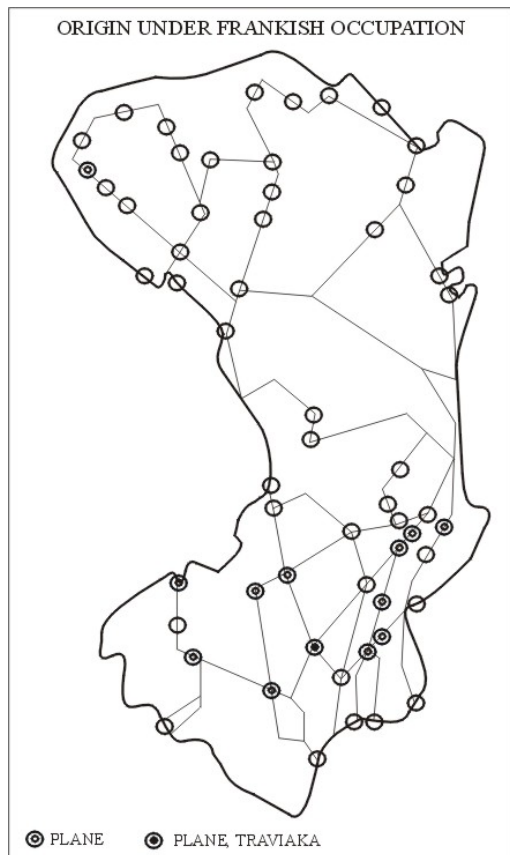


- The plane roof is dominating in the oldest settlements, having its origin on the Byzantium. It is represented by Anavatos and Aygonyma on the western central part and by Pirgi, Olibi, Vessa, Lithi on the southern part of the island.



- Roofs with one or two tiled pitch with a 15% incline, are found on the central zone and concerns houses rebuild after the earthquake of 1881.
- Plane roofs with combination of one, two or four tiled pitch are apparent on many new settlements along the seashore.

The characteristic of roof pattern, has a close relation to the form and the size of plots. In the old settlements the building pattern is stronghold and the plane roof is used as a terrace and communication between houses. In the new settlements the pattern is loose and the houses have yards around.



3. ANDROS ISLAND

Rural population inhabits 74 settlements settled around four modern coastal towns, which function as centers of services. From these 74 settlements the 5% is located at an altitude over 500m., 83% is located between 350 and 500m. of altitude, 7% is located between 150 and 350m. and 5% is located along the seashore, under 150m at an altitude, meaning that the majority of these settlements are on an altitude from the seashore. The 70% of these settlements has a population under 500 inhab. and the 33% presents positive population variation .

The geomorphology of the island defines three major groups of settlements: one group includes the settlements of the northern part of the island, another the settlements of the central part and a third group, includes the settlements of the southern part. Each group is also divided in distinct zones. The geomorphology describes high altitudes on the north, medium to the center and high again to the south.

The oldest maps of Andros island are coming from travelers, from Chr. Buondelmontius 1482, showing built areas on the high lands. From bibliography we know that the island was populated during the late Byzantine era (933-1207) century, mostly in the central area of the island and it was already divided in three administration districts . During the Venetian occupation 1247-1566, most of the settlements of the northern part were created by Albanian

settlers. Between 1364-1413 were created some of the settlements of the southern part, with Greek speaking settlers from the north of Greece. During the turc occupation 1566-1834, was establish the existing until today pattern of settlements. The 19th found Andros well established, with a prosper economy due to the shipping industry. After 1912, some Greek refugees from Asia Minor, settled in the villages of Andros and created two new settlements. After the Second war, as a result of the development of tourism, many new settlements are rising along the beautiful coasts of Andros island.

These settlements present architectural diversity, according to the different geographical unity and the historical period of their origin. In many cases there is diversity between the neighborhoods of a settlement due to the diverse historical origin. Interest present the language diversity between the three parts of the island, proving the different origin of the people (Albanians, Greeks from north Greece and Greeks from southern Greece).

The representation is diversified due to the roof pattern of the houses:

- Settlements with one diversity: *plane rooftop* houses
- Settlements with *pitched roof* patterns.

The result of this classification proved some general diversification between the geographical groups of rural settlements.

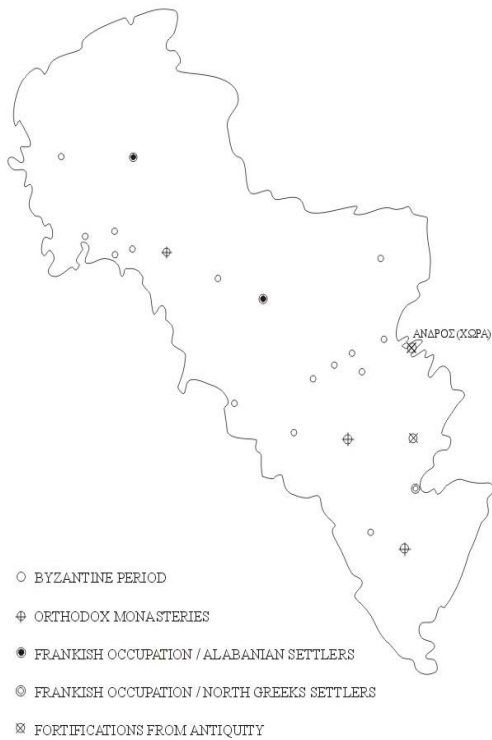
- The 70% of the settlements, has houses with plane roofs.
- The 30% of the settlements with pitched roof pattern, is located in the central zone and in the few seashore settlements.

The historical analysis proved more enlightening.

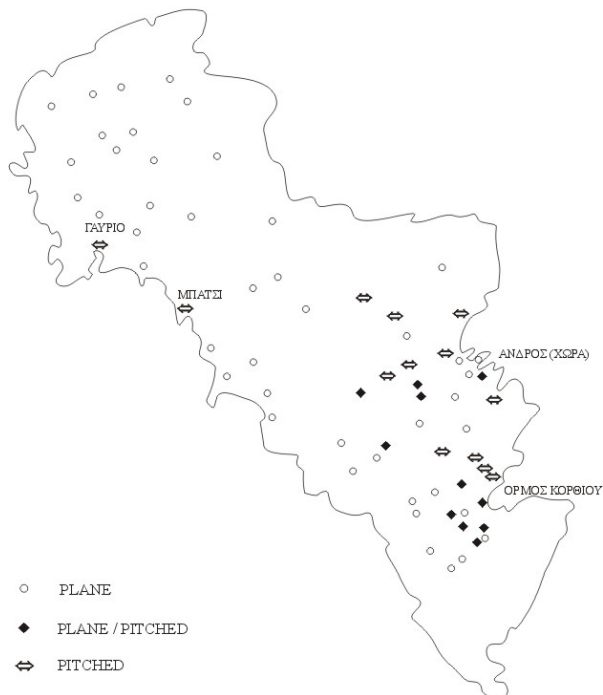
- The plane roof is dominating in the oldest settlements, having its origin on the Byzantine era.
- Combination of pitched and plane roof pattern is found in the “city” of Andros and the three seashore ports, which was developed during the shipping industry period, at the end of 18th century (neoclassicism).
- Roofs with pitched roof pattern are located in some settlements of the central high land area, which developed during the last century that followed the neoclassical period.

There is also diversity between settlements with stronghold building pattern and settlements with loose pattern. The high land settlements of the northern part of the island have very loose pattern. In fact, there is farm land surrounding every house in contrast with the southern part where the settlements are stronghold.

HISTORICAL ORIGIN



CONTEMPORARY ROOF PATTERNS



Every rural settlement has its own unique architecture, as a result of historical factors and conditions² of geomorphology, that we have to take in to account for planning its evolution³, according to each and such diversity.

Speaking about rural versus urban architecture, in the scale of an island⁴, there is still diversified architectural patterns, resulting from the historical factors of the last century, when early urbanization⁵ patterns (neoclassicism) influenced architecture.

Rural: loose pattern and detached houses covered with plane roofs

Urban (from the point of view of services and activities)influence: Stronghold pattern houses covered with pitched roofs.

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² Richard Coyne, TECHNOROMANTISM, MIT press, Cambridge, 1999, p.264.

³ Mobility and need for urbanization (concentration) versus sendatarity and need for individuality (decentralization), central idea of Alain Garnier, LES NOUVELLES CITES DORTOIRS, Presses Polytechniques Romandes, Lausanne, 1984, p.

⁴ The contrary happened on the settlements of north Greece, where late urbanisation provoke plane roofs, for the rural settlements according to Julia Theodoraki-Patsi, RURALES SETTLEMENTS , Serres case study, doctoral disertation, NTUA, Athens, 1997, p.146.

⁵ Dimitris Filippidis, NEOELLINIKI ARCHITECTONIKI, Melissa, Athens, 1984, p.98.

BIOGRAPHICAL NOTES

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