ONLINE ISSN 2069-7430
ISSN-L 1841-4737
PRO LIGNO
www.proligno.ro
Vol. 11 N° 4 2015
pp. 580-587

MATERIAL UTILISATION PATTERNS IN HISTORICAL - SOCIAL CONTEXT REGARDING THE RURAL BUILT ENVIRONMENT OF THE SUBCARPATHIAN AREA, ROMANIA

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Abstract

Rural vernacular architecture represents an important social-cultural and identity indicator mainly because/due to its lack of an architect; its realisation according to the owner's aesthetic feel/individuality; its reflection of the social status of the inhabitant; its protean nature, being able to adapt rapidly to the social context and mainly to the cultural progress / development but also to the needs of the owner, sometimes, becoming the creative source concerning parallel functional systems.

The study embraces the evolution of the rural homestead starting from the 30s in the 19th century (the first modern systematisation of Romanian villages) until present times.

In this research important elements are considered, which constitute strong social-cultural and identity indicators: housing position in relation to the road; house typologies; main façade position in relation to the road and the cardinal points; the structure of the foundation, walls, ceiling and roof. This approach has facilitated the relievence of a series of material utilisation patterns.

These are significantly reflected in the rural vernacular architecture of southern Romania, offering a large variety of information regarding the constructive capacity.

Key words: *rural vernacular architecture; material utilisation patterns; historical - social context.*

INTRODUCTION

The way of living that vernacular architecture generates is respectful to its natural surroundings and its inhabitants; which create together a rich community with traditions and cultural values that can be a clear resource for restoring local cultural identity. *"The farmer has a unique sense of space and fits his house just after his material and spiritual needs. Peasants adapt their home to climate and local materials. Farmers have solved the problem of their architecture."* (Cantacuzino, 1977).

This subject has been in the center of the specialists' interest in the last 5-10 years: a growing concern towards the environmental impact, sustainability, experiments with new prototypes and ways of living adjusted to the more complex and diverse needs of modern society. The term *vernacular architecture* entered the Romanian specialized literature quite recently. It can be said that to a great extent, this subject was included into what is now called *folk architecture*. The first writings concerning vernacular architecture can be dated in the middle of the 20th century in 1964, when the Moravian-born American architect Bernard Rudofsky publishes his statement book entitled "*Architecture without Architects*". This meant not only the introduction of a new term, but also a new vision and understanding of particular, local indigenous architectural forms: "Vernacular architecture does not go through fashion cycles. It is nearly immutable, since it serves its purpose to perfection. As a rule, the origin of indigenous building forms and construction methods is lost in the distant past." (Rudofsky, 1964).

The specific local building methods, materials and techniques used in each particular rural area turn vernacular architecture into an identity symbol and rich ethnographic evidence concerning rural technologies and ways of life in the countryside (Fuentes 2010). The traditional village house is a true fabric of space links (Mitrache 2008) and the household, a place for daily rural activities.

The abandonment of vernacular building methods in the process of building production was first realized by using abundant concrete and reinforced concrete instead of stone and wood which were the vernacular structural materials (Nilhan 2007). We should be aware that vernacular architecture sets an example of harmony between dwellings and the natural landscape (Manoj, Sadhan, 2009). Therefore, the use of more sustainable construction materials and techniques represent a more sustainable development (Niroumand 2013), the re-interpretation of contextual values (Ozgur 2007) and traditional building or furnishing concepts in a contemporary key can assure a condition of visual comfort regarding external/internal spaces (Ruggiero 2009).

Rural vernacular architecture represents an important social-cultural and identity indicator mainly because/due to its lack of an architect; its realisation according to the owner's aesthetic feel/individuality; its reflection of the social status of the inhabitant; its protean nature, being able to adapt rapidly to the social context and mainly to the cultural progress / development but also to the needs of the owner, sometimes, becoming the creative source concerning parallel functional systems.

OBJECTIVE

The main objective of the present research was to investigate the evolution of the rural household according to the historical and social changes starting at the beginning of the XIXth century to the present. In this research are considered important elements, which constitute strong social-cultural and identity indicators: housing position in relation to the road; house typologies; main façade position in relation to the road and the cardinal points; the structure of the foundation, walls, ceiling and roof. This approach has facilitated the relievence of a series of material utilisation patterns.

MATERIAL, METHOD, EQUIPMENT

The traditional household, from the South Carpathian area of Romania, has witnessed many changes over time. Current form and structure have their origins in the early 19th century when a new organization of villages was ordered by "aligning the constructions". This meant placing the houses on a predefined fireplace by the local and central authorities.

Before aligning the households in the area, these were scattered and dispersed through meadows and forests, away from one another. Testimonies to this day are the toponyms: Galatia Clearing, Zafii, Hoaga Năndrăşoii, Pătru's Peak and Pană's Peak, Mălăişte, Hogioaia, Prunii Uţii etc.

From a structural point of view this type of household was different from the one currently known. A striking difference is due to the lack of fences imposed, on the one hand, by the fact that the households do not require defense; in a clearing only one family placed its household and all its space was for their disposal and delineation was done naturally. On the other hand, there were periods when fencing taxes were applied (Xenopol 1896).

On the 20th of June, 1834, the village jury of Stroeşti - Argeş confirmed the receipt of a commandment to build the house counsel *"after the form that we have, also for the other villagers to align their houses; after the command, we will truthfully follow*" (Leonăchescu – Năndraşu 1971). It seems that this "*truthfully follow*" has a relative content and residents resisted the aligning of the houses, forwarding complaints to local and central authorities. Also there was applied a continuous pressure on the villagers in the aim of achieving this systematization of villages (Olărescu 2012 b).

Gradually the resistance of residents against the alignment was beaten, on September 6th, 1837 for the *Plasa Arges* (territorial and administrative subunit of the county), a list of all houses was established "*that were aligned, measured from this territorial unit*" (Leonăchescu – Năndraşu 2000). This list shows that a total of 258 houses were moved from 24 villages. Comparing the Census from 1838 [13] for the village of Stroesti and Costeşti - Vâlsan (Ungureni and Pământeni) resulted that 22% and 15% of households were displaced due to the introduction of the alignment.

The displacement of the household brutally intervened in the human's way of life, determining one to sought ways of defense: by building fences to protect its property and privacy; building the household in the most remote area far from the road, as a reminiscent of the need for protection / isolation of the inhabitants. The aligning of villages represented a first step in systematizing the rural areas but did not solve the problems of the inhabitants, especially of those who depended on large landowners (Olărescu 2012 a).

Meanwhile, conditions and social relations have changed (land reform - Rural Act of 1864, gaining independence - in 1877, the establishment of the kingdom) in the period between 1887 - 1888, the General Direction of Health Services conducted a national analysis that found that "*our villager's house ... from a hygienic point of view leaves much to be desired*." Therefore, the "*Rules for aligning villages and construction of farmhouses – their hygiene and sanitation*" were established. This regulation was accompanied by two model-plans concerning the construction of the house.

Regulation and related plans were approved in final form on September 6th 1888 and then lithographed "*in a sufficient number and on the expense of the ministry, to be distributed to all municipalities in the country.*" On March 1st, 1889 these were sent to the prefects with a circular which stated their immediate application. According to this regulation there were allowed three types of house constructions depending on the area: "*in the plain, brick constructions and fence plastered with lime were allowed; in the hilly area, brick, wooden beams and fence plastered with lime were admitted; in the mountainous Rustic brick or stone and fence plastered with lime"* (Fig.1).

Although some measures were not applied fairly, in time it came to structuring the household after the classical scheme: the main house, small house (for servants and / or elderly people) and summer kitchen in the first court; haystack, winery, henhouse in the second yard (back yard - yard cattle); manure storage and the toilet in the garden. These functional models persisted and improved continuously.

In the first half of the 20th century the systematization of villages was based on the concept of Dimitrie Gusti and the school established by him. This included investigating the life and organization of rural society through modern techniques, applied by specialists in various fields, achieving a general radiography of the situation and proposing appropriate solutions thereof. This culminated in the systematic design and construction of model-villages (Eliade 2008).

Rules for aligning villages and construction of farmhouses – their hygiene and sanitation, 1888
a) House should have windows facing south, east or west;
b) The main/side facade should be facing the street, not the back of the house;
c) A distance of at least 4 m should be preserved from the road ditches;
d) The width of the street should remain 10 meters respecting art. 7 of road law;
e) There should be plastered and whitewashed on the outside, plastering with earth not being allowed outside/inside/room floor;
f) The height of the house will be after the owner's will; but the rooms will have a height of at least three meters;
g) Every room will have two windows of 1 m high, 20 centimeters wide by 80 centimeters; with mobile windows sash;
h) The room shall be paved with planks or well burnt brick, with stoves having doors inside and chimney that emerges above the ridge of the house with at least 30 cm;
i) The house will contain at least two rooms: one on the right and one on the left, a room in the middle, for the kitchen; the pantry will not be inside. One room and kitchen will be permitted only for families consisting of a men and a women;
j) The room space will be at least 20 square meters; the porch no less than 2 m wide;
k) The materials used for the roof of the house will be iron, tiles, shingles or cane, cobs not being allowed. "

Fig. 1.
Rules for aligning villages and construction of farmhouses,
their hygiene and sanitation, 1888

The Romanian rural world was marked at the end of World War II by a large and painful campaign of social engineering: the collectivization of agriculture. The stated aim of this campaign was to modernize Romanian agriculture to ensure higher efficiency and a higher standard of living. The real goal was the introduction of socialist structures and control, directly by the communist party of the peasantry (about 75% of the population). The transformation strategy of the communist authorities of the rural population was based on the division of social solidarity and the breaking of peasant communities by introducing the principle of class struggle (Tismăneanu et al. 2007; Giurescu and Ştefănescu 2010).

The preamble of collectivization was the introduction of forced and unavoidable food and feed collection, as laid down by the state according to social inclusion and paid underpriced, compared to the free market (5% of the free market price for potatoes and 6.6% for beans in 1950) during 1945-1949. The collectivization process took place from 1949 to 1962 being divided into several stages each with its specific character (Tismăneanu et al. 2007; Giurescu and Ştefănescu 2010).

The issue of rural systematization was approached in the National Conference on 6th- 8th of December 1967 and developed within the Xth edition of the Congress in 1969. Within the National Conference in July 19th – 21st, 1972, resumes this problem with the assumption of achieving „300-350" after the systematization of villages. The Plenary of the Central Committee on 25th – 26th of March

1974, analyzed the systematization law of territory and localities adopted by the Grand National Assembly the same year on October 29th. This predicted the construction of civic centers – placed in the center of each administrative village unit; established building perimeters of villages with development perspectives and demolished constructions outside of this perimeter; the disappearance of small villages, which involved the relocation of their residents in the preserved villages. The law prohibited the construction or repair of buildings in areas doomed to be demolished. A project of radical transformation of a large part of the country required a long period of training and resource mobilization. The earthquake on March 4th, 1977 served as a catalyst for this project, becoming the subject of repeated interventions on the behalf of the Romanian Communist Party (PCR) leadership (Tismăneanu et al. 2007; Giurescu and Ştefănescu 2010).

In 1986, the Organizational Department report of PCR shows regarding the "*systematization of localities based on standard dimensioning of land within the building perimeters*" in which it was expected that of the 13 123 existing villages shall be maintained only 9192 the 3931 remaining being "*proposed for decommissioning and removal in other localities with higher prospects of social - economic development*". This measure affected all counties, but in a different manner: the most affected were, Alba with 264 villages proposed for demolition, than Arges with 252, Bacau with 237, Valcea with 222 and Prahova with 206; the lesser affected were Maramures with 15 villages, Braila with 19, Brasov, Bistrita - Nasaud with 20, Covasna with 23, Satu Mare and Sibiu with 25. This systematization sought to reduce the inhabitable perimeters of existing villages from 625 258 to 285 839 hectares occupied, thus recovering for agriculture 339 419 hectares of land. Basically, all villages were affected, while remaining outside the newly proposed inhabitable perimeters, 1,863,417 households having to be "displaced" (Tismăneanu et al. 2007; Giurescu and Ştefănescu 2010).

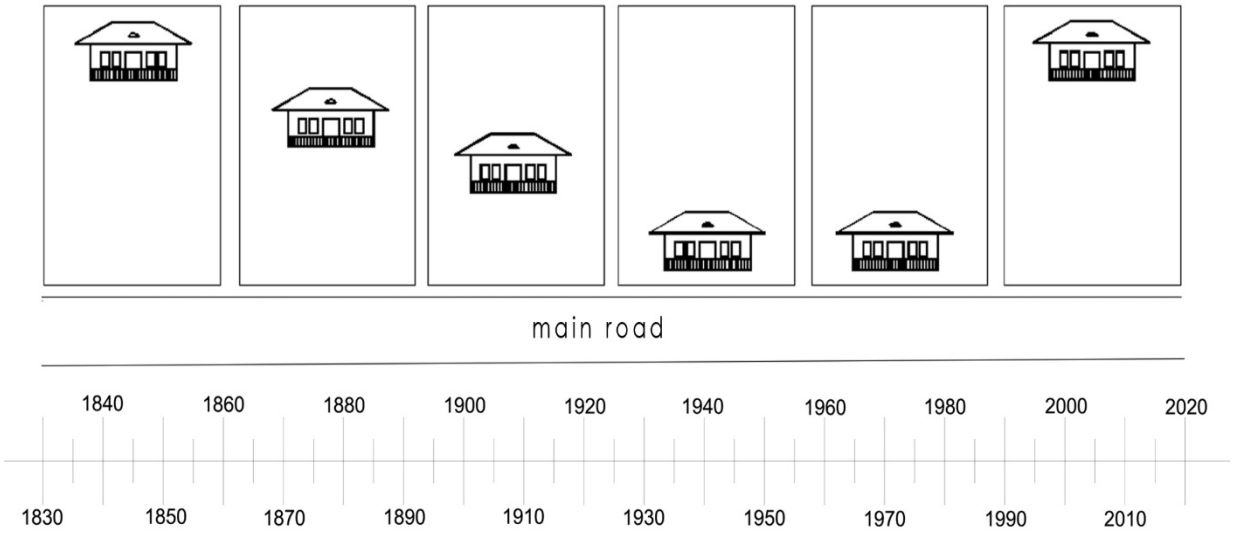

Fig. 2.
House position in relation to the main road

Based on documentation on site, in this research are considered important elements, which constitute important social-cultural and identity indicators: housing position in relation to the road; house typologies; main façade position in relation to the road and the cardinal points; the structure of the foundation, walls, ceiling and roof.

RESULTS AND DISCUSIONS

The placement of components in the household is based on functional units. The site selection for the house and its orientation regarding the main directions and cardinal axes north - south and east - west and facing south, denotes the spiritual archaic relationship after which the dwelling is considered *imago mundi* and also brings functional benefits (the house benefits of light and solar radiation energy in any season). This orientation was maintained even until the 50s, the 50-80s have sought a compromised solution, the need of the house's main facade facing the street but in the same time being oriented to south. In the 90s and beyond, the orientation of the main façade was exclusively towards the street, compromising natural solar lighting.

The positioning of the home in the space of the household denotes a collective mental development. In the first phase, after the alignment of constructions, the house sat in the furthest area of the plot and the main road, as reminiscent of the need for isolation / protection of residents from danger. In the 30s of the 20th century, houses were set close to the road, as result of the disappearance of the need for isolation / protection, the increasing population density and the need of displaying their economic status (Fig. 2).

The situation was maintained after 1945, when the position of the houses in the households was predetermined by the authority, without regard to the will of the owner. This stage lasted until the late 90's, with a peak in the '70s. Currently the trend is placing the house further from the main access of the plot, as a defence against the intrusion of public space into the private one.

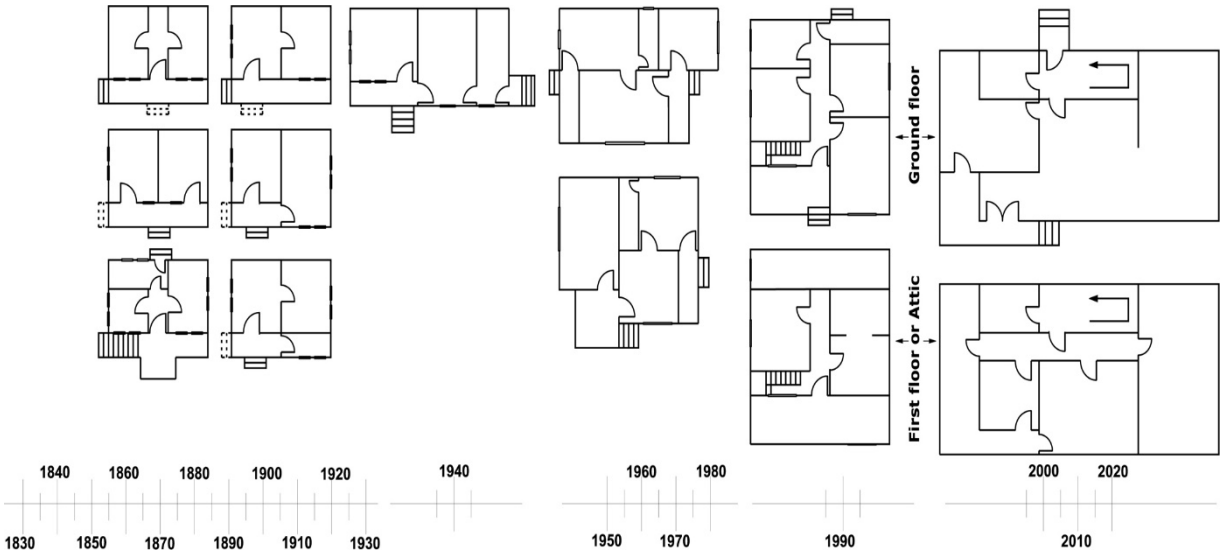

Fig. 3.
Evolution of local house structure

Regarding the structure and composition of houses until the 1930s, classic types of structure prevailed, developed, the porch and turret occupying a large proportion. In this period buildings are distinguished by narrow and high windows separated by narrow wall portions. The material for the wall structure mostly consists of solid wood plastered with mortar and for the foundations river stone was used. The roof is usually hipped and covered with wooden shingles (Fig. 3).

In the late 1930s a transition to a more comprehensive housing scheme occurred, which abandons the classical structure by introducing a kitchen and a "back" entry. Also the dimension of the porch is reduced, whilst maintaining the shape and proportion of the windows. Also in this period we can witness a transition towards brick as a construction material for the walls. This sets the basis for the structuring of the early 50s -70s specific homes.

The 50s – 70s specific house has a stone foundation plastered with mortar, brick walls, hipped roof, with roof shingles - initially, then asbestos cement tiles, placed above the shingle structure. Regarding the composition, it was possible to observe an increase of the residential area, structures with three rooms being predominant, one used as a kitchen, a dormitory and a guest room and a pantry converted later (itself or through additions) in the bathroom. The open space of the front and back porch is reduced in proportion or even closed frequently.

In the 1980s, under the threat of general systematization of villages, demolishing or displacing of rural housing, especially in areas where collectivization has not occurred, the development of specific house typology was not possible although the previous model was somewhat outdated. This consideration combined with shortages of food, construction material and energy lead to sporadic constructions which repeat and improve the old models or set new directions.

In the 1990s characterized by transition and liberty, a more specific type of housing developed, with ground and first floor / attic. Composition of the ground floor comprises an open porch, central hall, bedroom, kitchen and bathroom and access ladder to the upper level. The floor or attic contains two or three bedrooms located on both sides of a hallway and a balcony or a terrace.

The predominant materials are reinforced concrete in combination with river stones for the foundation; bricks, concrete blocks, autoclaved concrete, alternating frequently; concrete ceiling and wooden roof structure and tile covering, asbestos cement board.

Around 2000, a new specific typology appeared, the building area was enlarged, somewhat increased out of scale. The composition of the house becomes more complex, containing a basement, ground floor and even an attic. On the ground floor the kitchen, bathroom, living room are placed and the first floor contains bedrooms and a bathroom. The porch and / or balcony are opened and their proportion compared to the whole house is reduced. Currently, modern materials are used, which are fashionable and the trend is set by contemporary constructive solutions, or perhaps by the working system with specialized companies.

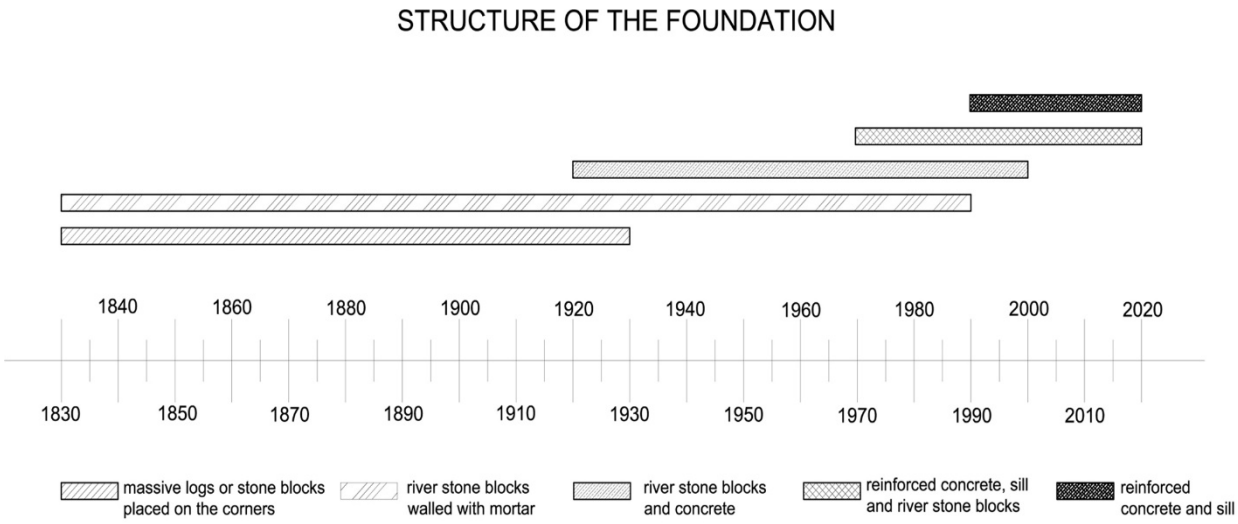

Fig. 4.
Material utilisation pattern for the foundation.

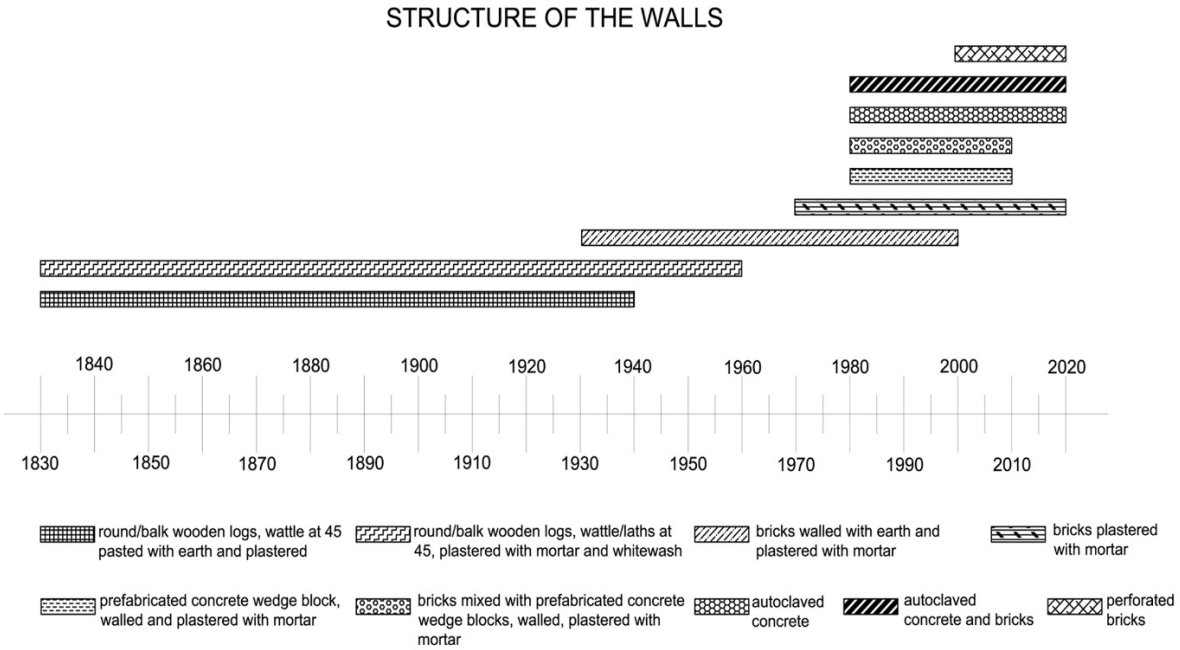

Fig. 5.
Material utilisation pattern for the walls

ONLINE ISSN 2069-7430
ISSN-L 1841-4737
PRO LIGNO
www.proligno.ro
Vol. 11 N° 4 2015
pp. 580-587

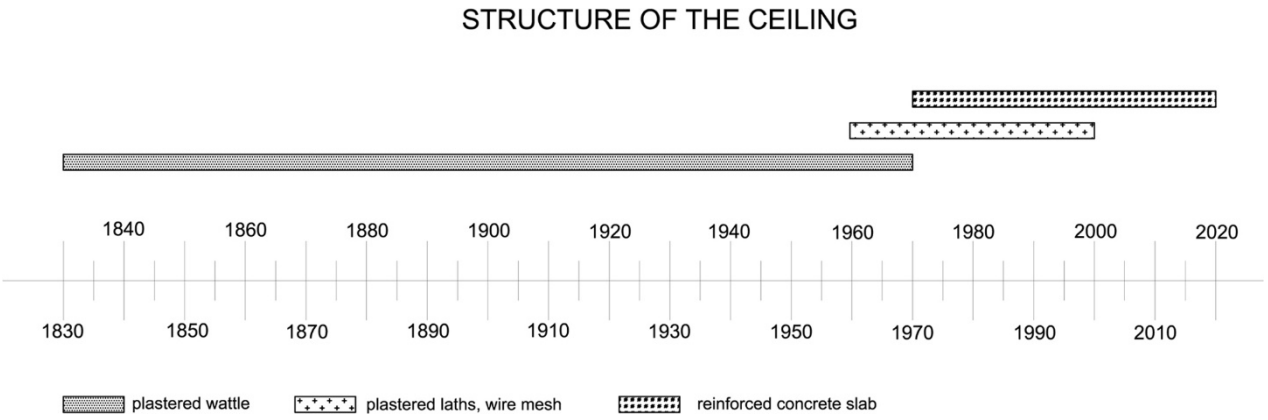

Fig. 6.
Material utilisation pattern for the ceiling.

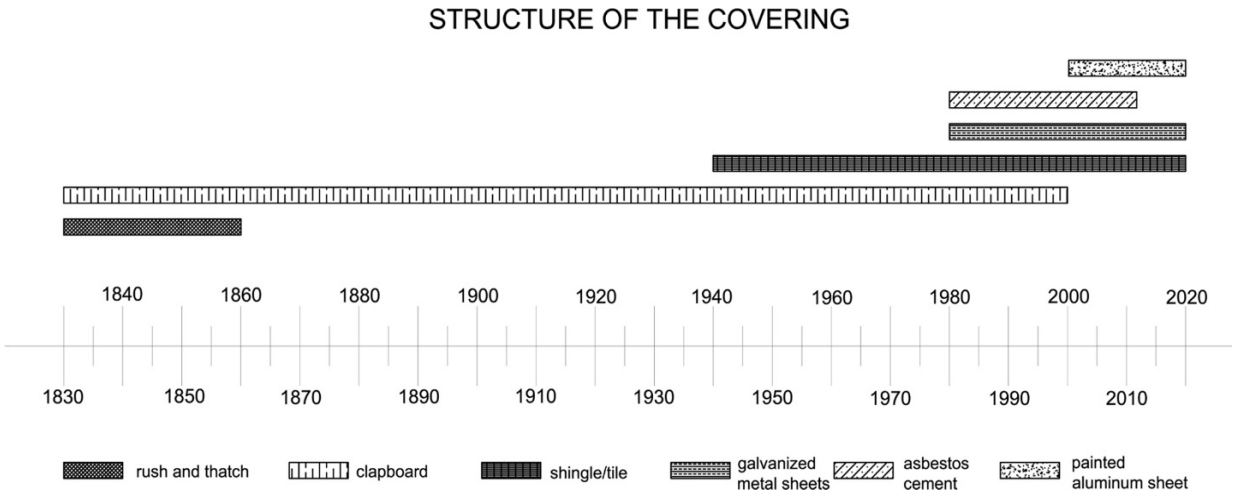

Fig. 7.
Material utilisation pattern for the covering

The material utilisation patterns (Fig. 4 – 7) reflect and reveal the long-term utilisation of natural, traditional and local materials: river stone, wood (wall structure, roof and covering), brick. Significant shifts in the utilisation patterns were determined by the implosion of new construction materials at a different moment in time for each construction component.

CONCLUSIONS

The house position in relation to the street, house typology, the main façade position in relation to the cardinal points and the street, the structure, materials and techniques used for building the foundation, walls, ceiling and roof, create strong socio-cultural and identity indicators generating the following holistic conclusions described below.

Placing the house in relation with the street denotes the human need of exposure or protection. Currently, the settlement of the house as far away from the road as possible, shows the tendency and need of isolation of modern man from the public space, which is gaining ground compared to the private space, a protection against pollution. In times of peace and socio-cultural and economic progress, the houses had open porches, both on the ground/first floor; the proportion of the porches surface area was significant in relation to the building. In troubled times, physical or ideological repression limited people and determined them to close the porch area, seeking solace inside the house.

The dynamics of the typological structuring of housing can be observed in the studied period, also an accelerated pace in terms of freedom of choice and the transition to a stable democracy compared to the "rigid" ideological statement of 50-70s period.

The boom in house construction after 1989, based on a new structural scheme (ground and first floor / attic, with central hall, bathroom downstairs, bedrooms upstairs / attic) denotes the

ideological resistance of the population who waited for an appropriate moment to put their plans into effect, on the one hand and on the other hand, for the shift of the centralized planning phase in accordance with the needs / requirements / cultural development of the rural population.

In the period of 2000, due to contacts with Western Europe as well as temporary or permanent migration of Romanians to these countries (especially after joining the EU) cultural paradigm has changed and larger housing began to appear, with an updated structural scheme according to existent ones in Western Europe. In their construction new materials and techniques are used common on a European level (promoted by the major suppliers of building materials and systems), to the detriment of traditional materials and techniques. Thus, a gradual leveling of specific regional / national characteristics is taking place in the context of the current European Union.

ACKNOWLEDGEMENTS

This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), ID134378 financed from the European Social Fund and by the Romanian Government.

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