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CONTENT

DECAY PHENOMENA ON THE CARVED STONE DECORATION
OF THE EXTERIOR LANTERN TOWER DESCENT OF
HOLY SPIRIT CHURCH – DRAGOMIRNA MONASTERY – ROMANIA[*]

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Abstract

A number of conservation works, some occasional repairs made in time were poorly described in the document kept in the archives of the Institute of Historical Monuments in Bucharest. The complete file of works compiled when some old buildings were replaced by the new residence of the orthodox nuns – between 1960 and 1966 - includes descriptions of the works achieved on the church, the defensive walls, the entrance tower, the corner towers, the ancient ruler house, turned into a museum today. In frame of the project supported by World Monuments Fund, between 2002-2004, the main researches and the final project for the conservation of lantern tower was developed with an interdisciplinary and international group of professionals[§].

Key Words: *Dragomirna, decay, stone decoration*

The Descent of Holy Spirit Church of Dragomirna Monastery was erected by the metropolitan Atanasie Crimca helped by the Stroici Family, between 1608–1609. The 400 years old carved stone decoration of the lantern tower is of unique quality in his execution and historic relevance. During former interventions stone surfaces had been cleaned, limewash renderings removed and mortar joints repaired. The last restoration of the tower had been achieved from 1960-1966 with an important transformation of the roof. Since then, the carved stone decoration on the façade continued to submit the impact of natural weathering. The works designed by the architect Ioana Grigorescu in the 60's as project manager were: the consolidation, of both church and lantern tower, using a belt reinforced concrete, the redesigning of the roofs shape in order to put in light the "stellar" double base of the lantern tower, the removal of ancient renderings using water and soap with washing soda, re-pointing the joints between stones using mortar with white cement, stone powder and colorants, removal of grey cement mortars between stones

Images 1 and 2: Photos of scaffoldings used for restoration in the '60s

Images 3 and 4: Photos of scaffoldings used for researches and conservation works from 2002 to 2011.

joints, replacement of damaged carved stone decoration using new stones by the same origin "Piatra de Molid".

The aim of monitoring, developed from 2002 to 2004, was the identification of significant decay forms and their main alteration phenomena, which affected the carved stone decorations of the exterior lantern tower. The results helped to design the project and to answer properly to the needs of decorated surface.

The installation of the scaffolding within this project permitted easier access to the lantern tower from outside church. The detailed research and measurements of lantern tower surface of the exposed stone decoration could be carried out even on wet and cold weather. The report documents of the present stone decay forms, as they were observed until 2004, were presented in the final report. After the interpretation due to active alteration processes were given propositions for a conservation strategy and conservation design. The works of conservation started in 2009 and were concluded in 2011.

The Lantern Tower features and history written on stone

The lantern tower architecture has an eclectic composition illustrating a large combination of different elements chosen with high freedom and fantasy at that time.

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The structure of lantern tower is made in brick covered with blocks of limestone towards outside, plastered, and painted in mixed technique inside. The lantern tower is designed with eight sides, which horizontal section is outside an octagon and inside a cylinder. A spherical cupola closes the lantern tower

The stone surface is made of limestone blocks its dimensions range from 106 cm. long / 40 cm height in the spin cord arise to 150 cm. long / 50 cm. height in the first row of triangle arcades. Based on the measurements campaign resulted that the dimension varies from side to side on vertical and on horizontal section, too.

As equipment, there were noticed: three holes of 10 x 10 cm. in the first row of arcades in order to evacuate accidental waters which may appear in case of broken roof. This holes also can use as natural ventilation and ensure the equilibrium of humidity and the transfer of water vapours between the under the roof space of lantern tower and the outside, sixteen bronze rings of 8 x 10 cm. fixed with plumb on all eight sides of tower. These were used previously for occasional repairs. Now these rings were very useful for the anchorage of the new scaffolding, six hinges made also in bronze from the ancient windows, the lightning rod lies on the edge East North-East sides.

A part of the visual inspection focused on the level of decay there were noticed the presence of inscriptions on different sides and levels of the lantern tower which can be master signs.
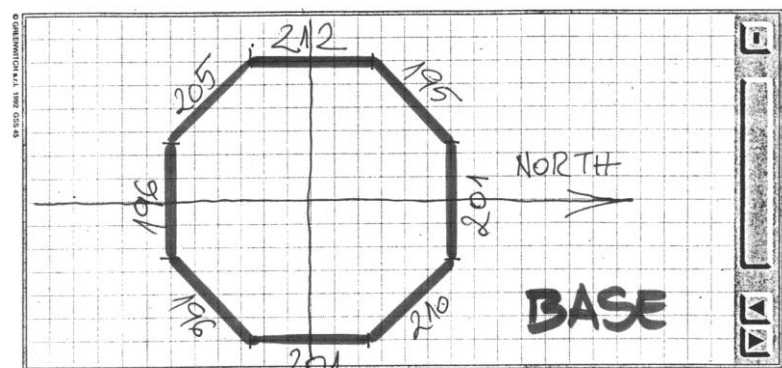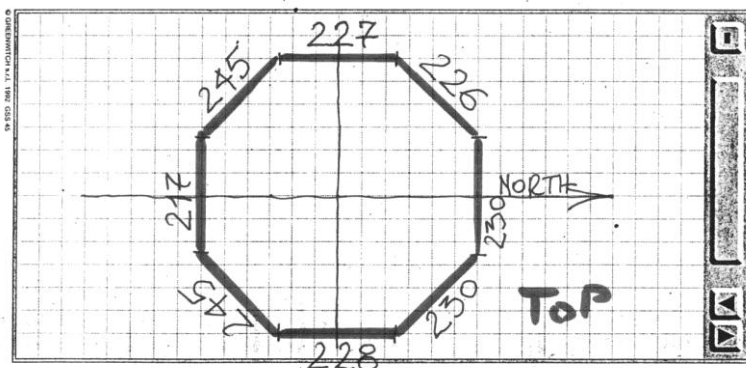
Images 5 and 6: Sketches of lantern tower sections top and base. The differences of dimension were made in order to make the optical correction to the final image of the church.

Under the church roof, on the east side base of lantern tower we identified scratched names written with Latin or Cyrillic letters.

The names written in Cyrillic dates before the 19th century when the written with Latin letters was introduced in Romania – there is any precise date for these names. On the contrary, the names written with Latin letters are dated in 1963 and 1964 – years of the works of church conservation – among them, one mentioned his profession – brick mason. It is supposed that the others had different professions

– as carpenters, builders, plasterers as long as the operations performed were the church body reinforcement and the renewal of the roof.

Images 7 and 8: The survey under the roof revealed the existence of names written on the base of Lantern Tower and geometric drawings scratched on stone.

Images 9, 10, 11: "E", "H", "I" and rotated "T" – master signs on North East and South West sides.

Images 12, 13, 14 - "N" and "S" - master signs on East and North East sides. Also master sign identified on the door frame on the South side defensive wall.
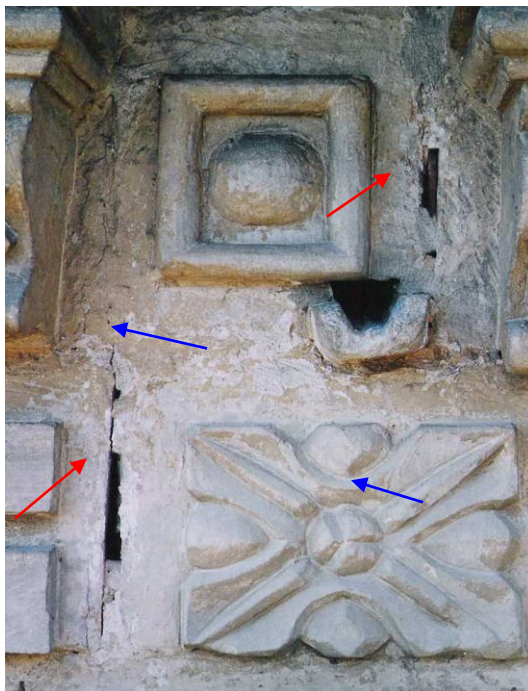
Image 15: Masonry of blocks of the carved stone decoration; missing joints (red indicator; rests of limewash plaster (blue indicator).

MATERIALS AND VISIBLE WEATHERING FORMS - SURVEY

Stone masonry and mortar

The facades of the octagonal lantern tower are composed of blocks of decorated stonework (carved stone decoration) The stone elements are laid with joints.

The joints are generally fulfilled with mortar and often in good conditions without visible cracks. In some few parts the mortar joints are missing, sometimes leaving depths or fissures between the blocks, Also rests of wood could be found which had been used to fulfill the joints.

As the open joints represent a risk for infiltration of rain water they need to be repaired. A fulfilling with an adapted lime mortar (containing a minimum of cement in order to prevent salt efflorescence) is considered.

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Plaster, renderings

There were noticed rests of yellow or brownish limewash renderings and could be recognized on stone surfaces mainly on the upper parts of the tower, beneath the roof. And also on other weather-protected parts of the façade.

This observation leads to the presumption that limewash renderings covered properly large parts of the carved stone decoration in the past. As it is documented, stone surfaces had been cleaned during the last restoration (1960-1966). So rests of limewash rendering had been removed. One can consider that the surface of the caved stone decoration had been directly exposed to weathering, at least since that time.

The limewash layer had certainly an important protection effect for the stone surface and helped to diminish the impact of weathering.

Petrography of the stones

Almost all carved stone decoration on the exterior lantern tower is made of relatively dense oolitic limestone, rich in microfossil debris. The original stones show a white to yellowish or a grayish color.

Two qualities can be distinguished: a more coarse grained homogenous limestone with visible calcareous debris of microfossils and a more fine-grained limestone with bedding signs and grayish colors. The first variety is dominating and corresponds to the stone of a local quarry called "Piatra de Molid".

Both limestone have are relatively dense structure. In spite of the high microfossil content the porosity created by microfossil debris seems to be advantageous for the durability of the limestone, which shows very little alteration problems due to capillary water suction. Large, partly isolated pores of the microfossil debris diminish capillary water uptake and prevent the stone from frost problems. On the other hand, the calcareous debris is soft mineral particles. This is a useful characteristic for carving ornaments or decorations on the stone surface.

Only small quantity (less < 0,5 %) of façade stones are clay rich sandstones used during former restorations as simple replacing stones (green indicator). These stones are more sensible to weathering and are not representatives for the carved stone decoration.

Image 16: Decorated stonework at the upper part of the octagonal tower (N- and NE- orientation).

1m
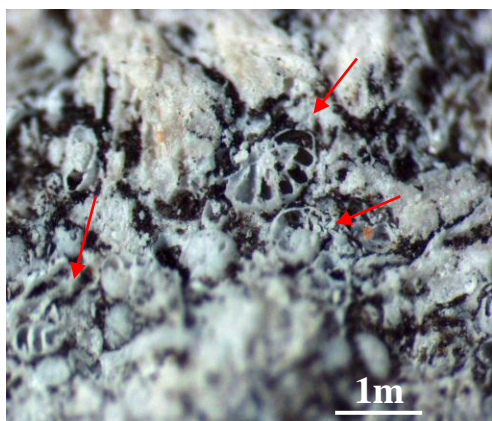
Image 17: Coarse grained, oolithic limestone; microphoto of the surface showing debris of calcareous microfossils (red

Image 18: On the left: fine grained greyish limestone with bedding sign (white indicator); on the right: greenish sandstone used rarely as replacing material (green indicator); NE-facade.

Alterations on the stone surface

The decorated stonework at the tower shows no significant signs of alteration due to the direct impact of water, such as frost damage, swelling of stones or formation and disintegration of thin crusts. So the limestone is not suffering directly from physical weathering.

Nevertheless the stones show alterations due to an important biological colonization. The carved stone decorations are covered frequently by "biomats". These are association of microorganisms, which are covering the stone surfaces like a skin. They could be found in different parts and intensities on the stonework around the tower and are described in more details beneath.

At the south exposed facade biomats are only occasionally present. They are visible especially in lower parts of overhanging sculptured stone decorations, as the stonework with spin cord motifs. The upper parts of these elements are often less affected by the growth of biomats properly due to differences in the microclimate.

Image 20: Rough surface of an exposed stone decoration ornament (spin cord motif) showing sedimentary orientation; S-facade.

Image 19: Carved stone decoration on the S-facade; overhanging ornament (spin cord motif) elements with biomats (orange indicator).

Surface roughness

These upper parts show also an important erosion and roughness on the stones surface due to a loss of mineral substance. The relief of the stone decoration is diminished and sedimentary orientations of the limestone (bedding) can is coming forward.

The limestone surface is generally quite hard and seems to be resistant. It gives not the impression having suffered from physical alterations but either chemical activities (acid rain) or a former activity of microorganisms caused the important lost of mineral substance near the surface. Another form of surface roughness can be recognized on the surface of several limestone blocks and mortar joints on the façade showing a so-called "honeycomb" structure. It is characterized by small round wholes or pits of about 1 – 2 mm diameter, a grayish color and a relatively increased hardness.

Images 21 and 22 are showing this type of surface in more detail. The wholes or pits appear in relation with biological colonization.

Their dimensions correspond with the size of small agglomerations of microorganisms present in the biomats. One can conclude that the honeycomb-structure is in relation with the biological colonization.

Image 21: Rough surface with "honeycomb" structure; SW-façade.

Image 22: Rough surface with small pits; ornament detail.

Image 23: Rough surface of a carved stone decoration; rests of pitting due to former micro-biological colonization.
Image 24: Carved stone decoration without signs of alteration; S-façade

Especially on the south and east oriented parts of tower large areas of carved stone decorations are in a very good condition, almost without signs of weathering or surface alterations. The surface of these stone decorations show even the original limestone surface without roughness due to alteration or material lost.

Biological colonization

Distribution and intensity of growth

An intense biological colonization is dominant on the NW, N and NE oriented parts of the facades or exposed carved stone decorations. With exception of a small part protected by the roof, the colonization takes place along the whole vertical façade.
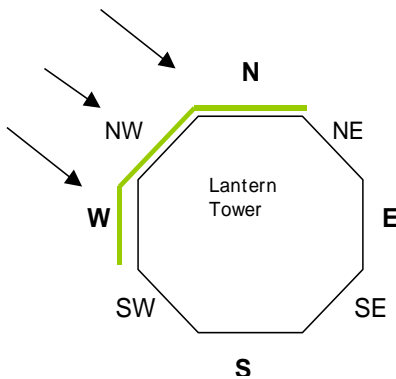
Image 25: Intense growth of biomats (green indication) on NW orientated facades of the tower (main weather direction)

Image 26: Intense biological colonization on the stonework of the NW-façade.

This exposition is characterized by higher precipitations of meteor water (rain, main weather direction of the valley) and a longer presence of humidity due to the building orientation (absence of direct sunshine, condensation of water). These microclimatic conditions enhance the presence of humidity on the stone surface at the NW-N-NE exposed facade and favor the growth of microorganisms like algae, fungi or bacteria.

The exposed carved stone decorations are covered by an intense microbiological colonization, compare fig. 12. The presence of biomats changes the surface aspect. Often the stone relief is still visible, but covered by a layer of biomats up to about 1mm thickness. The original white-yellowish color of the limestone changed at the surface to a gray, black or green to yellowish color due to the nature of different microorganisms and changes in the intensity of the growth.

Image 27: *Intense biological colonization on exposed stone surfaces (NW-façade); no or less growth in a small weather-protected zone (red indicator).*

Image 28: *Detail showing yellowish and black biomats on the greyish stone surface.*

Especially in zones of intense biological colonization an alternation of different species can be observed. So the biomats appear not as a homogeneous layer, but as centers of growth or colonies, which are expanding. Often between these colonies the limestone is visible as a grayish surface.

Image 29: Dense biological colonization of stone decoration, detail.

Image 30 shows the variation in the intensity of the biological colonization: The growth of biomats starts generally in cavities or pits on the surface of the carved stone decoration. The microclimatic conditions there provide higher degrees of humidity, which favors the growth of microorganisms.

Once established, the microorganisms can grow and continue colonization over the whole stone surface. In some central zones the formation of intense biomats can take place.

The absence of water slow down the biological growth and the limestone surface keeps untouched by the biomats. The front-page picture of this report also illustrates this phenomenon.

Image 30: Increasing intensity of biological colonization due to different microclimatic exposition (protected zone on the top).

Image 31: Biological re-colonization on a rough surface (honeycomb-structure); SW-façade.

On the surface of some carved stone decoration, which had been already changed by the impact of biomats (honeycomb-structure) a biological re-colonization has taken place. Properly after cleaning of the surface a new generation of microorganism continues to grow with preference in cavities or pits where humidity is present.

Image 32: Weather-exposed stone-work on the SW-facade with biological colonization; broken limestone due to an intense biological weathering (white indicator).

Hardness of the stone surface

It is noticeable, that the grayish stone surface is in general very hard, even harder than the not affected white-yellowish limestone of the carved stone decoration. Only corners or fine details suffering from an intense biological colonization are slightly weaken and can be broken away (white indicator). This is properly due to a phenomenon of deep stone weathering which could lead to a certain disintegration of the limestone cementation.

The hardening of the limestone surface is to consider in relation with grayish color and the biological colonization. Is it known, that by microbiological activity the calcareous cement of limestone can be transformed into insoluble oxalates, which is hardening the stone.

ANALYSIS OF SURFACE SAMPLES

Structure of biomats

Microscopic section

From colonized limestone and mortar surfaces samples had been taken for studying the depth and the nature of the biomats. Images show a section of two stone samples under the binocular microscope. On top of the limestone surface biomats can be seen as a fine black layer covered by yellowish agglomerations of microorganisms. Underneath the limestone appears in white fresh color with (debris of microfossils).

So the biomats form only a very small dark layer, less than 1mm thick.

Those illustrates also, that the fine organic layers follow the surface profile of the limestone and cover cavities and fine pores. So the limestone surface stays not in a direct contact with outside and the biomats form an intermediate layer. This is an important fact for the water absorption of the limestone.

Similar observations could be made on mortar samples covered by biomats.

The presence of biological colonization changes the water uptake of the limestone: biomats as a supplementary layer influence the water exchange on the surface of the stone. Surface water is first absorbed by the small biological layer and then transferred to the limestone, where it is retained. Due to the covering effect of the biomats, the water in the limestone evaporates much slower, so that humidity can stay longer in the overgrown limestone compared to a normal limestone surface. This circumstance is less advantageous for the durability of the limestone. The long presence of water advances different weathering mechanisms like the growth of the biological colonization or chemical and physical processes.

Surface impacts

The biological colonization changes the surface of the limestone: Signs of erosion can be recognized, which are in relation with a former biological colonization. Image shows the color change from the fresh limestone (broken surface, blue indicator) to the gray limestone surface. Microfossil debris are visible on the surface of the limestone forming small round wholes (red indicators). The appearance of this structure is properly due to a certain lost of calcareous cement due to erosion.

It is known that microorganisms can transform calcite by producing weak acids such as oxalates. This produces a de-materialization and transformation of the limestone cement into calcium-oxalates, which are insoluble and can harden the limestone surface.

A second effect on the stone surface is the formation of small holes or pits as described for the "honeycomb" structures. Properly the growth of microorganisms by the intake and release of water can cause an increase or decrease of cells, thus result in mechanical stress causing local disintegration or
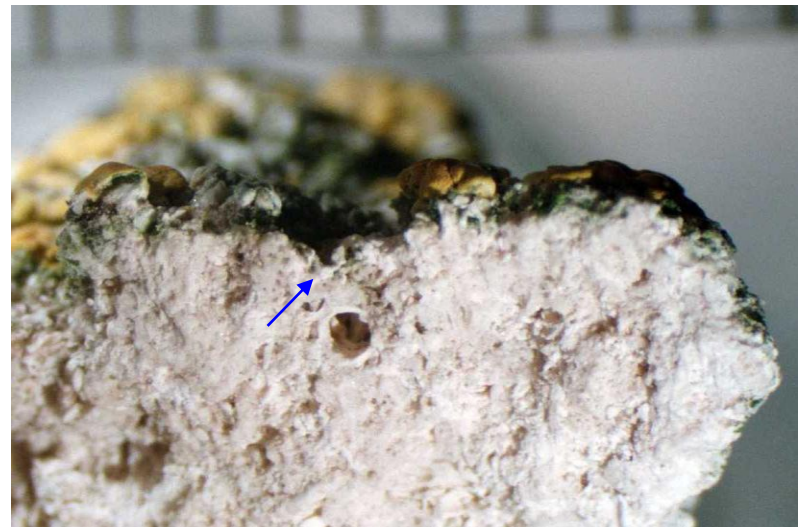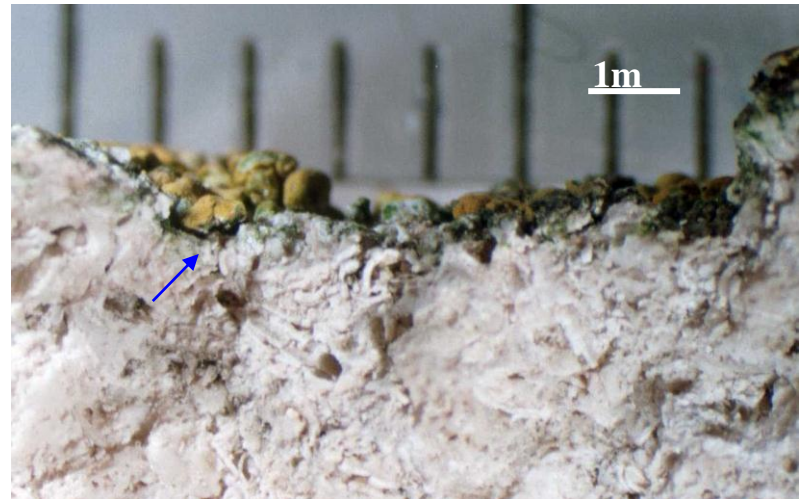
Image 33, 34: Section of limestone surfaces with biomats; cavities and pores of the limestone are covered by a fine layer.

Image 35: Limestone surface with eroded microfossil debris (red indicator) and biomats (green indicators)

dissolution of mineral material on the limestone surface. So the wholes or pits are remains of the former biological colonization and indicate a zone of de-mineralization.

Recognizable species

A determination of biological species was possible by comparison of microscopic views. Image 35 shows two species of lichens, which could be found on mortar and limestone samples of the lantern tower, named: *Xanthoria elegans* and *Lencanora dispersa*. Lichens are a symbiosis between algae and fungi, illustrated in image 37 for *Lencanora dispersa*: The fungi provide living space and protection for the algae (green), which are producing nutrition for the fungi by their capacity of photosynthesis. So the symbiosis is autonym from no external nutrients sources. Lichens are known to be resistant to extreme climatic stress; they can survive long periods of desiccation and large temperature changes. When the living conditions are favorable, lichens continue their growth.

Xanthoria elegans

Lecanora dispersa
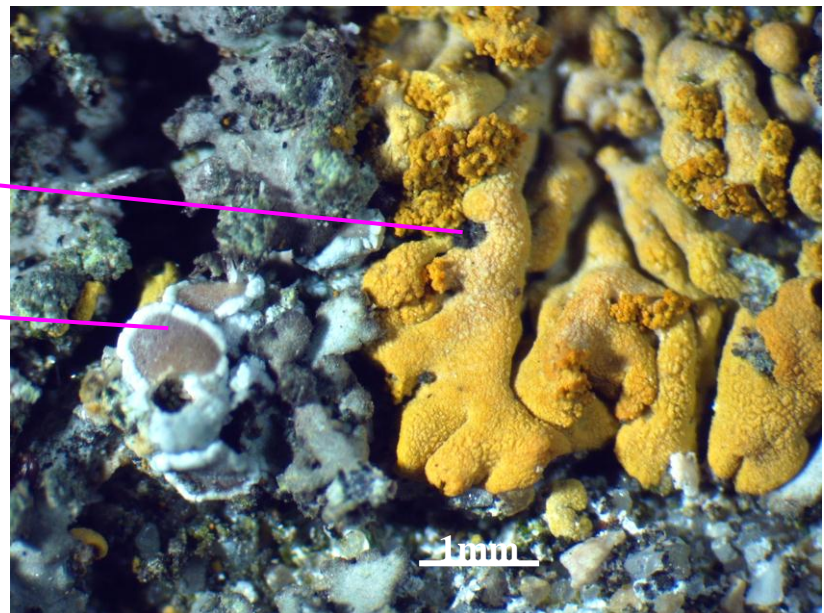
Image 36: Two species of lichens on the surface of a mortar sample; binocular magnification

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Fungi cells

Algae cells

Image 37: Microscopic detail view of Lecanora dispersa (EMPA-St.Gallen, Ref. [1])

Xanthoria elegans

Image 38: Xanthoria on the surface of a mortar sample; microscopic view

These communities are forming the so-called biofilms or biomats, embedded in a highly hydrates, gelatinous matrix of extracellular polymeric substances. Natural biomats do not only contain algae and fungi but further organisms such as bacteria and insects.

Activity of lichens

It is confirmed that one of the most important factors for the composition of biomats is the availability of moisture. The intake and release of water can yield to an increase or decrease of cell volume

present in pores or cracks. Thus result in mechanical stress for the substratum, which can cause disintegration of the limestone surface.
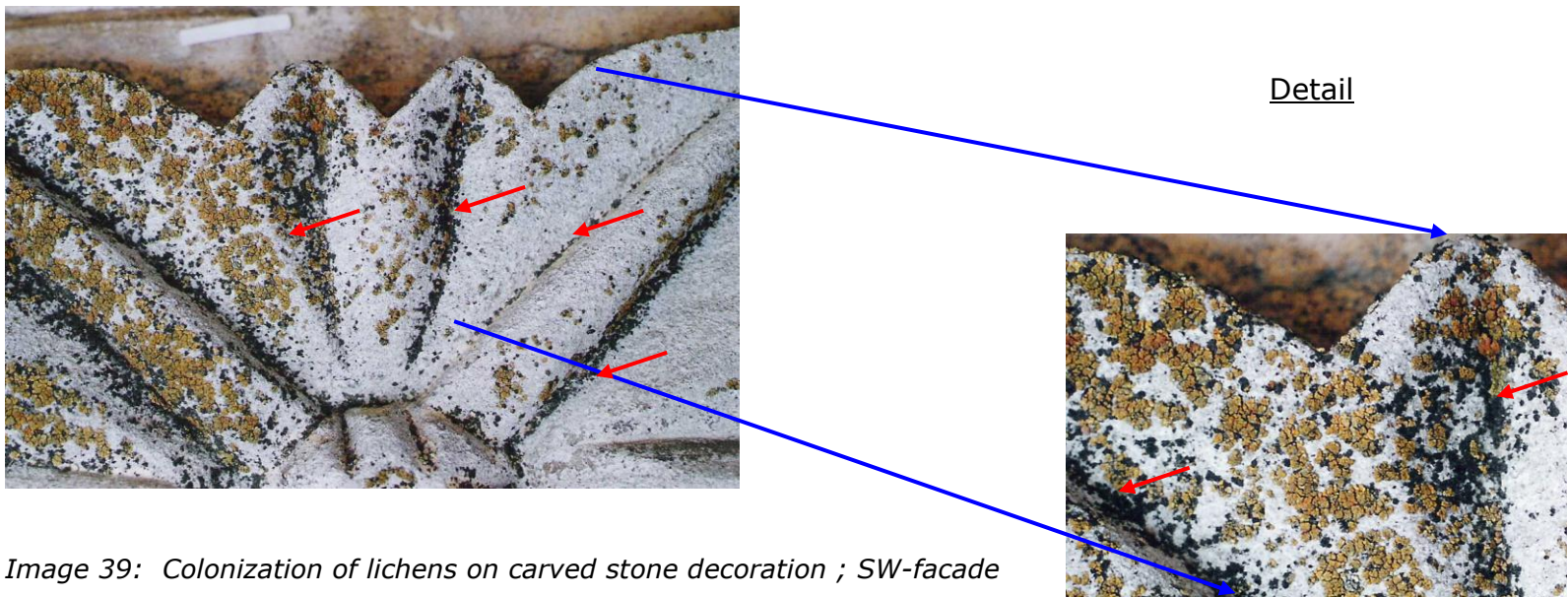
Image 39: Colonization of lichens on carved stone decoration ; SW-facade

Typical for the growth of lichens is that they develop first as colonies in protected zones like small depressions or holes with more favorable microclimatic conditions (enhanced moisture content). Images illustrate these zones (red indicator) and show an increase of growth on the left side of the stone due to a slightly more intense exposition to precipitation (better living conditions). Depending from the living conditions, the growth of lichens is in general between 0,1 to 1 mm/year.

The air quality is another factor influencing the growth of lichens: Thus, concentrations of sulfuric compounds hindering growth of algae decreased (decades of long pollution) in contrast to an actual increasing of concentrations of nitrous compounds (NOx), which are suspicious to cause eutrophication. This seems to augment the algae-problem actually.

It is also known that lichens growth results in water-retention on the stone surface. Therefore, biomats change the water regime of facades, which may lead to high water loads, offering good conditions for a further development of the microbial layer. Both, long-term moisture and corrosive excretions of biomats members augment biogenous as well as abiotic ageing processes on the stone surface.

In particular microbial activity is an important factor for stone decay during long-time exposition. Metabolic excretion of sulfuric and nitric acid by sulfur and nitrogen oxidizers, respectively, may attack almost
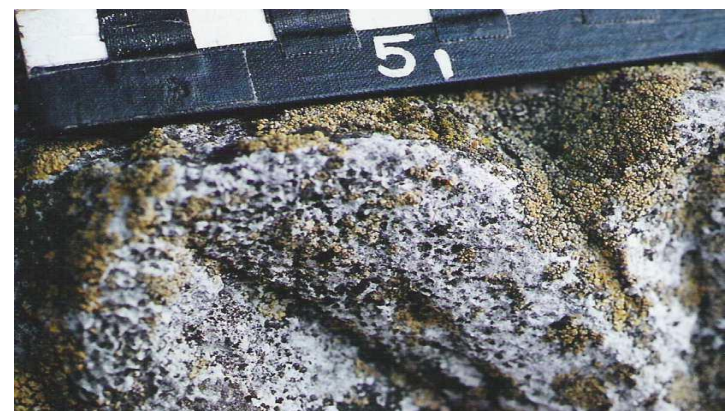
Image 40: Intense colonization of lichens on carved stone decoration ; W-façade

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every material and leads to corrosion of limestone. Crust-like lichens and bacteria excrete also weak organic acids, subsequently solving mineral compounds such as calcium carbonate. This allows the transformation into calcium oxalates. Each softening of material or bioconversion of the calcium-carbonate matrix can be considered as bio deterioration, which does not necessarily means that the material becomes destroyed with respect to its function. Insoluble crusts of calcium-oxalates produce at first a hardening of the surface layer of lime stones. Further microbial activity can weaken the stone with the time.

Microorganisms may not settle directly on the surface but may first live on and obtain carbon from organic contaminations (and dead organisms). Therefore, the removal of living and dead biofilms is a need for an effective renovation of surfaces.

CONSEQUENCES FOR THE ALTERATION OF LIMESTONE SURFACES

The presence of lichens and the growth of biomats cause not only an esthetic problem on the surface of the carved stone decorations.

There is a demineralization and a transformation of the upper limestone surface. With the time the stone surfaces submit important changes as illustrated in. The original stone surface is changed and with a continuing of growth of biomats further material lost will occur on the surface of the limestone. Even if the growth of biomats is slowing down for a period due to unfavorable living conditions, microorganisms contaminate the stone surface. They are resistant and continue to growth with the amelioration of their living conditions.

In order to stop or to slow down sgnificantly the biological alteration on the surface of the carved stone decoration, it is essential to remove the microbiological colonization and to give so a minimum of chance for a continue of the gowth. To reach this goal a almost complete removal of the microoranisms and all orgnic matter on the stone surface will be the best solution.

It could be seen, that large parts of the biomats can be removed by mecanical brushing. This cleaning method probably already had been practiced in 1960-1966 during the last renovation of the tower. This method breaks the growth of the biomats even if it can not stop the biological activity completely, because there rest still some remains of microorganisms on the stone surface. It is also the fact that the air contains always a biogenious load from some hundred up to 1 million fungal spores per m^3 and, aditionally, algae and bacteria cells. They are ubiquitous and thus the stone surface can not be sterile.

As it had been mentioned, microorganisms like lichens settle down easier if they can obtain carbon from exsisting organic matter on the stone surface. So the removal of organic matter deminuishs the colonization of microorganisms.

Removal of the biological colonization (biomats)

In order to minimize the return of microorganisms like lichens after restoration or cleaning of a facade the oxidation of resistant organic matter with H_2O_2 is an effective possibility. A treatment with a H_2O_2 solution removes the rest of the organic matter on the stone surface and thus slows down a re-colonization of microorganisms.

A treatment with chemical products like fungicides or other substances, which kills microorganisms, is properly not effective for two reasons: first the organic matter still remains on the stone surface and provide nutrition for other microorganisms. Secondly the concentration and the impact of the substance will be slow down in a very short time due to the elution by rainwater. The limestone cannot retain the chemical substance for a long time because of his open porosity. So a chemical treatment seems to be not an effective method, which provides a sufficient impact.

The best strategy to prevent the carved stone decorations from bio deterioration seems to be a removal of the organic matter in order to minimize the chance for a new growth.

Image 41: Intense colonization of microorganisms and moose on stones decorations of the NW-façade

Proposals for the conservation of the carved stone decoration

Chemical oxidation (by H_2O_2)

The following procedure is recommended in order to minimize the growth of microorganisms:

– After removing biomats by mechanical brushing the stone surface can be cleaned by the application of industrial H_2O_2 solution (about 6%) once or even twice.

– About one hour after the treatment the stone surface has to be rinsed with water to remove remaining organic material. Finally the stone surface has to be cleaned using a high-pressure water jet device.

It is considered to test the convenience of the procedure on a sample surface in order to check if modifications in the dosage or treatment are necessary or useful.

Image 42: Carved stone decorations partly covered with limewash (brownish); NE-facade.

<u>Limewash</u>

A second conservation procedure seems to be interesting: Different parts of the tower facade prove the use of limewash in the past. Even if today for esthetic reasons a direct view to the stone surface is preferred, a thin layer of limewash could still reveal the surface of the carved stone decorations, as it can be seen. The limewash layer is a protection for the original stone surface. Microorganisms have to settle down on the surface of the lime layer instead of the stone. The basic character (pH >10) of non carbonated lime change the living conditions and inhibit the growth of certain microorganisms. There is also an effect concerning the water uptake of the limewash layer that could have a protecting impact. For these reasons we propose to test on a small area a treatment with limewash and to compare the effect at long term.

Monitoring growth and development

After the restoration or cleaning it may takes about 10 to 20 years until lichens and other microorganisms shown important sights of re-growth. In order to observe the development a photographic documentation of determined control points will be a useful tool. Regular inspection and documentation by macro photographs are allowing the following the chronological development of biomats on the stone surfaces and to determinate the efficiency of the treatments. Image 43 illustrates isolated colonisations of lichens on the surface of a carved stone decoration, which will enlarge their surface by the time.

Image 43: Isolated colonization of lichens on a limestone surface; S-facade.

Summary and outlook

The carved stone decoration on the exterior lantern tower of the descent of Holy Spirit Church of Dragomirna Monastery had been accessible from scaffolding. The survey revealed that there are almost no signs of physical and chemical alteration. But the biological colonization of the limestone surface is causing stone decay at a long term.

Thin layers of microorganisms, called biomats, are present on the limestone surface especially on the NW, N and NE exposed parts of the tower. They are formed of lichens, a symbiosis of algae and fungi, which are known for being very resistant to large temperature changes and desiccation. Different species of lichens could be identified. When living conditions are favourable the isolated colonies continue to grow (0,1-1 mm/year). Due to the production of organic and inorganic acids by the metabolism of the microorganisms the surface of the limestone is transformed (de-mineralization). Physical aspects as water uptake and mechanical stress by dilatation of cells yield to long-term deteriorations of the limestone surface. Structures like "honey-combs" or the formation of small wholes provoke a change of the original surface of the carved stone decorations.

For the conservation of the original surface it seems, not only for esthetical reasons, useful to remove the biological layer (biomats). In order to minimize the re-growth of microorganisms, especially lichens, it is proposed to treat after a mechanical brushing the stone surface with an H_2O_2 solution, which oxidizes the remaining organic matter. The so "disinfected" stone surface slows down the growth of microorganisms and diminishes the problem for at least 20 years. Otherwise an acceleration of biological colonization and an increase of deterioration of the limestone surface have to be feared.

The application of a limewash layer can be another conservation technique, which is worth to be tested. A thin lime layer will protect the limestone surface from a direct colonization of microorganisms and can be an interesting method for a long-term conservation. The regular inspection of monitoring areas is a useful tool to determine the efficiency of the treatments.

Illustration source

Images 1,2: Archive of the National Institute of Patrimony, Bucharest
Images   3, 4, 7, 8, 9, 10, 11, 12, 13, 14: Dan Kisilewicz
Images   5, 6: Ileana Kisilewicz
Images   15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43: Andreas Queisser

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RESTORATION AND CONSERVATION OF THE INTERWAR MODERN HERITAGE, PRINCIPLES, METHODOLOGY AND TECHNIQUES

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Abstract

The purpose of this paper is to outline the historical, theoretical and technical background to modern heritage conservation. The first part presents the historical background and the principles and methodology of modern buildings conservation. The second part covers the practical procedures involved and ends with a section on the particular issues and techniques of concrete repair.

For the public, these more recent buildings present no special aesthetic value. And because the time of their construction is still fresh in the memory of many people, the idea of protecting them doesn't even occur. However, conservation professionals should anticipate and take action before a wave of demolitions or slipshod repairs might destroy this subtle and delicate architectural legacy.

The illustrations are presenting examples from Timişoara, Romania and Subotica, Serbia, two towns from the same geographical area –the Tisza plain.

Key Words: *modern heritage, conservation, restoration, principles, reinforced concrete*

Introduction

Some of the interwar constructions began to lose their pristine appearance by the early post-war years and required remedial attention. Defects in concrete buildings and structures became a matter of concern to their owners long before architects and conservationists became engaged with the 'heritage' aspects of the subject.

As a consequence, in the absence of conservationist restraints, contractors were more inclined to obliterate an original feature or finish, if this appeared to facilitate a better result.

Meanwhile, the clients may have generally disregarded the *architectural* considerations or consequences of maintaining 'modern' property in a viable state of repair or even altering it to comply with the new requirements. Alternatively, the 'change of image' entailed in a particular mode of repair or upgrading may be a deliberate objective and an additional feature of its 'customer appeal'.

As an example, we can mention the case of corroding painted steel windows. Although these are interwar-specific original elements, they are often replaced by aluminium or PVC substitutes on the assumption that this is the only way to reduce future maintenance. A more authentic restoration could be achieved by using equivalent steel windows, complying with the current manufacturing standards.

More generally, modern hospitals, educational and industrial establishments have tended to expand without any considerations of modern conservation.

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Such examples are a strong indication of the extent to which the repair of modern buildings is still a contractor- or surveyor-led field. Modern architecture is not yet generally perceived as a subject in which the conservation criteria arise when maintenance or refurbishment is undertaken.

While restoration of listed buildings and protected monuments is generally entrusted to specially trained conservation specialists and architects, the so-called 'ordinary building stock' tends to remain the target for the construction industry, architects and technicians, who may not be familiar with the interwar building conservation policies. Therefore, when we talk about the built heritage, even when dealing with less important buildings or areas, the same critical attitude and evaluation should still be required. The thing is we should identify and evaluate relevant parameters and values, establish the priorities and reach a balanced judgment in each case.

Architects and others concerned with preserving the authenticity of *significant* modern buildings must quickly catch up with the technical developments within the industry and try to raise awareness on the aesthetic and cultural implications of modern conservation, at the same time.

Conservation principles

Conservationists realized the potential danger facing the Modern Movement buildings and started to consider them as modern heritage and envisage the possible issues.

Dealing practically with the aging modern architecture cannot be separated from the historical tradition of conservation, because the restoration principles are the same, only some materials are different. That is why it seems appropriate to preface the section with a summary of the generally accepted principles of conservation, now established by many years of traditional application.

Monument conservation in the way it has developed since the 19th century has always been in close interrelation to the 'modern' architecture of the time.

Since the early 20th century, classical monument conservation has focused on the mere conservation of monuments of artistic or historical value. At the same time, the Modern Movement jettisoned all 'historical ballast'. Under these circumstances, modern architecture and preserved historic architecture could only be viewed as a pair of contrasts.

Conservation of cultural heritage – of whatever date – must necessarily be based on an understanding of what is protected, and on its meaning. The definition of heritage will have a direct effect on the relevant strategies of action, which can range from pure conservation to a radical redevelopment. Basically, there are four different definitions[1], which often coincide, making value judgments more complex:

1. The most ancient concept in this regard refers to an *intentional monument* (as defined by Alois Riegl) built as a *memorial or political symbol*.

2. In the 19th century, as a result of Romanticism and Historicism, the notion of *historic monument* was associated with structures that represented particular historic eras, even if not originally intended as monuments.

3. With the gradually emerging *modern conservation movement*, the concept of historic monument was enlarged, and an increasing attention was paid to the historic material as authentic, *documentary evidence*.

4. Considering the association of culture with 'the whole complex of learned behaviour, the traditions and techniques and the material possessions, the language and other symbolism' (Oxford

English Dictionary), the notion of *cultural heritage* has been increasingly associated, not only with material evidence, but with its spiritual side, its intangible aspect.

Evolution of legislation

ICOMOS, the International Council on Monuments and Sites, is a non-governmental body consisting of specialists professionally concerned with conservation. ICOMOS has issued a series of charters, of which the Venice Charter, signed in 1964, refers to the philosophy of restoration, and most specialists consider it the best known in the field.

The Venice Charter[2] sets forth that the process of modern restoration is a highly specialized operation. Its aim is '*to preserve and reveal the aesthetic and historic value of the monument and it is based on respect for the original material and authentic documents. It must stop at the point where conjecture begins, and in this case, moreover, any extra work which is indispensable must be distinct from the architectural composition and must bear a contemporary stamp'.* (art. 9)

'*When a building includes the superimposed work of different periods, the revealing of the underlying state can only be justified in exceptional circumstances and when what is removed is of little interest and the material which is brought to light is of great historical, archaeological or aesthetic value, and its state of preservation good enough to justify the action.'* (art. 11)

'*Replacements of missing parts must integrate harmoniously with the whole, but at the same time must be distinguishable from the original so that restoration does not falsify the artistic or historic evidence.'* (art. 12)

'*Additions cannot be allowed except in so far as they do not detract from the interesting parts of the building, its traditional setting, the balance of its composition and its relation with its surroundings.'* (art. 13)

The question of values is often referred to the issue of utility. However, such a definition is too narrow and difficult to apply in the field of culture. To establish the criteria for the evaluation of historic structures and the assessment of the various layers of superimposed work representing different periods requires a critical process; such a process, in fact, is the necessary basis for any restoration in the modern sense.

In terms of quality, the assessment of the 20th century constructions is not necessarily easy, considering that it is related to personal memories and antipathies. Values are associations of qualities to things, and they change with time. The 1976 *UNESCO Recommendation* concerning the *Safeguarding and Contemporary Role of Historic Areas* read that "*historic areas and their surroundings should be regarded as forming an irreplaceable universal heritage*". Such an area should be considered in its totality, its value depends on "*the fusion of the parts of which it is composed and which include human activities as much as the buildings, the spatial organization and the surroundings*" (UNESCO, 1976, #2-3). This would seem to be especially relevant to recent built heritage, considering that human activities are particularly important to the definition of such areas.

Conservationists continued to explore their field of research and issued various charters of which we mention the Burra Charter[3], issued by ICOMOS Australia in 1979 and revised twice in the '80s. This charter is of great importance because it defines very clearly the following issues: '*cultural significance'*, '*fabric', 'conservation', 'maintenance', 'preservation', 'restoration', 'reconstruction', 'adaptation and*

compatible use'. This document presents the conservation principles and the strategies of implementing this policy.

DOCOMOMO – the international organization for *do*cumentation and *co*nservation of buildings, sites and neighbourhoods of the *mo*dern *mo*vement – was established in the Netherlands in 1988. Since 1990, seminars are held every two years in order to share various experiences regarding modernist restoration. DOCOMOMO has become the leading international voluntary organization concerned exclusively with the issues and problems of modernist conservation.

In 1991, The *Council of Europe* adopted the Recommendation on the *Protection of 20th Century Architecture* (R(91)[4]). It develops the principles for the conservation and enhancement of the architectural heritage of the twentieth century. R (91) proposes a list of criteria for the selection of the most significant heritage items. In addition to considering the whole range of styles and types of construction with their specific values, protection should be extended *'to every part of the built environment, including not only independent structures but also duplicated structures, planned estates, major ensembles and new towns, public spaces and amenities'* (art. II.1). A special mention is made on the *training of specialists* either as part of the general architectural training or in the framework of specialist training in the built heritage restoration process.

The ICOMOS *Guidelines on Education and Training in the Conservation of Monuments, Ensembles and Sites,* adopted in 1993, define the aim of conservation as *'to prolong the life of cultural heritage and, if possible, to clarify the artistic and historical messages therein without the loss of authenticity and meaning'.* Furthermore, conservation is seen as a *'cultural, artistic, technical and craft activity based on humanistic and scientific studies and systematic research'* and conservation *'must respect the cultural context'* (art. 3).

During the *ICOMOS Seminar on 20th century heritage,* held in Helsinki in 1995, a global strategy *'to move away from a purely architectural view of cultural heritage towards one which was more anthropological, multifunctional and universal'* was developed. Agreement was made on methodology for the identification of 20th century heritage defined by consultations among ICOMOS, DOCOMOMO and World Heritage Center.

Another important question raised in the 20th century is how to take into account the ecological aspect of present-day repairs of the buildings whose original solutions are seen as non-ecological from the present-day point of view.

Independent of questions of monument conservation and merely for ecological and economic reasons – tomorrow's society will simply no longer be able to afford the extensive replacement of everything that has been built in previous decades. Now already one of the main tasks of urban renewal in our town centres is to find changed ways of use for existing buildings – a process involving alterations to the building fabric – instead of building something new[5].

The challenges we are facing in this context are extraordinary, partly because interwar buildings were designed to have only a very short life span (often not more than 30 to 40 years). Therefore, the methods developed for buildings of other eras do not often seem to be applicable to these more recent examples. A particular problem with modern buildings is certainly raised by the limited possibilities for their repair because of their non-durable materials and the nature of their construction and workmanship. Moreover, the original, mostly industrially produced materials and components are often no longer

available. However, in particular, the appropriate treatment of certain details, for example the windows, is vital for the success of a restoration[6].

We have to avoid well-known mistakes, as made by our predecessors in connection with 19th century buildings. We are dealing here with the 20th century art and architectural history in all their aspects, not just with the preservation of examples of the Modern Movement in particular.

In point of the 20th century heritage conservation, it has already been mentioned that we have to face particular issues, which sometimes even question the principles we have embraced and often require new technical solutions.

Modern building conservation principles

Depending on their nature, conservation works may belong to various categories. Different theoreticians outlined these categories in different ways, but basically the meaning of their message is the same. Due to the establishment of these categories, some useless or even harmful interventions may be avoided, and the most efficient intervention in the conservation process can be identified.

From the active architect's perspective, we mention a series of approaches to the modern building conservation:

- **Continuous maintenance**. The protection and preservation of the building's historic fabric in order to avoid or minimize the need for repair and replacement.
- **Minimum intervention**. The limitation of the conservation operations to the minimum necessary for the structure's preservation.
- **Conservative repair**. Applying those interventions that may restore or even improve the building's original structure without altering it.
- **Explicitness of alteration or addition**. Any necessary modifications must integrate harmoniously, but at the same time they must be clearly distinguishable from the genuine fabric so that restoration does not falsify the artistic or historic evidence.
- **Reversibility of alterations and extensions**. Thinking the necessary modifications so as to be able to reinstate the original design at any future date. Therefore, it is necessary to record the details of any original fabric before removing or covering it.
- **Compatibility of function**. Maintaining the use of the building or introducing a new function, compatible with the initial one, without altering the original structure.
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This list is not intended as definitive, it varies according to a case-by-case situation. Even modern conservationists do not recommend the preservation of every endangered building. In many cases, research and documentation may be the appropriate approach.

Conservation methodology

We have prepared a useful flowchart of attitude regarding modern building conservation, illustrated in **Image 1**.

Before starting to develop any design strategy or intervention, it is essential to take the following steps:

- Research into the building's original design, construction, materials and components, appearance and setting
- Understanding the intentions of the original designer/s, the circumstances of the building commission and of its original cultural context and significance
- Studying the history of the building subsequent use, maintenance and damages
- Evaluating the building architectural significance, identifying its adaptation capacity and determining the interface between authentic restoration and legitimate intervention
- Establishing the conservation strategy and attracting support

ATTITUDE & PRACTICAL RESULT	
CONSERVATION (technical) OPERATIONS RESEARCH • archival / bibliographical / documentation studies, interviews [bibliographical references] • typology, stylistic analysis • on-site research (visual, technical, etc.)	MANAGEMENT RESEARCH • contacting theoreticians / specialists related to the specific period's heritage preservation • finding specialists in restoration techniques o
ANALYSIS • urban development anal. (comparison of the current period's- with the following period's plan) • architectural/technical anal. • damages/interventions anal.	ANALYSIS • potential of the re-use of the building/site
EVALUATION (of specific qualities) • list of functional permissibility and interdictions • list of architectural/technical permissibility and interdictions (related to the R91 doc.)	EVALUATION • list of private/public organizations able to finance the intervention and/or use the building
ATTITUDE – detailed	ATTITUDE – chosen

(Function + damaged elements, to be preserved)

Technical solutions

Practical intervention (with the supplementation of the highest technical infrastructure support and with the involvement of trained specialists)

Control & final evaluation of the achieved results

BUILDING IN USE (with the insurance of the maintenance)

Dissemination of the results - public & official

Image 1: Decision and criteria flowchart on attitude and practical results regarding the restoration of modern architecture

The results of the above-mentioned investigations should be compiled into a single report, supported by all the relevant illustrative material in order to provide a coherent conservation strategy. Then this and/or an abbreviated synopsis may be used both as a fundraising tool and as a reference sourcebook throughout the project.

A viable future for these buildings can be secured only by synthesizing the legitimate claims of restoration *and* development.

The human and environmental aggression, as the source of buildings decay

During their long existence, buildings are affected by the permanent slow but destructive natural factors, as well as by accidental cataclysms – violent phenomena that may either ruin their integrity or even destroy them. Besides the action of the natural factors, people also interfere with the fate of these buildings, when trying to revitalize them by solving utilitarian, practical and aesthetical aspects. In time, these measures proved to be prejudicial to the conservation of the buildings from the viewpoint of their solidity and artistic and historical value.

The causes that may have brought about damages to the buildings of the studied period are the following:

- consequences of gravitation on high buildings - the subsidence of building materials, which is more obvious after finishing the constructions and becomes less visible in time (see **Image 2**);

- the vegetation grown around the buildings modified the original level of treading which in time led to the modification of the proportions of these buildings;

- the permanent action of atmospheric agents, of underground waters, and of biological factors (bacteria, fungi, moss, insects and the like) has initially a mechanical effect on the buildings. Later this effect has physical and chemical features leading to the mechanical damage named erosion. Erosion attacks the finishing materials entailing their disintegration. The phenomenon of corrosion can also occur in point of building materials (see **Image 3**);

- the action of water caused by precipitation, infiltration or atmospheric humidity spread through capillarity and electro-osmosis may significantly deteriorate the building materials. This phenomenon proves that either the buildings did not have horizontal water proofing or the materials used were severely damaged over time.[7] This phenomenon was mentioned as serious damage in case of many buildings of this period (see **Images 3, 4 and 5**);

- the phenomenon of frost and thawing acts as a mechanical erosion, which also favours corrosion factors. Sulphur trioxide and dioxide caused by pollution, combined with the existing water accelerates the corrosion phenomenon (see **Image 6**);

- biological factors – bacteria – may cause the degradation of decorative or construction elements (especially of those made of stone)[8] (see **Image 7**). Fungi, moss and lichens that grew on the stone, brick or plaster surfaces penetrate the material's pores in order to clinch there, producing mechanical displacements and activating other corrosive factors. Likewise bushes and climbing plants clinching on walls or at their base bring about mechanical displacement actions (see **Image 8**). Limestone could

Image 2: Building in Subotica

Image 3: Building in Timişoara

also be attacked by insects and bacteria that penetrate it and develop acid secretions.

To sum up, the most often-met damages are caused by natural factors such as: atmosphere agents, rain, snow and temperature modifications, which have effect on the exterior plaster, stone or brick surfaces initially non-protected.

Image 4: Façade element

Image 5: Garret ceiling

Image 6: Façade element

Image 7: Limestone decoration

The rainwater clogged in eaves, valleys and on flat roofs produces corrosion and damages the materials used for roofing. Due to these degradations, the water penetrates and ruins even the interior finishes.

Image 8: The effect of climbing plants

Image 9: Metallic decorative element of a window

Besides corrosion – the steel used in constructions for roofing, lightning rods and decorations, due to air humidity was severely corroded and rusted (see **Image 9**) – there are other violent natural factors, such as: surface earthquakes, floods and thunderbolts, having a mechanical effect, which could partially or completely damage the buildings in the studied area. Following their weight, high moment of inertia, rigid structure and plastic deformation, brick buildings are more exposed to earthquake effects (cracks). High buildings without a metal or reinforced concrete structure face the same risks.

The modification of ground water level is very harmful. Its rising level causes the impregnation of foundations with water, which, associated with frost, reduces the resistance of buildings in time.

The initial construction errors - the inadequate dimensioning of foundations, beams, columns, slabs and walls with regard to the roofing loads – can also be a source of further degradation of the buildings. Moreover, subsequent interventions in the structure made by some owners also had a damaging effect on the building stability (see **Images 10** and **11**). New techniques and new building materials were developed, however craftsmen made interventions and consolidations without a proper technical basis. As a consequence of their action, the initial structure stability was ruined.

Image 10: Plumbing on the façade of Sokoldom, Subotica

Image 11: Later structural interventions on Sokoldom, Subotica

Reinforced concrete damages

The purpose of this chapter is to present the problems of reinforced concrete, as a new material used in construction works in the interwar period.

Reinforced concrete appealed as a modern building material due to its unique potential derived from the complementary virtues of its two components – steel in tension and concrete in compression. To perform its task effectively, steel as a ferrous metal, must be adequately protected from corrosion, while concrete must not be subjected to undue tensile pressures. When their roles are altered or reversed, problems quickly occur.

Alkalinity is one of the important characteristics of fresh concrete on which interwar engineers seem to not have sufficient information. The pH value of newly cast concrete is normally highly alkaline, in the region of 12 to 14. This facilitates an extremely favourable environment for the reinforcement steel, which is passivated by the formation of a protective surface oxide. Over time, however, this environment is altered by the invasion of atmospheric carbon dioxide and water through the pore structure of the material, forming carbonic acid which, reacting with the calcium hydroxide in the mix, produces calcium carbonate.

This process – known as carbonation – results in a reduced pH value, leading to the breakdown of the passive oxide protective film on the reinforcement steel, which becomes vulnerable to corrosion following the exposure to oxygen and water. The product of corrosion – ferric oxide, or rust – greatly increases (by factors of 2 to 6) the volume of the reinforcement, setting up tensile stresses in the adjacent concrete, which will usually lead to spalling.[9] As more of the interior fabric is exposed, it is easy to see

how deterioration can become progressive. In effect, the benefits of the two materials have been reversed - as more unprotected steel suffers corrosion and more concrete fractures under tension.

The rate of carbonation and therefore its adverse consequence can vary considerably depending on the quality and density of the original concrete, particularly its water/cement ratio and the relative humidity of the pore air. The lower the water/cement ratio, the slower the rate of carbonation. As the reaction begins at the surface of the concrete and proceeds inwards, it is easy to see how the depth of cover given to the reinforcement steel is also a key factor in determining the point at which carbonation can become destructive.

Equally, as the rate of carbonation, being a square root function also decreases in time, in well-designed and correctly constructed concrete the carbonation front may never reach the reinforcement steel, which therefore remains in an alkali-rich environment. This emphasizes the fact that it is not carbonation of itself that weakens concrete but the consequential corrosive effects on reinforcement when air and water reach areas of alkali depletion.[10]

Image 12: Erosion and corrosion

Image 13: Spalling of reinforced concrete stairs

Image 14: Gradins of the Sokol stadium, Subotica

The effects of carbonation constitute the most common problem in aging, but the presence of chlorides can set up reactions within the material, which also give rise to corrosion of the reinforcing steel in advance of the arrival of the carbonation front. The detrimental effect of unstable chloride compounds varies, depending on the pH value of their environment. The presence of chlorides in concrete may be due to a number of factors, including the use of unwashed sea-dragged aggregates or contaminated mixing water or even their deliberate inclusion in the form of rapid-setting agents.

Chloride attack is usually a problem in civil engineering constructions, where the likelihood of carbonation becoming the principal danger is reduced due to more rigorous concrete specifications and a better compaction. This phenomenon frequently appears at the structures built in aggressive or marine environments. Chloride attack can greatly damage the reinforcement without the rust expansion factor normally associated with spalling. Therefore the pre-testing of any concrete structure should always include an analysis of chloride content.

The analysis of the buildings from technical point of view

The primary proposal for a building rehabilitation should observe its basic resistance, stability and conservation demands with a view to ensure the stability of the construction for a long period.

The obligation of a technical examination, always made by experts in the field, occurs whenever solutions concerning the further security of the building are required or when a general inspection of the building is necessary in order to modernize it or change its function. Function analysis should always be associated with the structural one.

The buildings from seismic areas present special issues and need special measures regarding their structure in order to be insured.

The task of the entire design team is to analyze the evolution in time of the studied buildings, the phases of structural interventions (annexes, storey-adding, major structural modifications by creating large openings in brick walls, etc.) and to establish the structures' initial form. This is important in order to re-establish the building's original image, based on the existing plans and photographs.

Structural damages need a period of observation and research at the level of the foundation ground, the structures equilibrium scheme, the resistance of materials (brickwork, mortar, wood, metallic profiles, etc.) and the real dimensions of structural elements (controlling the thickness of walls, corroded metallic profiles, etc.) depending on the loads. Local repairs, without cancelling the causes, represent a fake intervention process.

The proposed rehabilitation techniques must be compatible with the existing materials and the type of structure in order to preserve the historic authenticity, stability, resistance and safety demanded by the building's exploitation. The structural elements, which were incorrectly designed and suffered important degradations in time, may be rebuilt correctly.

The direct observation of a rehabilitated building is a compulsory measure in order to follow the behaviour of the old, original materials and the newly introduced ones, the subsidence of the structural elements and the efficiency of the applied restoration techniques and methods.

Reinforced concrete testing and diagnosis

This subchapter is based on John Allan's paper '*The conservation of modern buildings'.*

Any kind of concrete repair starts with testing and diagnosis. It is impossible to be certain of the appropriate remedies that need to be applied and to predict the costs without having a clear picture of the nature, causes and range of deterioration. The aim must be to establish where and to what extent carbonation has taken place, what cover the reinforcement has, and where bars lie in or near carbonated zones. It is also important to establish the concrete strength and mix quality, and discover any deleterious substances such as chlorides, which may be causing internal debonding or delamination not detectable from surface inspection.

Testing must be undertaken in two stages. The first (pre-contract stage) is necessary to gain sufficient knowledge of the problem in order to elaborate the necessary documentation for the repair works. The second stage of testing forms part of the detailed project record on-site.

The particular importance of prior survey work in the context of reinforced concrete repair must be carefully explained to clients. As the testing procedures (explained below) usually involve assisted

access to and invasive examination of the structure by a specialist contractor, it is common practice for a charge to be made for this service. Clients must be persuaded that it is in their interest to fund this preliminary study as a means towards obtaining more accurate knowledge and costs of the eventual work.

In order to carry out the preliminary survey of a typical inter-war reinforced concrete house, the following tools may be sufficient: scaffolding, binoculars, telephoto camera, video camera, extension ladder, etc.

The survey, inspection and testing program should also be designed to suit the structure being considered, and undertaken systematically to provide an 'auditable trail' for future reference. Before embarking on site-work it is desirable to assemble as a desktop study a database as complete as possible. Useful information can include:

- Dates and details of the original design commission
- As-built drawings and specification
- Photographs of the building in construction, at completion, and thereafter
- Details of subsequent alterations and extension
- Details of major or persistent defects
- A record of previous repairs and maintenance
- Information on the pattern of ownership and use over the building's life cycle

Although it seems that all these data are available for every modern building, it is surprisingly difficult, in practice, to assemble such information for even a recent building on a fully comprehensive basis. Much original data about inter-war buildings have been lost or dispersed, although important deposits of material are held in archives.

The range and extent of survey/testing will depend on the nature of the building and size of project, but typically will include the following:

- *Pertinent visual observations* All patent visual damage, including obvious spalls, cracks, evidence of frost attack, loss of coatings, etc., should be recorded. Factors as the location of the building, prevailing wind direction, proximity of other structures that might affect weathering, in addition to the architectural design and constructional features of the building itself, should all be considered. It is desirable to annotate a set of as-existing drawings with the findings of a visual survey, and coordinate this with as complete as possible a photographic record of the building 'as is', before the commencement of any works.

- *Hammer survey* By tapping or 'rubbing' the surface with an ordinary club hammer, a skilled operative can establish the extent of delamination and hollow areas within the concrete fabric. Care must be taken not to damage sound concrete unnecessarily.

- *Crack survey* Valuable information about the condition of reinforcement, quality of the concrete, and possible settlement or differential movement of parts of the structure can be obtained by careful inspection of the structure in order to find cracks. The correct interpretation of cracks is of great importance, as their causes and significance can differ considerably (researchers identified seven types of possible cracks). Locations and dimensions of all visible cracks should be logged on the survey record drawing.

- *Cover meter survey* By working the sensor of an electromagnetic cover meter across the surface of the concrete, the location depth, size and direction of reinforcing bars may be determined. Various types have been developed. This is of great importance in establishing a picture of what was

actually built (especially in the absence of as-built drawings and, on occasion, even with them) and also in conjunction with the carbonation test in assessing the extent of reinforcement at risk. Readings are normally taken on a representative grid basis, and should be recorded on the survey drawings.

- *Carbonation test* The purpose of this test is to establish the extent and severity of carbonation relative to the reinforcement locations as determined above. The normal procedure consists of applying the indicator solution phenolphthalein to an area of freshly broken concrete and observing the colour as it discloses the degree of alkalinity. This will range from neutral to bright pink as the pH exceeds values of 10. The quality of concrete compaction will also become apparent, as greater porosity presents less resistance to the advancing carbonation front. Again, representative positions should be tested and the average carbonation depths marked on the survey drawing. These should then be correlated with the cover meter readings to establish areas where the reinforcement may be considered to be at risk. For repair purposes, steel within 5 mm of the carbonation front may be so classified, and the number of locations of potential latent damage calculated accordingly.

- *Strength testing* Depending on the size of project and type of damage it may be appropriate to take core samples of the concrete from key positions. These can be subjected to a variety of tests to produce valuable data on the strength, compaction quality and mix constituents of the concrete as well as information on the extent of carbonation and corrosion, if reinforcement is included in the sample. The location of core samples and possible effects on the stability of the adjacent structure must be very carefully considered. Alternatively, a non-invasive and cheaper method of obtaining indications of concrete strength is to use a Schmidt rebound hammer, which will measure the resistance of the material to a known impact.

- *Concrete dust sampling* The cheaper and more usual way to gain information on the mix quality of the concrete, and the presence of chlorides, is to collect a sample of dust from drilling. This is then sent to a laboratory for investigation. The dried, crushed and homogenized material may be analyzed for insoluble residue, soluble silica and calcium oxide, from which the probable mix proportions, including cement content, may be calculated. Results must be averaged from several samples. The chloride content of the sample is determined by a potentiometric titration procedure.

The collected information will provide the basis for a diagnostic report and specification of the necessary remedial works.

Reinforced concrete repair methods and techniques

This chapter presents the typical repair methods of reinforced concrete elements, on the assumption that the survey and testing procedures described above will have produced a remedial works strategy.

We will concentrate on the 'generic' approaches most commonly adopted in current practice, although there is now a wide variety of proper products and techniques available for achieving high-quality repair of structural concrete in buildings.

The first method is usually referred to as the 'traditional repair technique'. The second one is cathodic protection and exploits the electrical conductivity of reinforcement to reverse its anodic behaviour when corroding. The third and more recent technique is called 're-alkalization', and it is based on an electrochemical process. The fourth, known as 'desalination', is a variation of the third in using similar means to extract chlorides. These techniques do not exclude one another; the adopted solution depends

upon the nature of the diagnosis and the cost. It is frequently necessary to combine in certain locations traditional repairs with another of the techniques.

If remedial works are to be more than merely cosmetic, a scientific understanding of the causes of degradations is required. The repair techniques described here must be seen as elements within a comprehensive strategy that may be carried out only by fully qualified firms and personnel.

-        **Traditional concrete repair procedure**[11] starts from the premise that all damaged areas or potential degradations should be replaced with new high-quality mortar and, if necessary, new reinforcement.

The areas for treatment identified from the survey are marked out on the structure. In case of surface degradations, the damaged concrete is removed and the repair area cleaned. When dealing with deeper damages, concrete is drilled out or cut out by pneumatic hammer, while surface cleaning is normally made by grit blasting, high-pressure water or suction blasting. These operations must be carefully undertaken in order not to damage the adjacent concrete.

The most important procedure in obtaining a sound result is the thorough removal of the products of corrosion from steel reinforcement bars. Damaged bars should be exposed beyond their corroded length and the ones weakened beyond repair should be replaced (structural advice should be sought in cases of replacement). Rusted reinforcement is best cleaned by grit blasting.

As soon as possible after cleaning, the prepared steel is primed in two coats using an epoxy coating or polymer-modified cementations slurry – the second coat being applied while the first is still tacky, and including quartz sand blinding to optimize the keying of the ensuing repair. Site procedures will differ depending on the product system specified.

In order to prevent premature setting, the whole repair area should be dampened, and a bonding bridge slurry applied to enhance adhesion of the repair mortar, which should be placed in position by hand while the bonding is still wet.

Before starting repair works, close attention should also be paid to the ambient air and substrate temperatures, which should normally be at least 5°C and rising.

After completing the concrete replacement and cleaning the remaining surfaces of previous coatings, an important architectural/technical decision must be made, concerning the quality of finish desired for the eventual result.

In specifying these, consideration should be given to whether the area to be covered is likely to be subject to cracking or not. In the former case a coating system with elastomeric properties should be used. In all cases it is important to use coatings with sufficient resistance to freeze-thaw cycles and vapor-permeable properties that allow any moisture within the fabric to migrate to the outside.

A main purpose of coating is to provide a decorative finish, where the question of authenticity arises again. For the cases where the original concrete was left undecorated, clear coatings are available. The architect is the one who must seek to retrieve the original colour scheme.
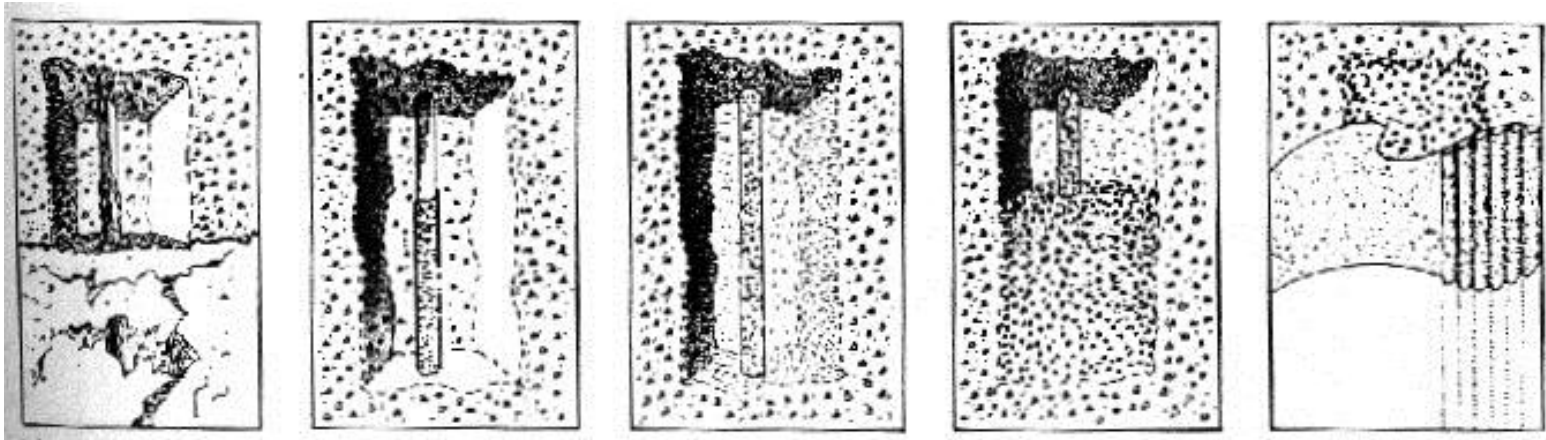
Image 15: Sequential diagram of the traditional concrete repair process

- **Cathodic protection**[12] can be regarded as the 'traditional' response to the problem of chloride attack.

    This well-established technique makes use of the conductivity of reinforcement to continuously transmit a small direct current through the structure to prevent the steel from reaching the electric potential at which corrosion occurs. A positive anode or anodic covering is installed in or attached to the structure and connections are made to the reinforcement, which functions as a cathode when the system is activated, attracting positively charged ions.

    Cathodic protection is used to prevent potential damage in those parts of the structure, where chloride contamination has not begun to corrode the steel yet. The areas where chloride attack has already corroded reinforcement cannot be repaired using this technique – these must still be replaced as described above.
    Cathodic protection can seem to be cheaper compared with the full replacement of contaminated concrete. However, the ongoing costs of monitoring and regulating the installation in order to ensure that the desired result is being maintained must be taken into consideration too.
    This method is currently adopted in Britain and has been used in the USA for many years.

- **Re-alkalization**[13] is a relatively new technique, which has the same objective as traditional repair – the restoration of an alkaline fabric – but applies a non-destructive method of achieving this for the areas of latent damage.
    However, the areas of patent damage, where reinforcement corrosion and spalling have already taken place, must still be identified and dealt with in the traditional way.
    Therefore, re-alkalization can be a more economic restoration strategy depending on the relative extent of patent damage as a proportion of the total area of concrete structure, where invasive repair would otherwise not be necessary. Re-alkalization becomes an extremely attractive restoration technique, from both the financial and the conservationist points of view, when the preponderance of work involves treating carbonated but otherwise sound concrete.

The principle behind re-alkalization was initiated by Norwegian Concrete Technologies in the early 1980s. That is to induce into the concrete fabric by means of an electrochemical process an alkaline solution that will permanently raise the pH value above 10, passivizing the reinforcement steel and resisting future carbonation.

The operations prior to re-alkalization, such as surveying, testing, diagnosis, etc. and the general removal of surface coatings must all be undertaken in the traditional way.

The advantages of re-alkalization include its non-destructive and environmentally safe processes, its comparatively non-disruptive nature in reducing noise and dust, thereby allowing uninterrupted use of a building during the work, and its long-term durability.

Good case studies exist for this technique in Norway, Belgium and in the UK.

-       **Desalination**[14] is applied in cases where the concrete damage has occurred through chloride attack and the ingress of harmful salts, but otherwise it makes use of procedures similar to those of re-alkalization. Here the negatively charged chloride ions in the cement matrix of the reinforcement are attracted to the positive external anode formed by the temporary wire poultice/loom.

Areas of patent damage still require traditional repair, and finishing procedures are similar to the ones already described. Desalination promises a once-and-for-all remedy, the prescribed finishes and coatings are used to prevent the ingress of further chlorides, unlike cathodic protection, which relies on the continuous application of the electric charge.

This technique is recommended for use especially in marine locations.

Crack repair principles

It is impossible to present here a complete account of the available remedies of concrete cracks, due to the variety of possible causes and the different circumstances of each and every case.

The correct diagnosis of concrete cracks may indicate the appropriate remedy.

Young shrinkage cracks, that are not related to structural movement still actively taking place, may be cleaned of contaminants and grouted up for redecoration. Traditional concrete repair is indicated only when the crack has already initiated reinforcement damage and presents an incipient spall.

Resin injection techniques may be suitable to bond and seal larger cracks when they are not subject to further movement. If the crack still appears to be active, the attempt to prevent movement by resin bonding will probably prove fruitless and it may be more realistic to cut out and re-form the crack as a deliberate movement joint of sufficient width to provide adequate elastic capacity in the flexible sealant.[15] The first repairs must be made on those deep damages, which result from the ingress of water or salts or the advance of carbonation via the crack.

If an active crack presents important structural problems, even conscientious remedial work at the crack site will only be successful if undertaken together with the adequate structural engineering intervention.

In any case, crack repair should be part of the general restoration strategy, and will usually accompany one or more of the already described repair procedures.

All repair works carried out and materials used should be recorded and compiled during and/or at the completion of the project. Even the most comprehensive restoration scheme cannot be regarded as

'the last word' on a building, especially a purist modern one. An ongoing system of monitoring and maintenance is essential for a client in order to protect the value of the principal investment.

A maintenance manual should be prepared to give clear guidance to future personnel. This should include details of product life-expectancy and renewal requirements, specifically in the case of protective finishes which may require over coating after periods of 8 to 10 years, depending on the specific conditions of each and every building.

Conclusions

Buildings have always had a utilitarian character. In order to make them meet the requirements of contemporary life, people either transformed them or totally changed their function. These new functions required modifications regarding the space division both horizontally and vertically.

Although adapting the buildings to the requirements of contemporary life comfort had a positive aspect, the implementation of the new and modern solutions sometimes spoiled the aesthetic value of the buildings.

Considering that life itself is one of the fundamental values of historic areas, and that life requires ongoing change, references for conservation should be properly identified.

Integrating all the aspects – social betterment, technical progress and aesthetic innovation – into one vision is the main challenge of Modern Movement. As we enter the new century it will become the task of a new generation to determine an appropriate response to the now-historic legacy of modernism while simultaneously facing unknown but probably even greater challenges with comparable hope and courage.

It is worth noting that, in many countries, at least 70% of present construction is being involved in the repair, rehabilitation and change of existing buildings or areas – a large part of this activity certainly deals with inter-war structures. At the same time, only a small proportion of those involved have relevant conservation-oriented training experience, the necessary knowledge and critical attitude required by the task. [16]

At the beginning of the new millennium, we see the conservation of the built heritage as a necessity, as a new culture, as well as part of any healthy community policy. Due to the need to learn about what exists, it is fundamentally different from design-oriented and theoretical disciplines. At the same time, it is a modern discipline that requires its clear philosophy and guidelines and is based on the participation of many 'actors'. It means creativity and critical thinking, which are at the root of modern conservation, but it is also based on communication and collaboration across boundaries. It needs specialized induction of different disciplines, and raising the awareness and building up the appropriate culture in all sectors of a community.

Illustration source

1.	*Decision and criteria flowchart on attitude and practical results regarding the restoration of modern architecture,* photo: Ana Maria Biro
2.	*Building in Subotica,* photo: Ana Maria Biro
3.	*Building in Timisoara,* photo: Ana Maria Biro
4.	*Façade element,* photo: Ana Maria Biro

5.   *Garret ceiling,* photo: Ana Maria Biro
6.   *Façade element,* photo: Ana Maria Biro
7.   *Limestone decoration,* photo: Ana Maria Biro
8.   *The effect of climbing plants,* photo: Ana Maria Biro
9.   *Metallic decorative element of a window,* photo: Ana Maria Biro
10.   *Plumbing on the façade of Sokoldom, Subotica,* photo: Ana Maria Biro
11.   *Later structural interventions on Sokoldom, Subotica,* photo: Ana Maria Biro
12.   *Erosion and corrosion,* photo: Ana Maria Biro
13.   *Spalling of reinforced concrete stairs,* photo: Ana Maria Biro
14.   *Gradins of the Sokol stadium, Subotica,* photo: Ana Maria Biro
15.   *Sequential diagram of the traditional concrete repair process,* source: John ALLAN, *The Conservation of Modern Buildings*, p. 168.

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[5] Petzet, Michael. "Opening Address", in *Dangerous Liaisons,* ICOMOS Finnish National Committee, 2001, p. 4-5.

[6] Ibid., p. 5.

[7] Water together with various salts migrates from the interior to the exterior. When they reach the surface, the water evaporates and the salts crystallize and increase their volume causing the phenomenon of efflorescence.

[8] Bacteria oxidize the sulfur from the atmospheric humidity. Combined with the calcium from the rock it produces calcium sulfur, which crystallizes as gypsum and progressively damages the stone.

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[10] Allan, John. *The Conservation of Modern Buildings*, p. 160-161.

[11] Ibid., p. 169.

[12] Ibid., p. 173.

[13] Ibid., p. 173.

[14] Ibid., p. 175.

[15] Ibid., p. 175.

[16] Jokiletho, Jukka. "Training for Urban Preservation: Current Issues*", in Dangerous Liaisons,* ICOMOS Finnish National Committee, 2001, p. 39.

UNIFORMITY OF CONCRETE USED IN BUILDING AMVIC-BASED STRUCTURES

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Abstract

Following the impossibility to do a post-striking check, polystyrene lost formwork concreting may raise questions on concrete continuity. The non-invasive methods of determining the uniformity and continuity of polystyrene formwork concrete steel may be an efficient way to assess the quality of the structural elements.

Key words: *Polystyrene lost formwork, AMVIC system, concrete uniformity*

The energy crisis triggered by the exhaustion of world fossil fuel reserves and by pollution resulted from fossil fuels burning, has led to the need for the so-called "passive houses".

Here are the main features of PASSIVE HOUSES:
- thermal insulation (heat transfer coefficient 0.15W/sqmk);
- eliminating thermal bridging;
- using thermal insulating woodwork;
- heat recovery ventilation systems;
- efficient climatizers;
- using alternative energies.

Besides all of the above, passive houses, as all constructions, must comply with the legislation in force and meet the construction market demands:
- low energy consumption;
- high safety level;
- reliability;
- low cost and rapid investment amortization;
- appealingness;
- easy, low-cost maintenance.

The construction material which satisfies best the before mentioned prerequisites, except for thermal insulation, is concrete. It is not a thermal insulator, moreover, due to the massive concrete structural elements, it has high thermal inertia. Overcoming this drawback has been a permanent concern among the building physics specialists. They have come up with two solutions: using thermal insulating concrete or coating the concrete with various thermal insulation materials. The former is less employed, for it results in the reduction of the mechanical properties of concrete and in considerably high costs. The latter is most frequently used, leading to optimum execution. The subsequent coating of concrete

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structural elements implies additional workforce and low reliability. A solution to these problems may be the use of *AMVIC* polystyrene formwork.

The AMVIC system has multiple advantages, as follows:
- thermal insulated concrete structural elements;
- maintaining concrete mechanical properties;
- reduced execution costs (the price of formworks);
- reduced execution time;
- protecting the concrete and the fittings from the external factors;
- optimum concrete – polystyrene interlocking;
- vapour barrier;
- soundproofing;
- high reliability.

Concrete segregation is the fault likely to occur during concreting. Segregation means concentrations of small and large aggregates in certain areas during concreting, not completely cemented. This leads to concrete discontinuity which affects its monolithic properties as well as its uniformity, eventually weakening its resistance.

This fault is caused by:
- insufficient or excessive vibration;
- high pouring height;
- cement milk loss through concrete forming.

In case of a traditionally built structure, using timber or metal formwork, this fault can be easily and efficiently detected by "testing the post-striking concrete". This procedure provides us input on fresh concrete setting (vibration, segregations, holes, cracks and casting joints). Identifying this fault in the polystyrene formwork concrete is a challenge for the site inspector (the investor's representative) and for the public construction inspector (state representative). In this case, the "post-striking concrete testing" method is non-applicable.

The particularities of the polystyrene formwork system prevent the occurrence of this fault by strictly complying with the concreting procedures. This provides a quality hardened concrete. However, in the event certain events likely to affect the quality of the hardened concrete occur, the end product (the polystyrene formwork concrete) may be tested by determining the *concrete uniformity*.

1. Concrete uniformity control

1.1 Flaws and faults

The development of the conformity assessment and certification infrastructure aims at simplified concrete quality control procedures and at considerably reducing the number of expensive and / or invasive assessment methods (hard radiations, core removal, stripping). Also, it ensures conformity assessment procedures compliance with the provisions of the harmonised European directives and

standards, a guide for both public authorities in the market surveillance process and producers for fulfilling their duties.

Flaw / fault detection consists in a set of procedures for testing the materials, members and joinings in order to determine their faults (cracks, holes, inclusions and the like) through non-destructive methods.

The non-destructive defectoscopy aims to identify the defects, to determine their nature and dimensions: the position, orientation and the size, and to issue decisions of acceptance, reparation or rejection.   The classification of a product, in dependence on its flaws, into the category of accepted products, remediable or discarded will consider the admissibility criteria of the admissibility limits mentioned in the manufacturing documentation, norms and standards. To obtain such exact information on the defects (nature, size, position) can lead to the identification of the causes and to establish the measures of correcting the execution or the technology and can result into optimum solutions for reparation.

The development of the non-destructive defectoscopy is imposed and affects the economic efficiency. The economic efficiency derives from the following:

- decrease of the material expenses, labour force and time for control;
- shortening the time of using the execution technologies;
- increase in the labour productivity and rhythmicity;
- lowering in the number of the rejected products;
- avoiding the loss in production and manufacturing, due to using the rejected products;
- cutting the operation and maintenance costs;
- improving the quality of the products by increasing the control precision;
- increasing the durability and feasibility of products exploitation;
- increasing the exploitation safety level;
- lowering the safety coefficients in designing;
- decreasing the risk level and avoiding the loss derived from accidents;
- identifying the causes of the deficiencies and implementing the optimum corrections.

Irrespective of the advantages previously shown, the unjustified increase in the control volume, the implementation of certain high strung methods that are not correlated with the manufacturing level and with the possibilities of the simpler and less expensive means, the gratuitous reduction of the limits of defects tolerance limits, will all lead to increasing the cost and hence the control discrediting.   For this reason, the control volume and the stipulations in the control norms should be established in such a way to cover the control and prevent the loss in the manufacturing process, on the one hand, and to lower the consequences of possible damage to the minimum, on the other hand.

This condition is expressed by the equation of losses:

$$C_t = C_n{\cdot}p_n + C_r{\cdot}p_r(l - g_d){+}C_{cnd}$$

where: C_t - total cost;

   C_n - cost of non-detection;

C_r - rejection cost;
C_{cnd} – non-destructive control cost;
p_n - non-detection probability;
p_r - rejection probability;
g_d - breakdown degree.

A graphic can be drawn and have the following curves included:

Curve 1 represents the dependence of the costs on the manufacturing costs, as a function of the size of the admitted imperfection
Curve 2 represents the dependence of the maintenance – exploitation costs, as a function of the size of the admitted imperfection

Along with the decrease in the admitted maximum imperfection, it can be noticed that the total cost increases due to the rising in the control cost and expenses for avoiding the rejected products and having the damage repaired. Should the maximum imperfection admitted is increased, the control cost and the repairs cost lower, while the product maintenance and renewal expenses are going up, due to the decrease in the operating life.

Curve 3 represents the total expense, whose minimum value gives the optimum size of the maximum imperfection to be admitted, in a certain situation.

Image 1: Variaţia costurilor raportată la nivelul exigenţelor calitative
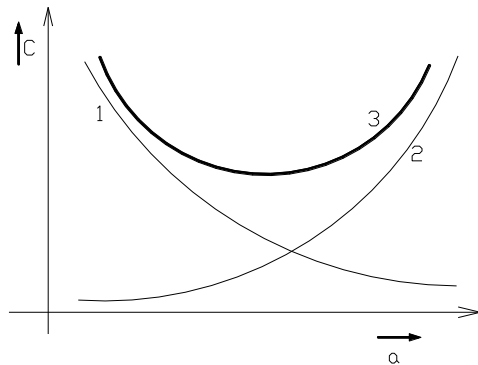
Imperfection – represents any deviation from the shape, size, mass, aspect, tightness, structure, chemical structure or mechanical and physical properties mentioned in the standards, product norms or manufacturing documentation.

Defect – the imperfection that exceeds the admitted size for the quality class having been designed. This action can be compared to either the absolute value of the admitted imperfection, or with the admitted maximum surface that is being taken in the section under study.

Discontinuity – includes the entire field of imperfections, save for the deviations of shape and size.

1.2. Description of the investigation method

The checking of the concrete homogeneity can be carried out via the ultrasound impulse method, by the statistical processing of the values of the propagation speed of the waves. The principle of this

method lies in measuring the propagation time required for an ultrasound impulse of longitudinal waves to cross through the distance between the emitter and receiver, in the element.

The method by transmission or transparency uses two feelers, one that emits and another one that receives, located on opposite sides.
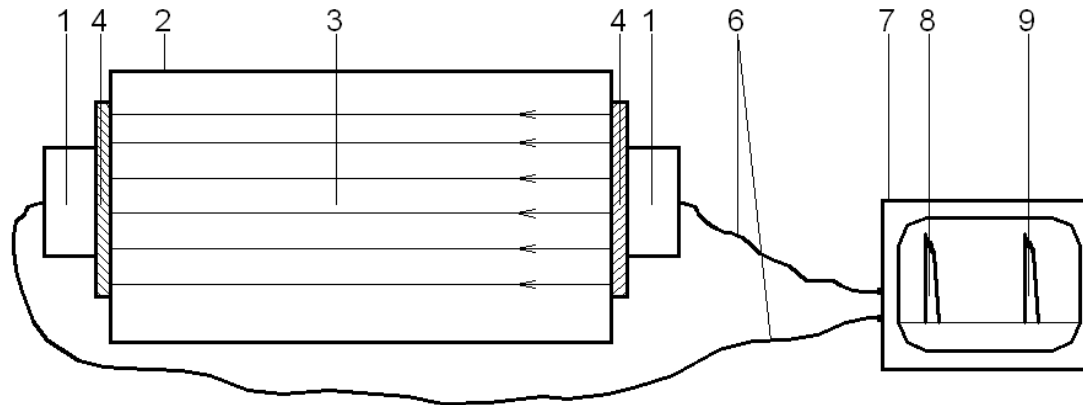
Image 2: The ultrasonic method via transmission for longitudinal waves
1 –   feeler receiver; 2 – piece; 3 – ultrasound waves;
4 – coupling element;
5 – feeler emitter; 6 – cable;
7 – oscilloscope; 8 – emitted initial echo;
9 – received background echo

1.3. The calculation of the primary data

The primary data, used in the ultrasonic method, are the conduction times of the ultrasounds via the element being under study. Due to the specific structural elements in the AMVIC system, subjected to the investigation by the ultrasound method, the primary data are represented by the ultrasound conduction time through the ‚sandwich' created by the concrete elements and the two polystyrene cast units.

t_1, t_2, ... t_i, ... t_n ultrasound conduction time in n points of investigation
V_1, V_2, ... V_i, ... V_n the conduction speed for ultrasounds in points of investigation

$$V_i = \frac{D+2g}{t_i}$$

element beton grosimea G

Cofraj polistiren grosimea g
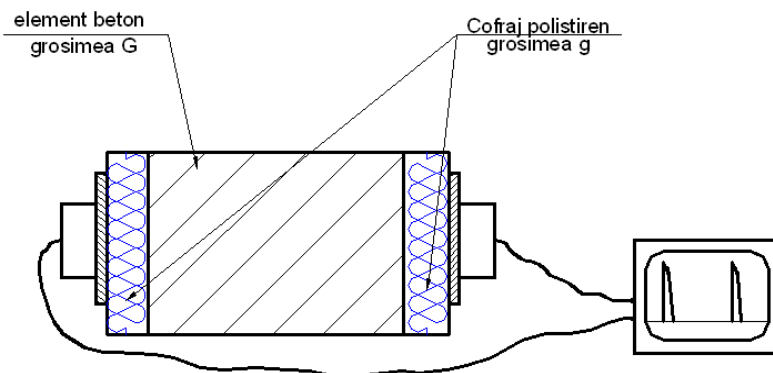
Image 3: The ultrasonic method of transmission applied to a structural element in concrete cast in polystyrene lost shuttering

1.4. The mathematical algorithm

The mathematical algorithm that underlies the experimental calculation of the homogeneity of the concrete cast in polystyrene lost shuttering is as follows:

The value $\bar{x}$ is the mathematical average of the results

$$\bar{V} = \frac{V_1 + V_2 + ... + V_i + ... + V_n}{n} = (1/n)\sum_{i=1}^{n} V_i$$

The standard deviation S_n is calculated by the formula

$$S_n = \sqrt{\frac{\sum_{i=1}^{n}\left(V_i - \bar{V_n}\right)^2}{n-1}}$$

The standard deviation of a value S is calculated as below

$$S = \lambda \cdot S_n$$

where:

V – the value of speed calculated for a determination;
n – the number of determinations;
S – the standard deviation of a V standard;
S_n – the standard deviation for the total number of determinations;
λ – coefficient according to the determination number.

Value of λ coefficient according to the number of determinations in conformity with NE012-1999

n	16	17	18	19	20	22	24	26	27	>30
λ	1.14	1.125	1.11	1.095	1.08	1.06	1.04	1.02	1.01	1.00

The homogeneousness is defined as the ratio between the standard deviation and the arithmetic mean

$$G_o = \frac{S}{\sqrt{\bar{\bar{V}}}}$$

According to NE 013-2002 homogeneousness is classified in three homogeneousness degrees.

Homogeneousness degree	$\dfrac{S}{\sqrt{\overline{V}}}$
I	< 0.670
II	0.670÷0975
III	> 0.975

The variation coefficient c_v is the ratio between the standard deviation and the value of the experimentally researched variable.

$C_v = S / \overline{V}$

2. Interpretation of results

As it is already known, the ultrasounds propagation speed is a constant of the material, the denser the material is, the greater the propagation speed will be. Knowing the previously presented, we can say that if the ultrasounds propagation speeds are equal through two bodies of the same (distance between detectors), the two bodies are made of the same material.

If we investigate a steel concrete pipeline orifice, built according to the AMVIC system, using the ultrasonic method, for various points and we notice that the ultrasounds propagation speed varies within a reduced interval, we can be certain that the materials the waves meet are similar. Knowing the geometry of the pipeline orifice, two polystyrene dimensions and the concrete dimension, we can say that the concrete in the pipeline orifice is homogeneous.

Internationally, the value of the variation coefficient is considered adequate if between 6% and 8%.

3. Conclusions

The structural concrete steel of the constructions built in AMVIC system, for which the concrete steel mixtures and procedures have been respected have the warranty for obtaining a final product that reaches the projected quality level. However, if incidents susceptible of generating faults should happen, a less invasive verification method is necessary. This method must be easy to apply, rapid, precise and must identify the position and gravity of the non-conformity.

The method of investigation previously presented is a method used in various fields, from medicine to the materials industry. This method fits best the specific needs of the AMVIC system buildings, as it is precise, rapid; it needs relatively cheap equipment and quality staff.

Illustration source

Image 1, 2:   *Bohăţiel, E. Năstase. Defectoscopie ultrasonică fizică şi tehnică. Bucureşti: Editura Tehnică, 1980.*
Image 3:   *author's illustration*

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**THE IMPORTANCE OF HOUSE BUILDING IN THE CONTEXT
OF ROMANIANS INTERNATIONAL MIGRATION FROM RURAL AREAS**

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Abstract

International migration affects both domestic architecture and housing practices, due to new values, ideas and patterns internalized in the destination country, thus contributing to the transformation of the rural landscape in the homeland. The configuration of the new houses departs from traditional models through the incorporation of foreign elements that migrants adapt to the local patterns. However, these new homes are hybrid forms, following the meeting of two cultural models, where the new and old are juxtaposed within the same building. For most migrants, the host country is a "field" of effort, while the village of origin, the stage of consumption where the wealth accessed through migration is displayed, the locals adopting the signs of success: expensive cars, Western clothes and luxurious homes. Indeed, in rural Romania migrants' investments in housing belong to the symbolic realm and less to the economic one, being linked to the family honour or to the competition between members of the local community.

Key words: *international migration, rural area, house building*

1.   Introduction

In 2011, the largest group of foreigners living in the EU Member States consisted of Romanian and Turkey citizens, the majority of Romanian migrants being located in Italy (42%) and Spain (36%). In 2010, the stock of Romanian emigrants was nearly 2.8 million (13.1% of Romania's population), the main migration corridors being Romania–Italy and Romania–Spain. Despite the crisis that impacted the main host countries of Romanian migrants, return migration was not up to the expected level during these difficult economic times (Sandu, 2010). The Romanian migrants form the group of foreigners living in the EU with the most significant increase in number between 2001and 2009 (from 0.3 million people in 2001 to 1.9 million in 2009) as well as between 2010 and 2013 (+ 4.8 %). Even though remittance flows to Romania dropped significantly over the last five years, from 9.285 million US dollars in 2008 to 3.862 million US dollars in 2013 (source: World Bank), Romania occupies the third place among the largest remittance recipients in the ECA region in 2013.

The majority of Romanian migrants focus primarily on investments in houses and consumer durables and secondly on starting a business, with almost no support for the community of origin (Dumitru et al., 2004). This fact is highlighted by a survey in 2008 showing that, regardless of their intentions to return, about half of Romanian migrants in Spain considered buying / building a house in Romania (Sandu, 2010). The preference for house building is confirmed by SOROS-IASCM survey in 2011 (Alexandru, 2012)

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and by fieldwork. Such a field research, conducted in 2001 in one of Romania's rural areas, pointed out that: "[...] construction of new houses (mostly large houses) / real estate in neighbouring cities [...] seems to be a constant characteristic of the household that contains at least one migrant" (Şerban and Grigoraş, 2000:52). Building a beautiful house in the countryside is an incentive that is more symbolic than economic: "Many migrants invest their income in large new houses, clothes and cars" (Anghel, 2011: 40). In some rural communities, the family honour (Diminescu, 1999) is still highly valued and the house is an effective way to achieve this: "The first wish of the villagers from both Temeşeni and Piatra who earn money abroad is to build a new home, not simply a home, but a big house, possibly bigger than the neighbour's" (Stan, 2005:11). In contrast, the old, traditional houses are "a source of shame" for families that "continue to live in them and cannot build another modern home" (Moisa, 2009:3). As a result, the large and beautiful houses built in the country of origin that display the signs of wealth and migration success abroad represent a strong incentive for other potential migrants (Uccellini, 2010). Hence, a new culture of migration is diffused among the community of origin, increasing the potentiality for future migration (Massey, 1998).

2.   Stages of Romanian migration abroad

We cannot analyse house as the main investment of Romanian migrants in rural areas without making an overview of the main stages of Romanian migration:

The 1990-1995 period. At this stage, in addition to the permanent migrations (ethnic and the ones seeking for political asylum), a significant number of Romanians were involved in a cross-border mobility characterized by "suitcase commerce". Romanians' migration had an individual and exploratory nature, often limited to short periods, less than 3 months (Diminescu, 2003). The preferred destinations were Turkey, Serbia, Poland and Israel. Moreover, besides the ethnic groups leaving Romania (such as Hungarians, Germans and Jews), we notice the emergence of religious networks (Diminescu, 2003). In this first post-1989 wave of Romanians temporary migration abroad, the best represented historic regions are Moldavia and Transylvania (Sandu, 2010).

In Turkey, Romanian migrants were mostly irregular, being involved in the textiles, constructions and food sector, trade and maritime transport (Gangloff and Perouse, 2003). The geographical proximity to Romania is one of the advantages of this destination. However, there are multiple disadvantages: long working hours, poor living conditions, lack of any social protection, corrupt police force. Consequently, Romanian migrants could not feel `at home` in Turkey and – except for the women married to Turkish citizens – did not intend to settle in this country (Gangloff and Perouse, 2003).

In 1995, Romanian migrants formed the largest group in Israel, most migrants working in the construction sector (Diminescu and Berthomiere, 2003). Male contingent was well represented here, and familial migration was a rare case (Diminescu and Berthomiere, 2003). Furthermore, stays in this country were short – between one and two years -, the State of Israel imposing measures to prevent the temporary or permanent settlement of migrants on its territory (Rosenhek, 2003). Thus, Romanian migrants had no other purpose than the accumulation of financial assets and their return home. So, remittances transferred to the country of origin by the Romanian migrants from Israel amounted to over 20 million dollars per month (Diminescu and Berthomiere, 2003).

The 1996-2001 period. This period is characterized by an irregular migration for work in countries like Israel, France, Germany, Greece and, particularly, Spain and Italy. Consequently, during this period, Romanians bought visas for Italy for the equivalent of 750-1500 euros (Weber, 2003; Larionescu, 2012a). The level of permanent emigrations decreased, while migration from rural areas increased, because many villagers had already experienced internal migration from rural to urban area or commuting. This culture of mobility or previous mobility experience conferred to Romanian temporary emigrations a high selectivity nature (Diminescu, 2003; Sandu, 2010). In the same period, we notice the emergence of several villages, "champions of circular migration", engaging even the neighbouring towns into the same migratory flow and targeting specific areas of the host country (Diminescu, 2003:11).

In Italy, many Romanian migrants come from rural areas (Diminescu, 2003). While for the first Romanian migrants in Italy, family was less important in the success of migration design, for the second wave migrants, social capital and the support of extended family or godparents (Cingolani, 2008) became essential in finding a home and a job. Women are well represented in the group of Romanian migrants - about 50% - (Diminescu, 2003), the reason being both the nature of Romanian migration in Italy – a family migration – and the job offer in the elderly care sector. Thus, while during the "exploratory" phase, between 1990 and 1995, Romanian migrants in Turin were mostly single men, at this stage of Romanian migration to Italy, an increased number of women started to join them, coming alone or for family reunification (Cingolani, 2008). Moreover, in Rome, most migrants came from Moldavia, Transylvania and large urban centres (Weber, 2003). In the year 2000, unlike the Poles from Italy, more oriented to settle in the town where they had obtained residence, the Romanians from Italy were not set in a specific city, being inclined towards greater mobility, depending on personal interests (Weber, 2003). Thus, some Romanian migrants, holders of a residence permit in Italy were also working in other countries, such as Germany (Weber, 2003).

The 2002-2006 period. Visas suppression from the 1st of January 2002, on the condition of a stay in the Schengen area for maximum three months (during a six-month period) led to a circular migration between the destination country and the country of origin. In this period, the rate of temporary migration abroad continued to increase, reaching about 2.2 million migrants in 2006 (Sandu, 2010). Italy and Spain became the main destinations of Romanian migrants. The practice of circular migration was also convenient for certain families with several children, as family reunification in Italy was not desirable (Cingolani, 2008). Also, for some women with small children, the help of the family from the home country was essential: children were entrusted to grandparents in the village or, in other situations, grandmothers went to Italy to look after them (Cingolani, 2008).

At the same time, the carriers of passengers and packages grew (Diminescu, 2003). The things sent from Italy to Romania included detergents, olive oil, coffee as well as new or second-hand furniture and appliances. If the family built or furnished a house in the village, other things could be sent as well to the home country, such as building and finishing materials, electrical or thermal installations and systems and the like (Cingolani, 2009; Larionescu, 2012a).

The post-2007 period. During this period, in spite of Romania's accession to the European Union and free access to the Schengen area, Romanian migration preserved its circular nature (Sandu,

2010). This type of mobility is caused by several factors. On the one hand, some employers (both Romanian and Italian migrants) need a seasonal workforce (particularly in the construction and agricultural sectors), while on the other hand several migrants prefer to travel back and forth between the host country and the country of origin, being constrained by their family or professional situation (Eve, 2008).

The Italian National Institute of Statistics (ISTAT), recorded 342 200 Romanian residents on the Italian territory on the 1st of January 2007, of whom more than half being women (52.6%). In January 2008, the number of registered Romanian migrants amounted to 625 278, the share of women being of 52.9%, Romanian migrants being the most numerous, followed (at a considerable distance) by Albanians and Moroccans. Examining the data of a survey conducted in Turin, in 2008, Eve finds that "15.1% of all firms in the constructions sector were held by Romanians" (Eve, 2008:80). However, transnational economic practices – "suppliers, business trips or investments in the country of origin" (Eve, 2008:80) – are rarely met, most enterprises attracting the clientele from the Italian market (Eve, 2008). On the 1st of January 2011, despite the economic crisis of recent years, Romania held the first place as total number of immigrants in Italy (968 576 – 21.2% of all immigrants), out of which 54.6% were women.

Depending on the employment opportunities in the host country, the educational projects meant for children, loans or monthly rent and other charges, or on the chance to earn a little more money than in Romania, several migrants of rural origin postpone the date of their return (Larionescu, 2012a). In addition, the tendency to return home is stronger in the case of Romanian migrants who "build and maintain social ties with the country of origin" (Cingolani, 2008:16), being negatively correlated with the duration of stay in the host country (Sandu, 2010). Certain factors, such as the migrants' age, family situation, religious affiliation or the command of the host country language, may also affect their homeland orientation. Thus, migrants with a poor command of the host country language, as well the middle-aged ones or those married with part of their family living in the home country have a strong homeland orientation (Sandu, 2010).

Romanian migrants are described by Italian researchers as being "individualistic" and only cooperating with the family members, despite the fact that they often come "from a relatively small number of towns and villages" (Eve, 2008:70). The only exceptions are Neo-protestant communities where also "collective remittances" (Eve, 2008:70) can be met, which explains the few collective initiatives aimed at the village or town of origin (Eve, 2008). As to the migrants whose social relations are limited to the circle of extended family and close friends, the amount and frequency of remittances vary depending on the location of the nuclear family's members. Thus, if children are not with their parents in the host country, the latter send money to the relatives that take care of the children left at home more often, a practice much diminished after family reunification (Eve, 2008). However, young male migrants or even young couples may send money to their parents in charge for overseeing the construction works (Larionescu, 2012a; Tue and Toderas, 2012). Sometimes the family can help migrants facing difficult situations in the host country (Cingolani, 2008). Therefore, the level, direction and frequency of remittances depend on migrant family's profile and on the family, economic or habitation changes within the household.

3.   Research on the significance of the house in rural areas

In order to understand the significance of the migrant's home built in the place of origin, we shall further examine several fieldworks related to this process of house building in different rural areas. Although in metropolitan France the number of Romanian immigrants is low - 50 335 in 2008 (INSEE) – between 1990 and 1999, Romanian migrants from Nice and Paris represented a "legitimate clientele" (Potot, 2001:157) for humanitarian organizations, which helped them sell street newspapers, an occupation that did not require a legal status. Selling street newspapers became more and more interesting to the Romanian migrants from the two cities because it offered not only a substantial income, but also flexible working hours and independence from any form of control. The migrants could suspend this activity for a limited period when finding a better job (obviously illegal), or could return home at certain times.

Therefore, Romania's underground economy and the `debrouillard` spirit (Larionescu, 2012b) of these migrants represented a human capital exploited even in a country like France. This led to a situation where more than half of all street newspaper salesmen in Nice and Paris were Romanians (Potot, 2001). On the other hand, selling street newspapers was perceived by the migrants holding an academic degree as social downgrading, as by the way it was practiced it was close to begging (Potot, 2001). However, the desire to improve their financial situation and move up the social ladder in the country of origin was a strong incentive to accept, for a limited period of time, their identification with a particular social group (the one of France's `poor people`) and to take up totally different roles (even opposed) to the ones played at home:

"Their reference universe is situated outside that condition, and selling newspapers appears in this case as a strategy without any consequences on self-image" (Potot, 2001:168).
Thus migrants take multiple identities, depending on the context in which they are located. In the host country, in relation to potential `clients`, they must appear humble, that is why their clothes are also modest (Potot, 2001). Instead, the migrant returned to Romania plays the role of the newly enriched one, presenting himself " [...] as a winner, a young adventurer who made his fortune in the West thanks to his courage and talents [...] " (Potot, 2001:168).

In a survey on the international migration of rural population from Tara Oasului another scholar finds this area like an ongoing construction site:

"New houses, more or less finished, built according to the same model, spread throughout Oas region, giving the impression that this building process is endless [...] the central element that structures the back and forth mobility of Certeze's population and their behaviour - irrational from the strictly economic point of view - is and remains the family obligation to build a house [...]" (Diminescu, 1999:2).
The house is closely linked here to "family honour" (Diminescu, 1999:2), because in this rural area, the family – which includes "four generations under grandparents' authority" (Diminescu, 1999:3) – occupies a key place in the life of an individual: it arranges the marriages, builds houses for the children from their early childhood and supports them throughout the entire stay abroad. Housing is so important that parents do their best to build a house for every child, the last born (male child) inheriting his parents' house and taking care of them. Furthermore, when arranging the marriage, "each partner is appreciated by reference to his family wealth, and among the estimated assets, [...] the house under construction comes first" (Diminescu, 1999:3). Moreover, the tacit competition between neighbours contributed to the

physical and financial effort made by each family to achieve these houses. This desire to display family wealth through the house is not new to Oas region, being asserted even in the communist period (Diminescu, 1999). Similarly, internal migration following seasonal work (logging) carried out by Oas inhabitants (men, women and children) since 1970 (Moisa, 2009), represented a support for the international migration of Oas inhabitants after the year 1990, when the population focused on suitcase commerce and foreign construction sites.

For the majority of migrants, the host country - France – is only a field of effort, where they obtain all the financial resources needed to build a house in the homeland (Diminescu, 1999), while the home country becomes a scene to show migration success. Thus, the main source of revenues remains only a temporary destination, and the homes that shelter Certeze migrants look like transitional houses in which it is not worth investing. Basically, the way in which they live (cramped, in unsuitable conditions, etc.) is not significant because their identity and social status are built up inside the community of origin and in relation to it. This behavioural pattern is not singular, being found at other groups of migrants, as pointed out by Alexandru:

"Upward social mobility in the origin country as a consequence of social and financial remittances can be interpreted as downward social mobility in the destination country where the migrant's position is oftentimes marginal" (Alexandru, 2007:156)

Certeze inhabitants live, as before, a "back and forth" situation between the place of origin and the place of destination and "all financial and affective resources, particularly the relation with the family, are directed to the place of origin" (Moisa, 2009:7). For Certeze inhabitants, the year 1989 was not a break with the past, since migration practices continued, in search of jobs, this time across national borders, the target remaining the same: to earn money abroad and then come back and build houses in the village (Moisa, 2009). Indeed, things have changed only in form, not in essence: in the communist period, the villagers used to copy house models from the regions where they performed the activity of land clearing and, after the fall of the communist system, they drew their inspiration from models seen abroad, which they call French, Italian, American style etc. (Moisa, 2009). But how do these new homes look like? Moisa provides a description:

"[...] private constructions with three or four floors that draw attention to their massive and luxurious nature. [...] Downstairs, the kitchen `like in the West`, the living room and bathroom stand out with the high quality of materials used. Being always decorated and finished, the ground floor often contrasts with the upper floors where the rooms designed to serve as bedrooms are not finished. The house `of Western type` always occupies the central place on the plot [...] In most cases, the appearance of the house of the `West type` leads to the demolition of the old building [...]" (Moisa, 2009:3).

Cingolani (2009) also notices the propensity of migrants to invest in housing, in their place of origin:

"Building luxury villas, always larger in order to withstand competition with the neighbors [...] building automatic gates, terraces and gardens in the western style, these are the most important concerns of the `foreigners` from Marginea when they come back on holiday" (interview with Bucaciuc 2006, in Cingolani, 2009 :152-153).

The upper levels of these luxury villas house the bedrooms, their number exceeding by far the family size in some cases (Cingolani, 2009). This situation is in stark contrast to what happened in the past, when large families lived in cramped accommodation, in one or two rooms. The author finds that the

bathroom has switched from a purely functional room to one that symbolises a new lifestyle, attracting a great deal of migrants' investments: " I am very proud of this bathroom, it cost around EUR 10 000, but it is exactly the way I wanted " (interview with Brenda 2007, in Cingolani, 2009:156).

Actually, the bathroom is noticed in the quality of materials used, becoming a status symbol, a symbol of wealth and a sign of a civilized society (Moisa, 2009). Thus, the ceremonial and reception function passes from the „good room" of the old, traditional home, to the entire ground floor of the new house, being assigned to the living and dining room as well as the bathroom and kitchen (Larionescu, 2012a). Indeed, the new houses are a hybrid product (Larionescu, 2012a) that combines traditional elements and practices with new imported models. The multi-purpose kitchen, one of the key features of the traditional household is preserved either in an annex or within the old house (Moisa, 2010). This room - which includes the traditional hob stove, a bed, a television and sometimes a gas cooker – serves as living room and kitchen for the entire family, as well as as a bedroom for the parents or grandparents (Moisa, 2010; Larionescu, 2012a). The multi-purpose kitchen is used by the young migrants as a `dirty` space, designed to keep the new, modern kitchen clean and tidy (Larionescu, 2012a). This is why it is equipped with old furniture and located at the back of the house (Moisa, 2009; Larionescu, 2012a). Thus, the kitchen is the place where tradition blends with modernity (Villanova, 1994). Moreover, Cingolani (2009) gives as example the family of Brenda who used to serve meals in the kitchen even though the new house had a spacious and modern dining room, the author noticing the survival of old practices. Indeed, objects, forms and meanings change quickly, while the living practices are slower (Moisa, 2009). In a similar way, one of the subjects interviewed by a Romanian researcher confessed that, when returning home to the village, on holiday, the room where the family gather is the kitchen, the rest of the rooms not being used, since there is no point in "upsetting the entire new house for a few weeks" (Nagy, 2009:121).

In a paper that articulates rural tourism and labour migration from Romania, Nagy (2009) observes how the houses built in the home country by Maramures migrants, in a frantic and intemperate measure, remain unoccupied most of the year, ending up to be used as touristic boarding houses:
"Even when the owner returns home on holidays or for a stay between two `migrations`, he does not live in the new house, but in the old one [...] Migrants seldom invest in other activities: small factories, stores or workshops, etc. The only obvious utility for these new houses remains tourism and, pending their owners, they are converted into inns" (Nagy, 2009:121).

This house-building activity is seen as a way of raising one's social and economic status:
"Most migrants describe their migration to Italy as a means of building a better life back in Borsa. They plan to return, and send remittances to build houses and invest in the community. These investments are strong markers of their economic status in Borsa, and a source of prestige" (Boswell and Ciobanu, 2009:10).

Actually, the radical transformation of the rural landscape was brought about by social change and economic development, as a result of international migration:
"What strikes the eye are the houses built by those who work abroad [...]. They represent the traces of migration on community development. They impact not only the quality of life of migrants, but several people and economic actors. Workers from Icusesti or nearby villages, such as Ion Creanga, are employed to build these houses [...]" (Alexandru, 2012:164).

4. Conclusions

We have shown that a great number of Romanian migrants come from rural areas and their efforts are primarily directed towards the houses built in their home villages. Indeed, for the majority of migrants, the host country is considered a "field" to plow, a field of effort (Tall, 2008a, 2008b), while the home country becomes the field of consumption and status (Aguilar, 2009) where they display the success of the migration project: luxury cars, western clothes and „proud" houses (Villanova, 2006). In this search for a new status, the Romanian rural house embodies different ways of expression. Indeed, migrants' investments in a rural home belong more to the symbolic realm than to the economic one, as the house is closely linked here to "family honour" (Diminescu, 1999) or to the competition between the members of the local community. Furthermore, the new values, models and lifestyles acquired in the host country contribute to the transformation of the rural landscape, partly due to the interplay of the local patterns and the recently adopted tendencies. Actually, new rural architecture is situated at the meeting point of several cultural models, combining features of the past and imported elements (Villanova, 2006).A result of this interplay is the emergence of hybrid forms which include new elements juxtaposed to the old ones (Charbit et al., 1997; Larionescu, 2012a).

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THE MACCA FAMILY – CONTRIBUTIONS TO THE DEVELOPMENT OF MIROŞI VILLAGE

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Abstract

A manorial establishment in southern Argeş, the "Sfinţii Apostoli Petru şi Pavel" Church in Miroşi village was founded by Elena Macca in 1908, in memory of colonel Petre Macca, being consecrated in 1909.

Nowadays, the church is a class B historic monument (AG-II-m-B-13744). Folk inspired furniture drawings kept in the Ion D. Berindey archive of the National Museum of Art of Romania certify that the furniture is the work of architect Ion D. Berindey (1871-1928), nephew of Elena Macca. The church was built by Thoma Kanzler and painted by Costin Petrescu.

Elena Macca (1842-1912) is remembered by the Miroşi inhabitants as their benefactress. Her legacy left to the Ministry of Cults and Instruction was used to build the elementary school in Miroşi in 1906 and the "Elena Colonel P. Macca" Arts and Crafts Elementary School, between 1913 and 1914, on a site near the old Macca manor of Miroşi. Nowadays, these structures are severely damaged.

Key words: *Petre and Elena Macca, the Church and the Arts and Crafts School of Miroşi, Ion D. Berindey, Costin Petrescu, Thoma Kanzler*

The first documented mention of Miroşi village, nowadays located in southern Argeş, was made in a deed of June 19th 1551, by which Mircea Ciobanul certifies the ownership of certain persons over some properties, and in the Charter of Pătraşcu Voievod, ruler of Wallachia, of August 14th 1555, who maintains the decree to assign the Govora Monastery the land of a number of villages[1].

In the 17th century, Miroşi was one of the villages owned by the Bălăceni noblemen, to be taken over by steward Drugănescu[2] after the year 1700.

In 1851, Miroşi village was ruled by Catinca Drugănescu; she left her estate to her daughter, Maria Bălăceanu (born Drugănescu), who, in her turn, would leave her assets to her daughter, Elena, married first to Constantin Caribolu and then to colonel Petre Macca (1844 – 1905)[3]. In 1905, the colonel died childless. As a widow, Elena Macca involved herself in constant charity work. She donated some of her assets to help some families, granted scholarships to two of her young relatives (10.000 lei each year) and established several local structures.

Ever since the 18th century, there were two churches corresponding to the two territorial units, Miroşul de Sus and Miroşul de Jos; two wooden and shingled structures whose date of construction is yet unknown to us. The patron saint of the Miroşul de Jos church was Sfântul Gheorghe (Saint George). The

church underwent some changes and nowadays it serves as a chapel. The Miroşul de Sus church – mentioned in documents since 1790 – burnt in 1840. Another church would be built in 1879, to be replaced in 1908 by the current church dedicated to Saints Petru (Peter) and Pavel (Paul), Nicolae (Nicholas) and Constantin and Elena (Constantine and Helena). The current church, whose construction started in 1907, was founded in 1908 by Elena Macca and consecrated in 1909, as shown on a marble inscription above the entrance door of the church:

"This Holy Church was founded by the grace of God and by will of the late colonel Petre Macca and Marghioala Bălăceanu in the salvation year 1908, in the days of the Mighty King Carol I and of His Eminence Metropolitan Atanasie Mironescu, by Elena P. Macca, wife of the late colonel, as a place of worship for the parishioners dedicated to Saint Peter, Amen!".

Image 1: The Church in Miroşi, 1972

The church is situated in the highest spot of the locality, on the national road to Roşiorii de Vede, around 2 kilometres away from the Miroşi Railway Station.

Folk inspired furniture drawings kept in the *Ion D. Berindey* archive of the National Museum of Art of Romania certify that the furniture is the work of architect Ion D. Berindey.

Ion D. Berindey (1871- 1928) is one of the renown Romanian architects of the first three decades of the twentieth century.

His most known works - the Cantacuzino Palace in Bucharest and the Palace of Culture of Iaşi - are emblems of modern Romania, iconic buildings in the cities where they are built, true landmarks of the early twentieth century architecture.

One of the first lists of architect Ion D. Berindey's works, drawn by his grandson, Mircea I. Beridei[4], reads the Miroşi Church as one of Ion D. Berindey's architectural accomplishments. We may assume that Elena Macca asked Ion D. Berindey to design the church, due to the fact that the architect was her nephew – as shown in the family tree preserved in the *Ion D. Berindey* archive, the Saint-Georges fund of the National Library of Romania.

The construction of the church required the expertise of Italian and German people working under the guidance of Austrian Thoma Kanzler ("building contractor" – as engraved on the porch column base). He had collaborated with architect Ion D. Berindey before, when erecting the Cantacuzino Palace (141, Victoriei Avenue) and the Vasile Gănescu villa (9, Kiseleff Road) in Bucharest. Part of the workforce was recruited and remunerated separately by Elena Macca. The church has a Latin Cross ground plan (the eastern, southern and northern apses are equal, while the longest arm of the cross is represented by the narthex together with the porch). The church has three cupolas – the Pantocrator cupola and the steepers.

The church is made of stone base unreinforced bearing masonry, masonry arches and vaults are used, while in the choir area, the platform is made of metal beams with brick bolts. Concrete was used at the construction of the steepers.

The church was fresco painted by Costin Petrescu[5] between 1908 and 1909 (1872, Piteşti – 1954, Bucharest), author of the famous historic fresco from the Romanian Athenaeum and reflects the Neo-Byzantine style, often used during that age.

Ion D. Berindey also collaborated with Costin Petrescu for some of the the wall paintings of Cantacuzino Palace (the ceiling of the dining room depicts Ceres goddess).

The narthex hosts the portraits of the Bălăceanu spouses – Mihail and Marghioala and those of the Maccas, Petre and Elena.

Image 2: Family tree of architect Ion D. Berindey's mother, Ana, born Slătineanu

Image 3: Toma Kanzler, the contractor's name engraved on the western part of the porch column base

Image 4: The founders' portaits: Mihail and Marghioala Bălăceanu, Petre and Elena Macca

The iconographic pièce de résistance is Christ Pantocrator, depicted on the central cupola. The church is decorated with gold leaf and has twenty eight stained glass windows. There is also a choir and a beautiful oak tree pulpit whose spiral staircase ends with a vulture with a cross.

The original roof was made of slate, supposedly brought from England – a 2,5 cm diameter metal disk was found attached by one of the tiles, bearing the "SOC. BASALT. ETERNIT" inscription (probably the manufacturer name).

Only the three towers are still covered with slate, the rest of the church being zinc coated, probably between 1987 and 1989 when the church underwent reconditioning.

The open porch is bordered to the west by four imposing columns made of Albeşti limestone[6], ended in the upper part in acanthus leaf column heads resembling the column heads Ion D. Berindey used in 1901 to decorate the exterior of the chapel of the St. Ecaterina Nursery Home in Bucharest.

There are two sets of double entry doors; the outward doors are made of wrought iron and are framed by a stone portal (the architect used the foiled arch specific to national architecture), while the inward ones are massive, richly decorated oak tree doors. Besides, using wrought iron for gates, railings, canopies, greenhouses and enclosures reflects Ion D. Berindey's personal style, highlighting the Art Nouveau trend in his work.

The porch painting is closely related to the patron saints of the church. Therefore, both sides of the entry door depict Saints Peter and Paul, while in the centre, above the inscription, Saint Nicholas is portrayed.

Image 5: The porch of Miroşi Church

The furniture (including the iconostasis) is entirely oak tree made, with folk inspired sculptures. The Bishop's stalls, genuine pieces of art, were paid a great attention. The part of the iconostasis facing the sanctuary reads the year 1909 and "Fontana" – the manufacturer name.

The iconography takes greatly after the Byzantine paintings, the pièce of résistance being Christ Pantocrator from the central dome. It is a pendentive dome and its cylindrical drum has sixteen windows. The pendentives depict the four Evangelists. The sanctuary apsis portrays the Holy Virgin surrounded by angels.

The arches supporting the dome display genuine lace beautifully highlighted by gold leaf. The church has stained glass windows.

Image 6: Cross decorated column head from Miroşi Church porch and half of a cross decorated column head surviving the communist era at The Chapel of St. Ecaterina Nursery Home (Bucharest, designed in 1901)[7]

Image 7: Bishop's stall, lectern and pew from the nave (detail) designed by Ion D. Berindey

Image 8 (2): Iconostasis details
Image 9: Cross above the North and South Doors

The biggest icons on the iconostasis are the lower ones, imaging Jesus and Mary (on the sides of the Sacred Doors), the Archangels Michael and Gabriel (on the Deacon's Doors), Peter and Paul, the apostles carrying the Miroşi church model (in the north) and Constantine and Helen, the Saint Emperors (in the South).

Image 10: Icons painted by Costin Petrescu: Jesus and Mary, Archangels Michael and Gabriel
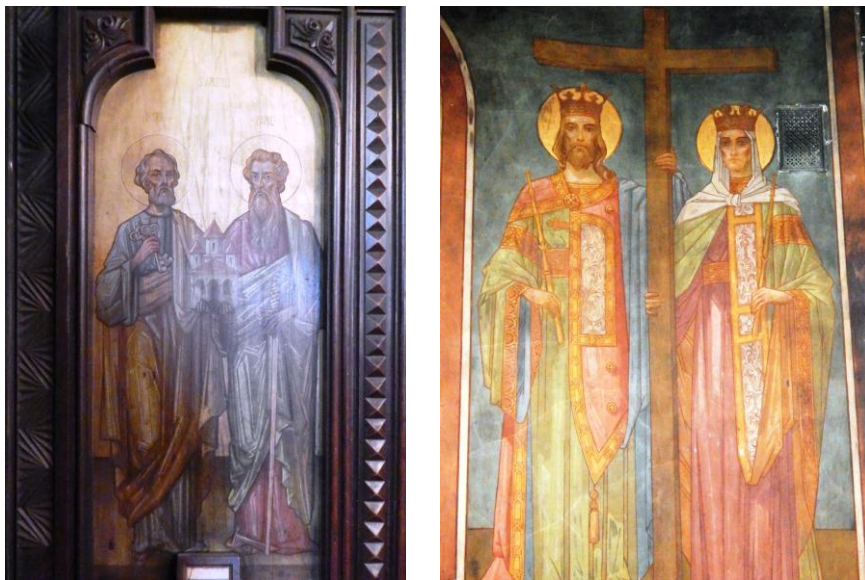

Image 11: Icons painted by Costin Petrescu: The Saint Apostles Peter and Paul (Petru and Pavel) carrying the Miroşi church model and Constantine and Helen, the Saint Emperors

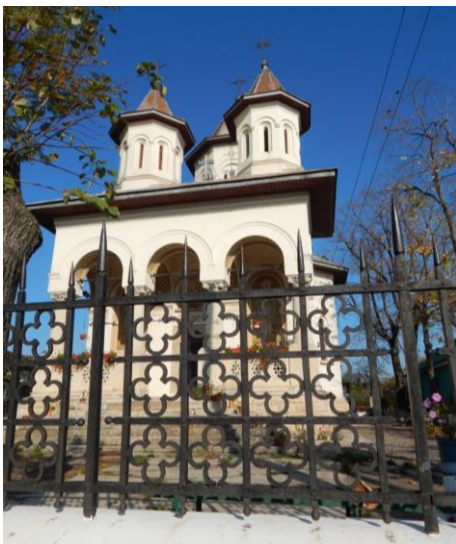*Image 12: Degradation of Costin Petrescu's painting, threatening the portraits of the founders*

Image 13: The church's wrought iron fence

The wrought iron fence, designed by Ion D. Berindey was built by Milan Misici, blacksmith master and guardian of the Elena Macca residence in Miroşi, according to the architect's drawings. In his decoration, we find the equal armed cross motif.

Currently, actions are being taken to rehabilitate and consolidate the church. The project was accomplished in 2009, by S.C. Proiect Argeş, an architectural office in Piteşti.

Ion D. Berindey is also the author of the Petre Macca[8] tomb at Pasărea Monastery (violated, the torso of the colonel, built by Rafaello Romanelli has disappeared), and the Macca residence on Henri Coandă street (former Cosma street, current headquarters of the "Vasile Pârvan" Institute of Archeology of the Romanian Academy) is designed by architect John Elisée Berthet[9] in 1891 and restored by Ion D. Berindey in 1911, when he added a wrought iron greenhouse and designed an elevator, closing the terrace towards the street, at the first floor level. At the same time, the heating of the Macca house was executed under the direction of Ion D. Berindey.

The design of the elevator was elaborated in 1912, by Haug company in Bucharest. Ion D. Berindey collaborated with the Haug House also for the execution of the decorative hardware of Gheorghe Grigore Cantacuzino Palace on Calea Victoriei (inaugurated in 1906), archival documents attesting that wrought iron hardware was made by Haug House for Poroineanu family tomb in 1908, actress Marioara Voiculescu' s house in 1914 and lawyer Toma Stelian's residence in 1915 – creations of the same architect.

Image 14: the Petre Macca tomb at Pasărea Monastery
Image 15 (2): Ion D. Berindey's drawings for the Macca's house greenhouse and elevator in Bucharest,
proving Art Nouveau influences (1911)

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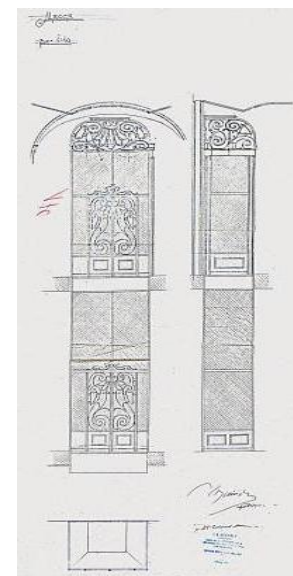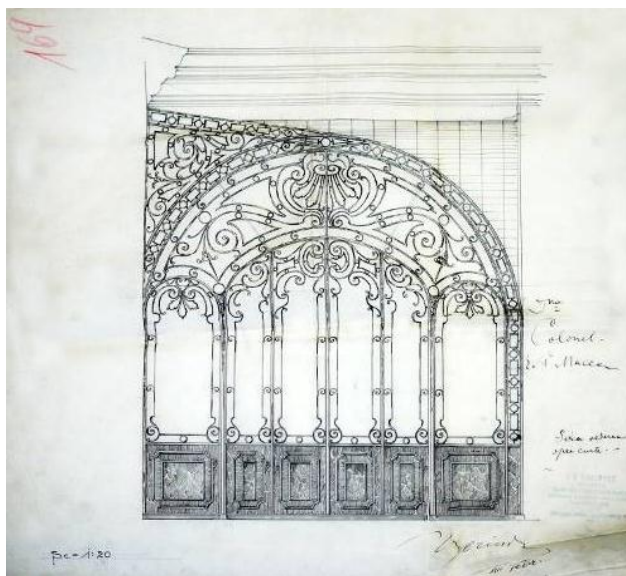
Following Elena Macca's death in 1912, Administraţia Casei Şcoalelor (the House of Schools Administration) inherited all the mobile and real estate fortune, the Ministry of Cults and Public Order being in charge with fulfilling this royal decree.

Between 1905-1906, Elena Macca decides on the construction of a new elementary school in Miroşi, respecting the project of the Ministry of Cults and Public Order. The construction started on March 15th, 1906[10] and was completed on August 6th, 1906. The site had a 2500 square metres surface and the school consisted of two classrooms, a residence for the headmaster behind the school with two rooms and a masonry kitchen, with a lead-coated plate sheet. The construction's value was 21.000 lei, 17.400 lei for the school and 4.000 lei for the headmaster's residence.

Image 16: Macca House in Bucharest

Image 17: The old school in Miroşi village, built in 1906, nowadays, abandoned, in front of which Elena Macca placed the bronze busts of her mother (Marghioala Bălăceanu) and husband, colonel Petre Macca; today the busts have disappeared.

In her will drawn in 1896, Elena P. Macca impels the Ministry of Public Order, as legatee of her estate, "to build a trade school for carpentry, woodwork, locksmith and smithery" on the land in Miroşi, which had to be named *Elena Col. P. Macca Foundation.* The design and construction of the school took place between 1913-1915, under the supervision of Vasile N. Vincescu, architect of *Casa Şcoalelor* (*House of Schools*), and the contractor, engineer M. Demetrescu from Turnu Măgurele, was elected by contest in 1915. A Royal Decree on September 23rd 1913, established C. Simionescu as the headmaster of the school. The four workshops were: carpentry, wheel wright, locksmith and smithery. The classes started on October 24th, 1913. During 1918-1919 there were 69 pupils, 1 primary teacher, 1 elementary teacher and 4 craftsmen[11], while in Bucharest the Arts and Crafts Superior School had 108 pupils[12]. In 1935-1936, The Inferior Arts and Crafts School in Miroşi became the Industrial Middle School "Elena Col. Petre Macca", with duration of 4 years. In 1941, the Middle School requests the Ministry to assign 10 billion lei from the

Macca Fund for completing a building started in 1915, with dormitories, dining room, laundry, kitchen, bathroom, classrooms, an exhibition and ceremony room, teacher rooms[13]. The war ended the intention of building this important target. Starting November 26th, 1945, the Unique Gymnasium started its activity parallel to the Industrial Middle School. At the beginning of the 1948-1949 school year, both of them are abolished following the Education Act of August 3rd, 1948. The pupils of the Unique Gymnasium are registered for the Mixed Elementary School - complete course, having common classes with the Complementary course for the Elementary School, and Elena Macca's manor will be used as a school building, with four classrooms, a lab room, a teachers' room.

Today, the former Arts and Crafts School in Miroşi, Argeş County is weathered, just as the manor, which became the headquarters of an agriculture company. The building designed in 1913 for the craftsmen's residence had a better fate, as today it hosts the Miroşi village hall.
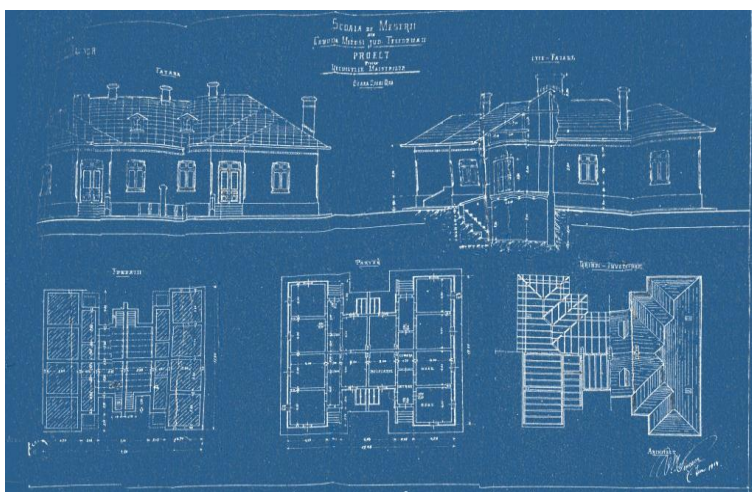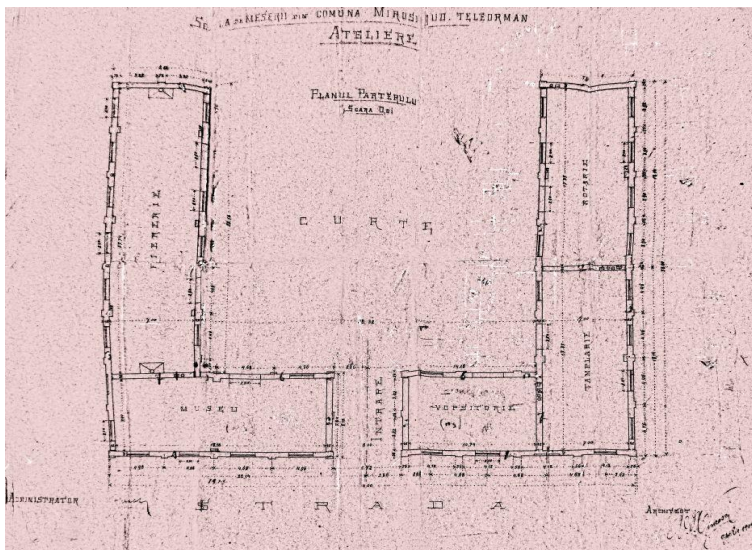

Image 18: Floor Plan of the Miroşi Arts and Crafts School
Image 19: Former Arts and Crafts School and the Miroşi church
Image 20: Project of the craftsmen' residences, by Casa Şcoalelor's architect – Vasile N. Vincescu

Şcoala de Arte şi Meserii – Miroş-Teleorman
Atelierul de Rotărie 1928-1929

Image 21: Former residence of the craftsmen is nowadays the village hall building
Image 22: The Macca family manor in Miroşi
Image 23: The Arts and Crafts School in Miroşi, Teleorman county. The weel wright 1928-1929

As a sign of appreciation to the founders of the church and schools in Miroşi, it would be appropriate for the current school in the village to bear the name of Elena Colonel Petre Macca.

The Church, valuable historical monument of the Argeş county and the complex consisting of the former Macca manor and the former professional school should be rehabilitated and included in a tourist, cultural programme, capitalising the architectural heritage our predecessors left to the community.

Illustration source

Images 3, 6, 8, 12, 14, 16, 19, 22	Sidonia Teodorescu, 2013
Images 4, 5, 7, 9, 10, 11, 13, 17, 21	Cosmin Bloju, 2013
Images 1, 23	Photos in the church's archive
Images 2	National Library, *Saint-Georges* Fund, package CCLXXI, file 3, page 23
Images 15	National Archives, *Casa Şcoalelor* Fund, file 117/1912, pages 169, 170
Images 18	National Archives, *Casa Şcoalelor* Fund, file 174/1913, page 94
Images 20	National Archives, *Casa Şcoalelor* Fund, file 174/1913, page 120

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1. The National Library of Romania, Special Collections, Saint-Georges Fund, *Ion D. Berindey* archive*,* package CCLXXI, file 3.
2. The National Museum of Art of Romania, Drawings and Engravings Collection, *Ion D. Berindey* Fund.
3. *The National Archives, Casa Şcoalelor Fund, files 117/1912, 172/1913, 91/1915, 174/1913, 64/1916, 262/1909.*

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Endnotes

[1] Radu M. Tetici; Ionel M. Tudor, *Pagini de monografie. Miroşi. Judeţul Arges* (Miroşi, TIPARG: 2000), p.13.

[2] *Însemnari din trecutul satului Miroşi in Mitropolia Olteniei. Revista oficiala a arhiepiscopiei Craiovei şi episcopiei Râmnicului şi Argeşului*. 10th year, no. 7-8, July-August (Craiova: 1958), p. 556.

[3] Petre Macca made himself conspicuous in The Independence War, in the Plevna battles.

[4] *Note din activitatea arhitecţilor Dumitru I. Berindey, Ion D. Berindey and Ion I. Berindey* (Bucharest: Academia, 1988).

[5] Costin Petrescu is also the author of the drawing of Queen Mary Crown, having as inspiration the crown of lady Despina Miliţa, the wife of Neagoe Basarab, on the fresco of Curtea de Argeş Monastery, which is similar to St. Elena's crown, painted by Costin Petrescu in the Miroşi church.

[6] The Cantacuzino Palace in Floreşti (nowadays a ruin) designed by Ion D. Berindey was plated with the same stone (white limestone of Albeşti) in 1911.

[7] The other head columns of the St. Ecaterina's Nursery Home chapel lost their cross decorations in the superior part during the communist regime, as architect Ruxandra Nemţeanu shows in her article *"Proiectul de restaurare şi consolidare a capelei Leagănului Sf. Ecaterina din Bucureşti"* in *Monumentul. Tradiţie şi inovaţie, vol. XIII, pp. 133-134.*

[8] The tomb designed in 1906 for colonel Petre Macca was a "special, meticulously designed complex, proficiently executed of black marble and bronze. The black marble platform, under which the earthly remains of the two are, has a bronze top made of two halves sliding laterally through a beam system. It was surrounded by a massive bronze chain, supported by four black marble pillars placed in the corners, between which, on the northern, southern and eastern sides, there were other tree pillars, smaller, made of metal." (Dragoş Măndescu, *Profanarea mormântului familiei Macca*, http://www.simpara.ro/Morm%C3%A2ntul-familiei-Macca-371.htm). The bronze bust of colonel Macca was the work of sculptor Raffaello Romanelli. After 1989, the tomb started to be violated and nowadays all of the bronze pieces are gone.

[9] In *Anuarul Capitalei Bucureşti pe anul 1910*, Socec, 1910, we find architect J.E. Berthet with the Romanian surname Ion. In the registration papers for the School of Fine Arts in Paris he goes by the name John Elisée Berthet. The architect was born in 1848 in Switzerland and died in 1899.

[10] According to the National Archives, *Casa Şcoalelor* Fund, file 262/1908, p. 9.

[11] According to the Ministry of Instruction, *The Statistics of The Public and Private Education in Romania (The Old Kingdom) for 1918-1919 school year* (Bucharest: Royal Court Printing House, 1921), pp. 30-33.

[12] *Ibidem*, pp. 34-35.

[13] According to M. Tetici; Ionel M. Tudor, *Pagini de monografie. Miroşi. Judeţul Argeş* (Miroşi, TIPARG: 2000), chapter *Învăţământ şi cultură în satul Miroşi de la începuturi până azi*, p. 81.

THE CULTURAL AND SOCIAL DIMENSIONS OF THE RECEPTION ROOM

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Abstract

The paper emphasizes the cultural complexity and social meanings of the reception room. Considering the house a social product that should be understood in its contextual and social dimensions, we are now focusing on the relationship between the reception room, the lifestyle and the social status. In order to better illustrate this connection, we use a case study conducted by the author in the village of Marginea, a research that targeted the new migrants' houses.

Key words: *reception room, lifestyle, migration, social status*

1.   Introduction

It is true that changes in lifestyles, in the organization of the family life, in gender relations and between generations, induce changes in the occupation, duration of occupation, management and daily treatment of the domestic space (Segaud, 2007b: 138).
Any research focusing on the house should relate the architectural research to the social sciences and humanities, taking into account the established relationships between the space of a home, its environment, objects and "various social entities (e.g. family, kinship, class, groups, organizations, gender)" (Segaud 2007a:51). Indeed, the architectural writings that examine the house and its space focus more on the material and aesthetic aspects, while neglecting the social ones. Pierre Clément, in the chapter entitled "De l 'architecture aux sciences sociales", confessed: "I started with the school of architecture, as a student, so I can turn later to humanities and then return to architecture as a practitioner" (Clement, 2007:83). The author also mentions the role that social sciences and humanities had in architecture and urbanism in the 1970s. Therefore, the study of a home has to consider the relation between the house and different social affiliations, and between these and the various fields of the social reality: the domain of social values, as well as the economic, political, symbolic and religious realm, because "the spatiality offers resources to the social life and it imposes constraints" (Charmes, 2007:142).
As stated above, the analysis of the house and its interior design illustrates both social and economic transformation of a society, helping us to understand social phenomena, like international migration. Consequently, among the many citations and examples taken from different Romanian and foreign writings, the paper uses a fieldwork carried out by the author in the village of Marginea, between 2009 and 2011. Marginea is a village in the northern part of Romania (Suceava County), close to the Ukrainian border. It is one of the 'champion' villages of Romania in terms of the international migration,

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as many villagers migrated to Italy and UK. The international migration has led to a lifestyle shift and a new social status, all these being objectified in the migrants' homes. Indeed, as shown by several scholars regarding the migrants' consumption behaviour, building new houses in the homeland, or furnishing the existing ones, becomes an instrument for the status display within the community of origin.

2.   **The reception room as a lifestyle objectification**

An analysis of the home space intended for the reception purpose should be made in relation to hospitality and social practices during different time periods and among different societies or cultural spaces. In regards to this aspect, Pezeu-Massabuau (1983) makes a comparative presentation of the significations of the public / private concepts in different cultures. In North America, the house and the garden reflect the "open" lifestyle of the Americans: low height fences, open kitchen, dining rooms in open connection to the living room. Both friends and guests are easily introduced into the private space of the house, some even to the most intimate places, such as the master bedroom (Pezeu-Massabuau, 1983). Similarly, the author notes that, while the Russians receive their guests at home, even in the pettiest home, the Chinese prefer to meet in public places (at the restaurant) because they are embarrassed with the modest conditions they live in. In other cultures though, people do not receive guests inside the home, except for very few close friends or some relatives, even if they have enough space and comfort (Pezeu-Massabuau, 1983).

Regarding the rooms designed to receive guests, Gullestad (1993) mentions the "obsession" of the Norwegianworking class for maintaining order and hygiene in the living room. This stretches as far as interdicting the children to play in this room, and even locking it with the key. The access of children is possible only in the afternoon, when parents relax in front of the TV, while being able to supervise the little ones in the same time (Gullestad, 1993). The family often serves meals in the kitchen. A less formal, the kitchen is used as a reception room, too; the wife's friends can be received here for a chat and a cup of coffee while the husband is watching TV in the living room (Gullestad, 1993). Thus, the kitchen accommodates multiple activities, being a dining room, a self-care room (the woman can apply her makeup or arrange her hair), playground for children (when the mother is around) and informal reception space (Gullestad, 1993).

In the case of the Japanese homes, the furniture was quasi-absent in the traditional Japanese space, called zashiki, designed for the ceremony and reception of guests, and only occasionally used (Kurita, 1993). Guests' reception was taking place in a room with tatami, according to a rigorous ceremonial, the children playing in another space with the function of a familial living room (Kurita, 1993).

As our case study in the village of Marginea is concerned, the old, traditional house was also provided with a reception room called ('cea casa'), having a ceremonial function. It was used only for meetings, weddings, baptisms or funerals. It provided information on the wealth of the household and it is here that the family exhibited the valuable objects and the dowry. The money and legacy were also stored here, so the windows were fitted with shutters on the inside: "this is the representative room, used and heated only occasionally, storing here the rare and beautiful pieces of furniture and fabrics"(Stahl, 1978: 116). The clothes for special events and the best pottery were kept here. So 'cea casa' is "the famous part of the household" and "although it is equipped with beds, nobody sleeps in

there, only the important guests from time to time. The dowry chests for girls, the pictures, the dishes, the paintings and the icons are stored here instead, in one word, everything that represents the most for the soul of the villager's household" (Stahl, Petrescu, 2004: 87).The attention given to the interior design and furnishing of the "clean" room - "cea casa" - as it is called in Marginea – was not dictated so much by the housewife's aesthetical motivation, as by its reception function, in strict correlation with the family's social status in the rural community:

"The household and daughters are to be prized judging after the cleanliness and tidiness one can find in their houses, or on the contrary, it stands to be blamed. This fact is so significant that, in order to know if a bride-to-be has a good housewife's potential, the future husband's relatives visit the girl's house to see the way it is maintained." (Stănculescu,1927: 140).

In order to maintain that 'cea casa' clean, in many households, the room was unoccupied and therefore kept unheated: "[...] the clean room did not have a stove until late, at the beginning of our century" (Cojocaru, 1983:112). This practice of dwelling survived, in our opinion, in the living practices of migrants from Marginea, fact that has led to the design of the interior spaces in a similar way to that of 'cea casa', having the role to display the family status among the rural community. Therefore, the attention given to the finishing and interior appliances of these rural homes is neither new, nor circumstantial. It is an old practice that extended from one room ('cea casa') to the whole house. It is the case for the new home of S.M. that was built on the plot of her parents-in-law's, replacing an old house that had been demolished. On the ground floor, the new building includes a hallway with a staircase, a kitchen with a dining space, a drawing room and a bathroom. In the attic, there is the second kitchen, a covered terrace, three bedrooms, a bathroom and a room. The family uses the kitchen in the attic, whereas the one on the ground floor is only for receiving guests. The drawing room on the ground floor, furnished with the wife's dowry seems unused, being a sort of 'cea casa' kept for special occasions. This practice is also noted by Villlanova (1994), the drawing room in the Portuguese migrants' new houses being kept untouched by the owners, fact that allowed them to be prepared anytime for an unexpected visit. Indeed, Cingolani (2009) presents the example of a migrant family, Brenda and her husband, who, when returned to Marginea for the Christmas holidays, they were eating in the kitchen, despite the fact that the new house had a modern and large living room. Similarly, in S.M. house, it is not the drawing room the key point on the ground floor, but it is the kitchen with its dining space, strategically placed at the very entrance of the house. Unlike the kitchen in the attic, it is provided with modern and classy equipment. In the same room, the owners also incorporated a fire place. Usually placed in the drawing room, this element emphasizes the space, underlining the reception function of the ground floor kitchen.

In the case of S. family, the reception function is overtaken by the entire ground floor area. The hallway, bathroom and kitchen as well as the dining room, living room and bedroom contributes to the ground floor's luxurious ambient, design magazines wise. The hallway incorporates a fireplace and a bar, signs of owners' prosperity. The unlucky position of the fireplace - near the staircase- is compensated by the bar and wall decorations- Italian ceramics - as well as by the flooring finishing with marble insertions, Italian style. Therefore we note how the reception function, formerly attributed to the "clean house", extends nowadays not only to the spaces that replaced the good room of the rural house - the dining

room and the living room - but also to rooms with a pure functional role in the past such as bathroom, hallway and kitchen.

The sitting room or "drawing room" - as it is called by the locals - is usually the room that receives a large amount of attention, together with the kitchen. As a space that confers prestige to the household, its main function being one of representation and less of resting or leisure area, the drawing room overtakes the role of the old room in traditional houses, called "the big house" in Certeze (Moisa, 2009) or "cea casa" in Marginea. Thus, the drawing room remains the main area in which the migrants invest the most:

"The drawing room is the reception space in which the guests have to be welcomed and which has to illustrate the family's social status and financial power [...] leather sofas, big screens TV sets and stereo stations." (Cingolani, 2009:156)

Similar to Certeze (Moisa, 2009), among the furniture pieces noted during our visits into migrants' houses, we found the sofas and armchairs (sometimes made of leather), the bar and new generation audio-video accessories. However, the renowned ceramic made in Marginea is inexistent. Rarely, some interior arrangements displayed traditional carpets or (more often) icons. An always present element in many living rooms is the fire place. The inclination toward luxury is evident.

3.   **The display of the status in the reception rooms**

Several scholars have shown the central place of homes within migrants' life strategies, the house (and especially newly built ones) becoming a symbol of ascension to a new social status that mobilizes a significant proportion of their efforts and remittances. In cultural contexts where income and household wealth are the only criteria for judging individuals, houses built by migrants in their homeland become an expression of family success because "it is not enough to earn money, they have also to be visible to others" (Diminescu, 1999:2). Thus, the house and its interior design acquire "the strength to say what we cannot say or write" (Tilley 2002:28 cited by Moisa, 2010: 41). Veblen notes in this regard that wealth is not enough to capture someone's attention and consideration (Storey, 1999), but its ostentatious display because "even if the law of the class is essentially economic, the form that it takes is cultural" (Storey, 1999: 44-45). We should also mention Veblen's theory on cultural consumption as cultural patterns are transmitted according to the hierarchical stratification of social classes, individuals adopting specific features of the upper classes (Bernard, 1998). This method of cultural models diffusion from the upper classes to the lower classes is found in the case of migrants from Marginea, the Italian society acting as an upper class, while newcomers - migrants from Marginea – are seen as a group at the base of the social ladder. Concerning this aspect, Cingolani observes that some houses in Marginea include an "emulation of Italian culture" (Cingolani, 2008:10), but this emulation is manifested only in the aesthetic, architectural or technological realm:

"In Italy you build your house when you really have a lot of money [...] They [migrants] saw Italian with these great houses and they do not know that they are so rich [...]. Our young people have

taken what they have seen in Italy, and they make huge sacrifices, and they build palaces." (Cingolani, 2008:10)

Indeed, "the concern for social standing is sometimes so great that it can lead people to ignore the economic reality, climate, culture and even the value of traditional forms" (Duncan 1973: 261, cited by Moisa, 2010: 51). Lauman and Hause (1970) also note that the newly rich Americans - usually migrants or their descendants - deployed more effort in trying to validate their status within the host society. Similarly, some researchers, influenced by the work of Bourdieu, showed "the role of housing as an instrument of differentiation, which serves to validate their status" (Serfaty, 2003a: 4).

Consequently, migrants' work abroad is not only gain-oriented but also status-oriented. Indeed, "people work not only for income, but also for the accumulation and maintenance of social status" (Massey, 1998: 29).Concerning this interest for house building and decoration shown by the migrants from rural area, we observe they try to access new social status by means of consumer goods. Migrants are also affected by the global penetration of this consumer culture that bears aspirations beyond their basic needs (Wallace and Stola, 2001). But things get both practical and symbolic meanings. They are more than purely functional objects or with an aesthetic value. The new house built in the country of origin and consumer goods, bought from the host country, are invested with symbolic value beyond their purely economic or utilitarian one.

They participate in the construction of the family's new identity, as "The house in both senses, material and symbolic, participates in the installation of the family identity within the larger social group" (Moisa, 2010: 27).All these things, that evoke the host country, express the access, through migration, to a new social status. Migrants from Marginea adorn their homes with various things bought in the destination country. All these objects brought by migrants from the host country "Evoke an imagined space, Italy, a place of pleasure and voluptuous consumption, which contrasts with the everyday life in Romania" (Cingolani, 2009: 164). Thus, the "symbolic value of the house" is "greater than the short period we live in there" since the house "swallows all savings, resources cumulated as a result of the employment of both men and women, including all additional earnings from illegal work on Sundays and holidays" (Villanova, 2006:247-248). This feature is also emphasized by anthropologist Daniel Miller in his portrait of a Jamaican immigrant in London. She lives in London, in a modest house, because all her financial efforts are directed towards the home country: that's where she has built a large house with furniture and modern amenities. However, her house is occupied by her brother, the woman having no specific plan to live in there (Miller, 2008).

4. Conclusions

We have seen that the design, furnishing and use of the reception room reflect the family lifestyle, as well as the social practices of a specific period or cultural space. So, any changes that take place in the family structure, family life or its living practices lead to morphological changes of the domestic space. But these changes cannot be understood without a comprehensive study of the history of

the single-family home in close connection to the history of private life (Amphoux, 1989) or social phenomena, like international migration.

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I0N N. SOCOLESCU (1856-1924) AND THE NEO-ROMANIAN STYLE REFLECTED IN BUCHAREST STRUCTURES

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Abstract

This paper is an overview of the work of architect Ion. N. Socolescu, a prominent figure of Romanian architecture. He contributed greatly to the history and development of Romanian architecture, marking the end of the 19th century – a defining stage for the image of Bucharest. Ion N. Socolescu had an original style, called the Socolescu Style, reflecting its talent and intuition, enriching the national style.

Socolescu was a drawing board architect, also conducting theoretical and teaching activities. His work as a publication director, as founder of the Association of Romanian Architects and as well as Director of the first School of Architecture contributed, to a large extent, to the development of the profession.

Key words: *Socolescu, eclecticism, Neo-Romanian architecture, Annals*

During a thriving Ploiesti due to the development of the industrial sector, especially the oil industry, having old trading relations with Transylvanian towns such as Brasov, a town close to Bucharest and open for all the people who wished to settled there, professionals nation and worldwide bringing foreign capital resulting in great refineries, office buildings, hotels and banks, Nicolae G. Socol and his brothers crossed the Făgăraş mountains, coming from the Berivoiul Mare village. They settled in Ploieşti, in Sfântul Spiridon Slum, around 1846. They were constructors aiming at a good job and a better life. After coming to Ploiesti, they changed their name into Socolescu.

Nicolae G. Socolescu, *constructor and architect*, is revealed to us in his biography written by his grandson, Toma T. Socolescu. *It is assumed that the Socol family from Ardeal* descended from a certain Socol from Targoviste, *a great nobleman and son in law of Mihai Viteazul, married to Marula, the ruler's illegitimate,* yet accepted *daughter. "Marula was the illegitimate daughter of the future candidate to the throne "master Mihai of Târgşor" with "Tudora from Târgşor", and wife of cup-bearer Socol*. Marula and her husband built churches in Corneşti, Răzvadul de Sus and Targoviste. Marula was buried in the church from Răzvad.

After settling in Ploieşti, N. G. Socolescu would marry Ioana Săndulescu and have four sons: Toma N. Socolescu – architect, Nicolae N. Socolescu – *timber merchant*, Ion N. Socolescu – architect and engineer and Gheorghe N. Socolescu – painter.

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Biographical references

Ion N. Socolescu was born in Ploieşti on 17 January 1856. After high-school, he studied engineering at the School of Bridges and Roads in Bucharest, graduating in 1877 as a valedictorian. Between 1879 and 1883, wishing to follow into his fathers' and brothers' footsteps and become an architect, he would take architecture classes at the School of Fine Arts of Paris, within the workshop of architect Paul-René-Léon Ginain (1825 – 1898). Ion N. Socolescu was one of the 10 certified architects, level I and II. These are: Ion D.Berindey, A.Galleron, Ion Mincu, I. N. Socolescu, L. Negoescu, L P. Blanc, D. Maimarol, Stefan Ciocarlan, Nedelescu R, C. Pappa.

The architecture theory class delivered by *Julien Guadet*, one of the founders of French regionalism, offered the students the opportunity to get acquainted with the new trends: eclectic architecture, medieval architecture, vernacular architecture and Eastern architecture, as inspiration sources for a picturesque architecture. In the absence of some well-defined theoretical trends and aiming at aligning to the Western standards, most formal directions on modern architecture development were based on visual experience.

Therefore, after completing their studies, young architects would travel abroad, in Greece, Italy, Turkey and Egypt, to get familiar with the history of architecture.

Among the first architects who returned from Paris were the great Romanian architects, the pioneers of the national style in architecture, Ion Mincu, Ion N. Socolescu, Stefan Ciocarlan, George Sterian, Dimitrie Maimarolu, Toma Dobrescu and Constantin Băicoianu.

„*These predecessors of the renaissance of Romanian architecture paved the way for the young generations of*

Image 1: Ion N. Socolescu

architects who construed ancient documents in their own way and erected multiple structures bearing the Romanian style".

The architects' work would be marked by the nationalist trend covering the European countries, focussed on the recovery of traditional artistic and architectural values.

A determinant in this direction is Alexandru Odobescu's discourse from 1872, published in 1887, a call for architects: "*Like the butterfly coming out of the chrysalis, turn the ancient monuments into greater structures, while preserving the local originality features; revive the national glory with your brush and hammer; imprint on your towns what the Romanian eye sees and the heart feels when watching the nature and the people; eagerly capture a genuinely Romanian picture laying in the aestheticised structures; translate those strenuous endeavours into appropriate constructions; awake the national spirit, relight the artistic spark bashfully glowing inside the national genius, study, work, generate without*

overlooking even for a moment the sense of beauty or the people's conscience, and then you will have enjoyed the everlasting glory of having developed the noble instincts that lay dormant, once reflected in truly impressive constructions".

The work of architect Ion N. Socolescu

In 1884 Socolescu settled in Bucharest, starting his activity as an architect and entrepreneur at "TECHNICAL OFFICE FOR PROJECTS AND PUBLIC AND PRIVATE WORKS ION N. SOCOLESCU, architect and engineer, 12 bis Domnitzi Street, BUCHAREST".

Ion N. Socolescu's work developed by various directions. Besides being an architect-engineer and entrepreneur, he was the founder and director of the *Annals of Architecture and Related Arts* publication, a founder member of the Association of Romanian Architects and director and professor of the School of Architecture between 1892 and 1897.

Along with Ion Mincu, Grigore Cerchez and others, in his attempt to develop a national style, architect Ion Socolescu created his own architectural expression path, informing both by traditional architectural elements and details of Eastern architecture.

Starting from 1884, he designed and built private residences, as the residence of lawyer Fortunescu, laying at Crinului Street (General David Praporgescu), the N. D. Moroianu, on Calea Calaraşilor, Russescu residence at Sfântul Mina Street, Ionescu-Gion residence at Lucaci Street, residences located at Clopotarii Noi and Slănic Streets, at Bulevardul Carol I, Angelescu residence located at C. A. Rosetti Street. He also built the Military Prison from Dealul Spirii (1885), in Bucharest, the School of Arts and Crafts (1888), located at Bulevardul Regina Maria, and in 1894 he built an extension to the National Theatre.

As he started building a name, he was invited by the local municipalities of Ploiesti, Constanta, Craiova, Iasi, Călăraşi, Alexandria, Câmpulung Muscel and Buşteni to design some public structures. In 1886, he designed the Town Hall building (nowadays the Art Museum). He would also rebuild the Sfânta Vineri Church in 1912.

Between 1886 and 1887, he designed the current Town Hall Main Office, in Calarasi. In Iasi, he designed the Vasile Lupu Teacher Training School, completed in 1891. In 1895, he built the "*Carol I*" Teacher Training School at Câmpulung Muscel, while in 1890, he built the *Despina Doamna* Women's School in Ploiesti. Also, in 1890 he designed the Palace of Justice, the nowadays University Headquarters.

In Constanta he built School no. 2 (1891 – 1893), the first Romanian school in town, nowadays the old building of the Art Museum; the former Town Hall, currently the Popular Art Museum (1895); the Naval Academy (1908 – 1909), currently the Romanian Navy Museum.

Not only was he an architect, but he also turned to good account most of his design work, following into his father's and brother's footsteps. He built mostly residences. One of his biggest works was The C.E.C. Palace, after architect Paul Gottereau's design. The construction was started in 1897 and completed in 1900. Another work was the Mental Hospital, after a design of architect Gr. Călinescu. He also authored the stained glass mosaic exterior decorations at Athénée Palace Hotel.

Ion N. Socolescu's activity to support the architects' branch

Annals of Architecture and Related Arts

Besides the architect work, Ion N. Socolescu strove to *make the architect profession visible*. *He found various approach means, some of them original*.

After a few years of work, realising that architecture was a little known and underappreciated filed, Ion N. Socolescu, along with some of his fellows architects, Stefan Ciocârlan, G. Mandrea and N. Gabrielescu, decided to release "*The Annals of Architecture and Related Arts*". For four years, starting with 1 January 1890, the publication was regularly issued and it was run by Ion N. Socolescu himself. The four architects were the main contributors to the publication. It was meant to be an *exclusively artistic and scientific publication* covering *the art-related ideas and perspectives of both specialists and amateurs*.

The *publication* addressed many relevant theoretical and practical issues for the architects branch, as the *historic monuments restoration*. In this respect, architect *André Lecomte du Noüy* was criticised for his restoration works and especially for his intention to demolish the dilapidated Domnească Church of Curtea de Argeş and to rebuild it.

The publication also covered the establishment of the National School of Architecture, the architecture services, various works as that of architect D. Berindei, "*Bucurescii, historic study*", as well as the architecture projects of the Association members. Within a year, 300 copies were distributed only in Bucharest, not to mention the increased demand nationwide.
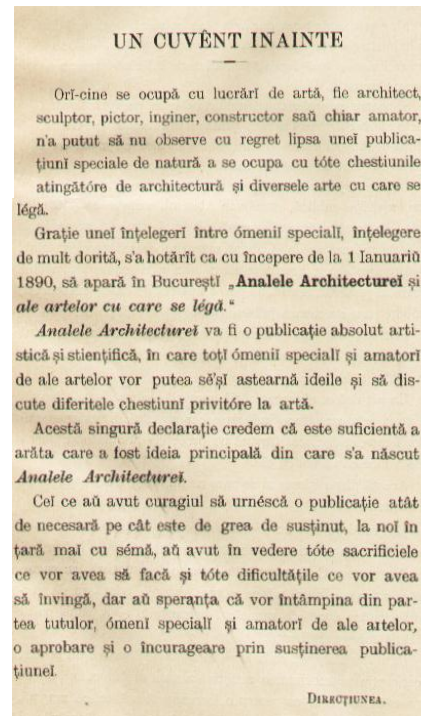

Image 2: The cover of the first issue of The Annals of Architecture, No. 1/1890

Image 3: Foreword, The Annals of Architecture, No. 1/1890

The Association of Romanian Architects

„A knowledgeable, wise spirit, an organised personality guided by a bright mind and a strong will, Socolescu knew how to attract Sterian's generosity and Ciocârlan's enthusiasm; the three of them managed to gather a constellation of architects and engineers trained abroad in order to establish The Association of Romanian Architects and The School of Architecture - Socolescu's greatest dream".

On the occasion of the International Contest for Chamber of Deputies and Senate Award Ceremony, held in 1890, a *fraternal banquet* was organised by a small group of Romanian architects, also attended by the members of the jury, *Edmond de Joly*, architect of the Palace of the Chamber of Deputies in Paris and royal advisor, *Paul Wallot*, the architect who designed the *Reichstag* building in Berlin. The meeting was presided over by architect Alexandru Orascu. Taking the floor, *Paul Wallot* suggested the establishment of an *architect's association, as there was one in every important city of the world*. Having in view the great number of architects, he recommended them the *national architecture to inform their design work*.

„On the evening of 26 February 1891, the Town Hall Technical Office hosted the first meeting of a small group of architects laying the foundations of the long-expected Association of Romanian Architects".

The Association's one year anniversary banquet was organised by Ion N. Socolescu and George Mandrea – *active founder members* - and Jean Georgescu. It was held at Grand Hotel du Bulevard, erected by Alexandru Orascu, president of the Association. The event was also attended by Carol Beniş, Toma Dobrescu, Ion Mincu, Toma N. Socolescu, Alexandru Săvulescu, Dumitru Maimarolu, Stefan Ciocarlan, Felix Xenopol, Petre Petricu, R. Nedelescu, Ioan Constantinescu, N. Stavoica, Ioan Rosnovanu, Jean Pompilian, Nicolae Cucu, Leonida Negrescu, D.P.Popescu-Pascanu, Costache Marinescu and Oscar Beniş, 29 members in total. Among the various souvenirs offered to the guests, Ion N. Socolescu gave each participant a "*14-page album called Collection of Romanian elements, the reproduction of the best pieces of sculpture and architecture published in the issues of the Annals along the two years of existence*".

The School of Architecture

In the meeting of the Association of Romanian Architects Committee of 15 March 1892, the decision of establishing a School of Architecture was taken. The school operated for five years until 1897, *under the guidance of I. N. Socolescu*.
„*Being a private school, the teachers are not remunerated, some of them, especially architects G. Sterian and I. N. Socolescu, contributing to its maintenance; only in the past two years the state assigned 4,000 lei / year*".
In December 1897, the school was nationalised, being turned into the 5-year National School of Architecture, run by Ermil Pangrati, while the students of the private School of Architecture underwent competition-based admission.

Journalism activity

We can very well examine his theoretical activity just by looking at the articles included in the *‚Analele Architecturei şi a artelor cu care se leagă'* (Annals of Architecture and related arts), on topics concerning the magazine profile, the job of an architect or technical issues. He published articles about the magazine purpose and plans, about establishing the *Societatea Arhitecţilor Români (*Society of the Romanian Architects*)*, the necessity for a *Şcoala de Arhitectură (*School of Architecture*)*, and on the *Law for preservation of the historical monuments*, the restauration of the *old historical monuments*.

In the same publication, he also campaigned for support towards the urban and rural schools, as well as the necessity of the health resort.

An important role is played by the letter of protest signed on April 20, 1890, by a group of Romanian artists against the restoration carried out by Lecomte du Noüy. Along with Ion Mincu, the protest was signed, among others, by Ion N. Socolescu, Dimitrie Maimarolu, Alexandru Săvulescu, Toma N. Socolescu, Nicolae Gabrielescu, Alexandru Orăscu, Gheorghe Sterian, by the painters G. D. Mirea and Theodor Aman and the sculptors Ion Georgescu, Ştefan Ionescu-Valbudea and Carol Storck.

Due to the fact that Ion Socolescu had adopted a harsh position in certain projects, mainly in the written media, he had many enemies who tried to compromise him many times. In 1891, he competed for the Chamber and Senate project, where he ranked the third and was almost sure that he could be assigned this project. The rivals wanted to bring him prejudice so as he be excluded from the project. They accused him of having bought the competition projects from Parisian arhitect *Bréasson*. The French arhitect sent a letter to deny this statement.

Image 4: The signatures of the Romanian architects on the protest letter

The trial of Socolescu

In 1903, he was brought a suit against him, which had a high audience, thanks to his popularity and to the two attorneys – Barbu Stefanescu Delavrancea for the defense and Tache Ionescu for the accusation team.

The pleading made by Delavrancea on September 27, 1903, was published in 1904 under the name of *‚The Innocent'*. He defended Socolescu *‚for an absolutely unstained honor'*, and the discharge verdict was pronounced late at night.

'There is no evidence that Mr. Socolescu committed the crime. He had no interest, no reason for that. And how would you explain yourselves a phenomenon, impossible to demonstrate, that a clean man, truly honest until the age of 45, to trample on his honesty, all of a sudden? Do you think it is easy to give up on it when it has been your companion all your life? You are wrong! For a crime, as well as for honor, you have a long way to go, paved with temptations, enticement, unhappy moments

and self-possession, often painful […] And you have not discovered a single flaw in Socolescu's life… You denigrated his fight for the national art, as if the glory of a nation depended on the profit without ideality…'.

On May 14, 1921, he donated the amount of 50,000 lei to the Romanian Academy, so as to create the *Fund of Toma and Ion N. Socolescu brothers – architects*, to award certain studies related to the *Romanian architecture and decorative arts*. Similarly, he left in his will another sum of money that completed the Fund,*'As a tribute paid to the memory of my elder brother, Toma, who protected and guided me during my childhood, and wishing to contribute to the study of the Romanian architecture and decorative arts with a modest donation of 50,000 lei to the Academy'*.

In 1923, a widower and sick, he moved to Ploiesti, in the house of his nephew, Toma. He went to visit Berivoiul Mare, where his father, architect Nicolae G. Socolescu, was born. He died on February 24, 1924, at age 67 and was buried at Bellu cemetery, next to his brother Toma and nephew Toma T. Socolescu.

The arhitecture of Ion N. Socolescu

Since the beginning of his activity, arhitect Ion N. Socolescu has become known in a short period of time, both as an arhitect and an entrepreneur, when he was noted by influential members of the society. One of them, Barbu Ştefănescu Delavrancea (1858-1918), who had returned from Paris in 1884 after two years of law studies, became a true personality in the Romanian public life, and was present in all the art branches by publishing articles about the *'Artistii nostri'* (Our artists) in the literary section of Romania Libera newspaper, where he was signing under the penname of *Fra Dolu*.

Following the visits made to the workshops of sculptors, painters and architects, Delavrancea wrote an article, 'Mister Ioan Socolescu is the arhitect who is looking, quarrying for, doing and doing it again, comes back and is able to erase an almost finished project when beauty does not match the practical. And he is right; you can listen to a piece of music, look at a painting or a group and be fully content; but looking at an architecture work is not simply enough. This is where the practical side must be visible. This is about how the façades look like, the place they occupy in regard to the sun, how the interior is divided, the position of the entire building and its purpose. I have looked through some of his projects, such as the warehouse on the Danube valley rim, an establishment of thermal waters and a fine arts school. We will come back. Time and space do not allow us into more detailing. A few words, though, about the project of that warehouse – it describes, more than anything, this young artist who is interested in both practical and beauty sides. The project in itself has a significant practical importance and it is devised to respond to the requirements of such building – evenso, the eye is pleased at the sight of the exterior shapes that are simple and yet monumental…'.

In 1994, after four years of studying at *Ecole des Beaux–Arts,* in Paris, where he *'placed among the best students'*, Socolescu decides to reside in Bucharest and starts his arhitect activities, thus adopting a coherent style, based on a personal vocabulary called 'Socolescu style'.

The shift from the early projects, which best define him, has been made gradually, via attempts in finding his own stylistical formula within the movement that favored a Romanian style in architecture.

Stage 1, 1884 -1889

        The first stage in the activity of arhitect Ion N. Socolescu covers the years between 1884 and 1889, when he designs residences in an academic style with neoclassical elements.

The house of attorney Fortunescu -1884

        The building is the first designed by architect Ion N. Socolescu in 1884. The house is located in 12 Crinului Str (24 General David Praporgescu Street).

        Ion Socolescu chose an academic style for the house with basement, high ground floor and first floor, which has a 323 sqm in the surface area, located in the middle of the plot, and *it complies with all the plans presented and approved, as well as with the criteria of the construction regulations*. Similarly, the City Hall instructions mention the following: '*the brick gorges, with an overhang bigger than 0.22 cm, will be supported by iron grids or in stone. The overhangs will not be bigger than 0.08 and the dadoes need to be aligned. The isolated, built-in columns...cannot have a bigger overhang than 0.16. Metal chutes will be placed under the house gutter, enforced for the water drainage..., will be lowered to the pavement leve*l'.

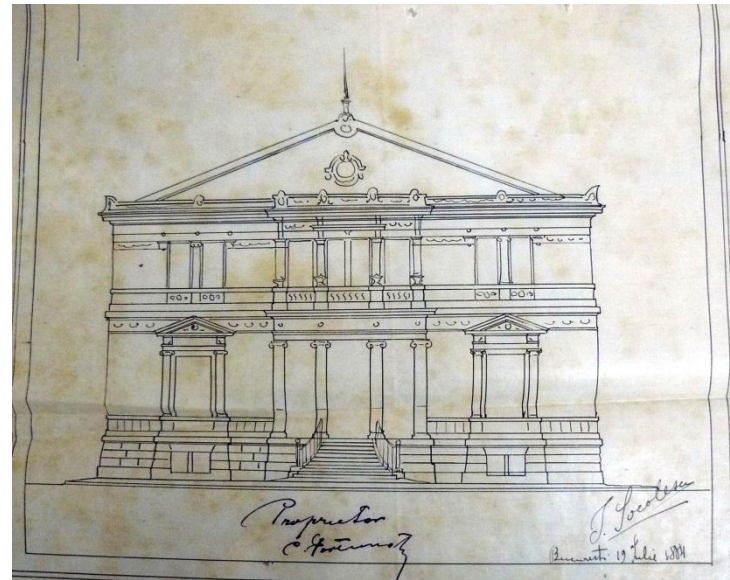*Image 5: The house of attorney Fortunescu 1884*

Image 6: Section of the authorization 1884

        The symmetry of the main façade can be noticed, punctuated by a balcony at the first floor and by the right gable, whose proportions highlight the roof slopes. The building monumental dimension, finished with capitals of the porticol, which is the entrance into the house and with the built-in columns of the balcony and windows. The façades are built in the neoclassical style, in three horizontal registers. The building dadoes and corners are focused on by a strong profiling in stucco. The cornice is strongly

marked and decorated with classical profiles. The access is possible from the enclosure via a four-column portico, which support the first floor balcony. The main hall on the ground floor is richly decorated with profiles – there are profiled triangle-shaped gables and the ceiling is decorated with stucco soffits and profiles. Currently, an institution is hosted by this building. The construction is maintained in a good condition and has been classified as a historical monument.

N. D. Moroianu House - 1884

The building designed by Ion N. Socolescu is located in 41 Calarasi Street (now 55), corner with Mantuleasa Street and part of the *Complex of Architecture and Urbanism Calea Călăraşilor, Mântuleasa and Hala Traian*. Mântuleasa Street, which linked Podul Târgului de afară (Moşilor) with Calea Călăraşilor, an old trading road of the city, was a street filled with mystery and magic, as Mircea Eliade describes it in his fantastic stories.
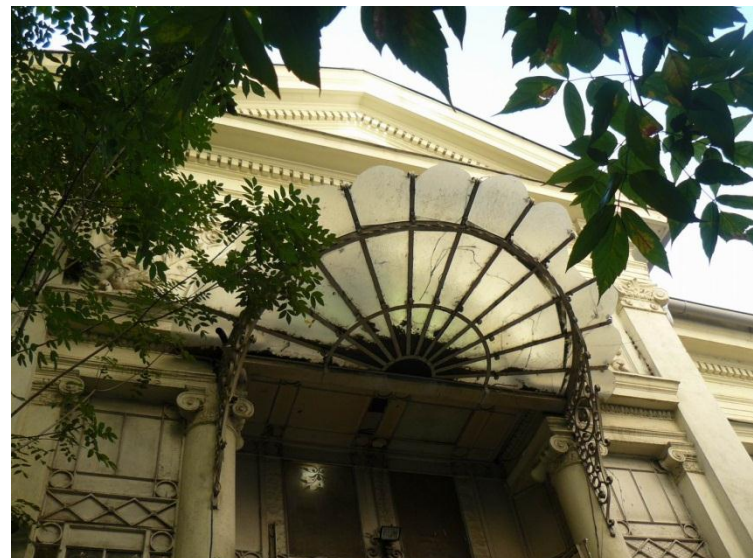

Image 7: The house of N.D. Moroianu, 1884

Image 8: The canopy of the main façade

One of the advantages for the property located in the corner of Mantuleasa and Calarasi was the existence of a ‚carriage station'. All the important crossroads in the city had these stations close by.

The house avoided the expropriation in 1912, when the authorities decided to widen Mantuleasa Street. The land opposite from the house of Moroianu was used for that purpose. The land was owned by Constantin Rusescu, heir of the building on Sfantul Mina Street, designed by Ion N. Socolescu. Rusescu had just sold the land that was ‚*in the vicinity of the market and the populous downtown, widely travelled, with a carriage station'*.

The application to the City Hall is dated August 17, 1884 and was signed by Socolescu. The project presented for the approval was complete, including plans, sections, façades and exact location, designed on calking paper, drawn in ink in a very careful manner, as he had been taught at Ecole des Beaux-Arts in Paris.

The recommendations made by the City Hall in the building permit documentation say: *,the house will be erected on the façade line, with hobs towards Mantuleasa Street that are at the distance of two cords and a half away from the pavement axis and six meters away from Calarasilor Street. The corner will feature the dull edge approved in the plan'.*

The Authorization issued on August 17, 1884, the *dull edge* suggested by the arhitect can be noticed, which *,brings an easement to the travelling, so much as the house is located in a very sharp corner, made by Mantuleasa Street and Calarasi'.*

The house is placed perpendicularly on the street and comprises two corpora: a main one, located towards the street, with basement and ground floor, plus the outbuildings. The main access is through a monumental portico and its columns support an arcade. The access staircase is located in the symmetry axis of the hall.
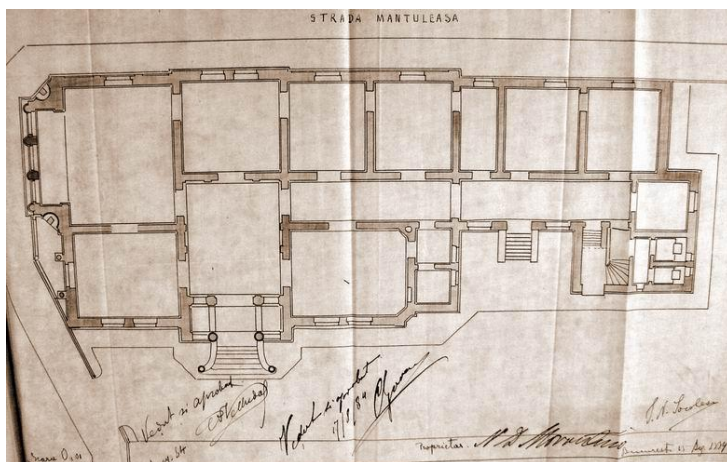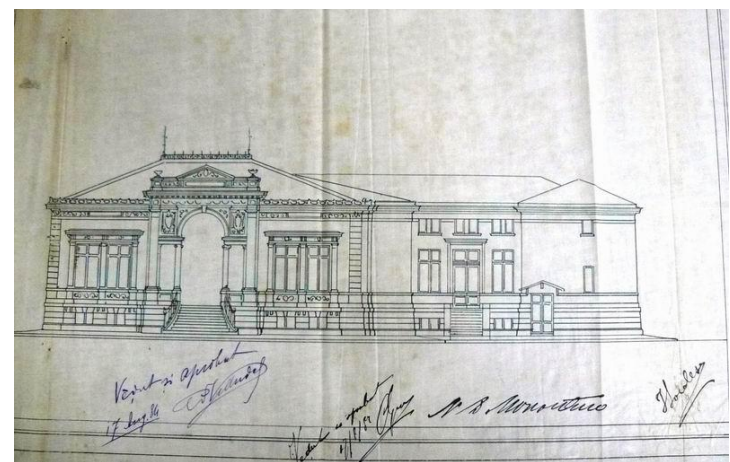

Image 9: The ground floor plan

Image 10: The façade from the premises

The façade towards Calarasi Street includes two spans, one of them being reetired, with built-in columns, with the windows in different shapes, which means dynamism. The roof slopes are small, and they cannot compete with the fronton massiveness and monumentality. The entrance main façade of *Casa Rusescu* develops inside and is richly decorated in a baroque style, with the highlight of the openings of the windows and of the entrance. The windows of the main façade are coupled in pairs, decorated with double columns, built-in, which support a rectangular and profiled fronton. The façade towards the street copies the double windows, in order to highlight the house *dull edge*.

The house is well maintained and it currently hosts a theatre hall. It has been classified as a historical monument.

Stage 2, Socolescu style

The beginning of the second stage in the activity of arhitect Socolescu is the designing of *Casa Ionescu –Gion* in 21 bis Lucaci Street (11 Logofat Udriste Street), erected in 1889. This construction announces the style that will make Ion N. Socolescu known, called *Socolescu Style* and adopted and

appreciated later by the public for its decorative side and the touch of exotism. It can be said that all the projects designed by Ion N. Socolescu after this year followed this personal style.

The residence of historian Ionescu-Gion – 1889

The Gion house is placed on the posterior extremity of the land, resting from the street and its structure includes a semi-basement, a ground floor and a room in the attic. It is a small residence, with the ground floor rooms on the sides of the hallway. The composition had a dominant element, the tower of the circular staircase placed on the left side façade. The entrance has a threshold, entering a vast lobby, which gives access to an ample saloon on the right side linked to a small saloon towards the posterior façade. On the left side, there is access to an office towards the street and a smaller room, alight on the left side. From the lobby and through a corridor one can reach the circular staircase on the left façade. In the loft, there is a room placed on the axis of the main façade. The dining room, kitchen, two rooms and basement were in the semi-basement.
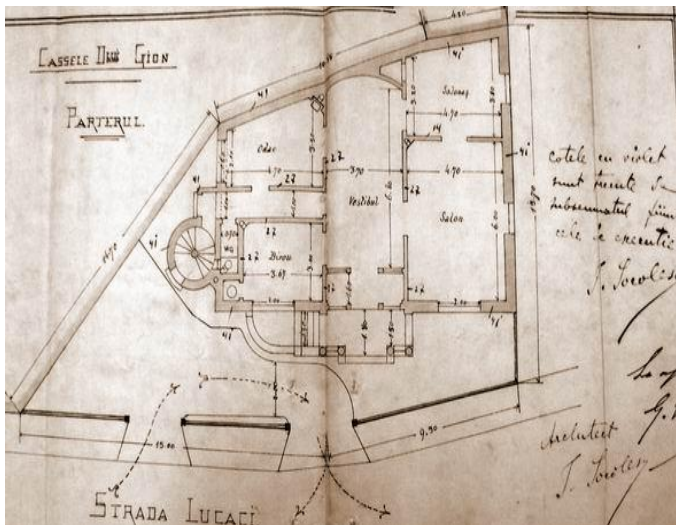

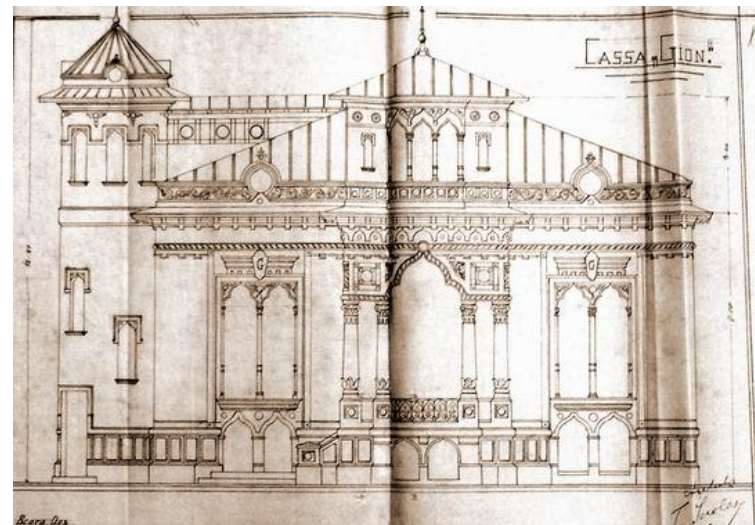*Image 11: Ground floor plan Gion House*

Image 12: Gion House Façade

After a few years of practice, Socolescu reaches a personal style, known as the *Socolescu style*. The architect creates a specific language and a personal work style, which he will apply to almost all of his projects.

The Gion House is the first work in which the stylistic concept of the architect is crystallised. The stylistics created by the architect will be named the Socolescu Style. During his evolution, Socolescu built his personal vocabulary consisting of certain elements used in his projects, especially for the main façade. The composition has a dominant element created on the left side, with the central span resting compared to the façade line, which will be used as a pattern for most of his works. The threshold for the Gion house is also used for his house in Bucharest, on the Carol Boulevard and the Câmpulung Normal School. It remembers the peasants' house, as the architect uses masonry columns instead of carved wooden pillar with decorated chapiters.

Image 13: Epoch photo in the Annals of Architecture, 1890

Image 14: Current façade of the Gion house

The main façade is built symmetrically, the central span resting compared to façade, which includes the access porch, made of double columns, with pedestals and chapiters, which sustain a three-lobe arch, the balcony over the porch, accessible from the loft. The resting central span will be the pattern reproduced in many of his projects. The windows of the main façade are coupled two by two, end with three-lobe arches and stuck in decorated frameworks. The access porch brings to mind the peasant's house porch, but the architect used masonry columns with decorated chapiters instead of the wooden carved pillars. The façades are decorated with floral details, niches, torsade spiral rope. The surfaces between the wooden beam cantilevers are painted with Romanian traditional motifs and protected with glass. The decorated fronton shows a medallion with a scholar's symbols, an open book and a feather, and the windows' stained glass bear the portraits of Romanian princes.

The Ionescu–Gion house, classified as historical monument, is unrecognisable at present, the central span of the main façade is modified and the main circular staircase is partially demolished. The house is covered in ads, and the grape vine covered it uncontrollably.

Image 15: Façade detail

Image 16: The scholar sign on the façade

The former Butculescu – Angelescu house – 1900

The house is located on C.A. Rosetti street (13, Clementei street). The first owner of the house was N.N. Butculescu (1867-1929). It was built before 1851. The research conducted at the National Archices showed no data regarding the building authorisation.

Achitect Ion N. Socolescu was credited with building it, mostly due to the style that characterised him. Architect Paul Smărăndescu refers to architects Ion Mincu and Ion N. Socolescu, author of houses Angelescu, on C.A. Rosetti street and the Ionescu-Gion House, regarding the Romanian style. Also, Toma T. Socolescu credits Ion N. Socolescu as the architect of the Dr. Angelescu house on C.A. Rosetti street.

N. N. Butculescu (1867-1929) was the initial patron of the house. At the beginning of the 20th century, the house came into possession of Doctor Constantin Angelescu's family. The house was saved from being demolished in 1971, becoming a historical monument.

It has a ground floor and a first floor. The main entrance is through a vast corridor with a monumental wooden staircase with a fretwork handrail linking it to the first floor corridor. The two corridors are richly decorated with stucco pillars, with crystal windows carpentry, lighted through a wrought iron light well and crystal windows.

For the façades, the architect uses the pattern characteristic for his style. The three façades have the central span resting compared to the façade line, also highlighted by the façade's balcony.
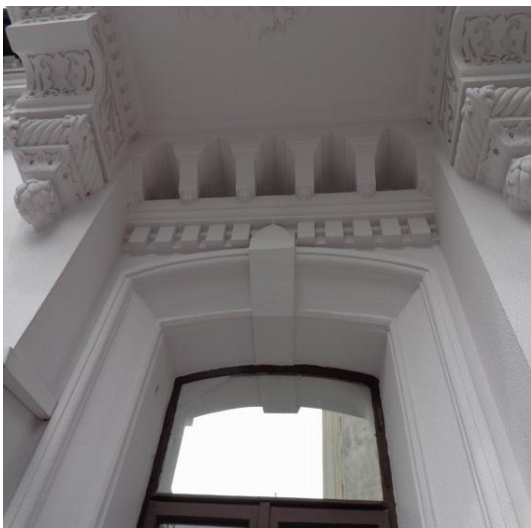
Image 17: Main façade
Image   18:   Precinct façade
Image 19: Detail
Image 20: Façade detail

The three windows of the span end in accolade arches. The material used for the façades decoration is stucco. The architect uses details such as the torsade spiral rope, niche buttons and soffited eaves held by consoles.

Currently, the house belongs to the Lido Hotel complex, architect Ernest Doneaud being the one in charge and the façade, which used to open to the boulevard is blocked by the hotel's building. The house has been rearranged, it has a restaurant inside, and the façades lost something of their picturesque, due to the white colour used for the finishes. The house is classified as historic monument.

The house on Teilor Street - 1891

24, Teilor Street (Slănic) is located in the centre of the capital city, where Bucureştioara, tributary stream of Dâmboviţa, used to run. The Street was placed between Colţei Slum and Scaune Slum (the name comes from the wooden logs the butchers used for carving the meat). Until 1850, the salt deposit of the prince, which spread to Colţea Hospital, was found in the area. Until 1900 the street was known as Teilor, and then changed to Slănic.

Image 21: Main façade

Image 22: Façade detail

The authorisation approved was for "extensive repairs", involving the façade restoration, following the lining of the street. The house is built in his personal style, using the pattern: the central span resting, with the three windows of the central span ended in arches with accolades. The material used for the façades decoration is stucco. The architect uses details such as the torsade spiral rope, niche buttons and soffited eaves held by consoles.

The composition consists of a multitude of volumes of different heights. The semi-basement is tall and the windows frameworks at the ground floor are richly decorated. The access element is one of the patterns used by the architect within the style that made him famous. The interior ceilings are painted. At present, the building is not being used and is in bad conservation state. It is classified as historical monument.

Trading building on Carol Boulevard, 14 bis (30)- 1896

Built by Ion N. Socolescu, the building has apartments for rent at 1st and 2nd floor and shops at the ground floor, on each side of the access alleyway.

The offices and storage rooms gave into the interior yard. The façade follows the characteristic style of the architect, the symmetry and highlight of the central span, with balconies at the two floors. Due to the required alignment and the narrow sidewalk, the architect could not use his usual style, a central span jutty, highlighted by placing a balcony at the first floor.

The windows of the main façade are coupled two by two, in decorated frameworks. The cornice is decorated with consoles and profiles, undertaking details from the house on 24, Slănic Street or the one at 13, C.A. Rosetti Street.

The building is historical monument and is used as apartment building.

Architect Socolescu's house – 1896

The house on 14 (28), Carol Boulevard, erected in 1896, was the personal residence of the architect. The land, as concluded after analysing the site plan attached to the project, included the houses at 14 and 14 bis. and belonged to the architect. Following a request at the city hall, he receives the building authorisation no 70, on May, 4th, 1896, with the obligation to respect the "special *building regulations and frontage"*.

The house was the architect's personal residence, where he had his office. The house hosted the meetings of the Romanian Architects Society members.

The façade is symmetrical; the ground floor has two shops on the sides of the entrance. Above the entrance, he designed a bow, flanked by two windows highlighted by built in columns with composite chapiters.

The building is a historical monument.

Image 23: Mail façade
Image 24: Façade detail
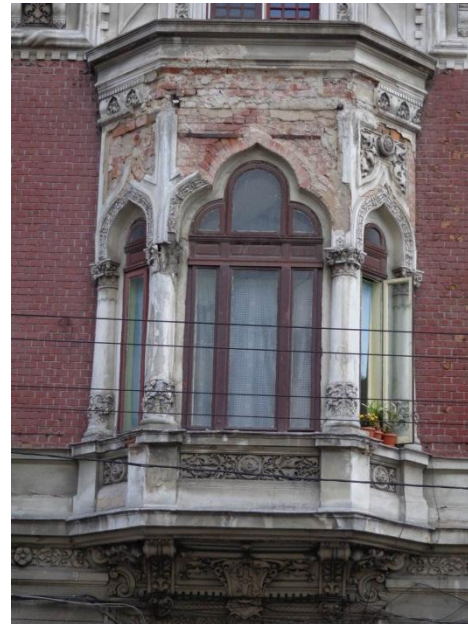*Image 25: Façades of the two buildings on Carol Bvd*

Image 26: Façade detail

Image 27: Façade detail

Demolished buildings

The State Military penitentiary, Bucharest- 1885

At the beginning of the 19th century, the interest of the time's princes for penitentiaries is increasing, and the Organic Statute of 1831 contained provisions regarding the accommodation, safety and health conditions; *„the leadership will make sure that prisons are not only safe, but also clean, as the health of the prisoners should not harm us in any way, their food, clothes, lighting and wood for fire will be bought using the amount decided for this purpose"*.

In 1885 architect Socolescu is appointed to design the Military penitentiary in Bucharest, located at the crossroads of 13 Septembrie Street and Fonteriei Street.
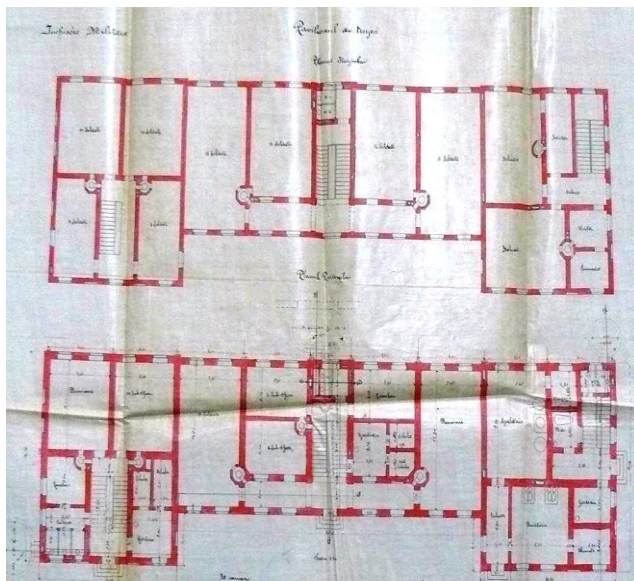

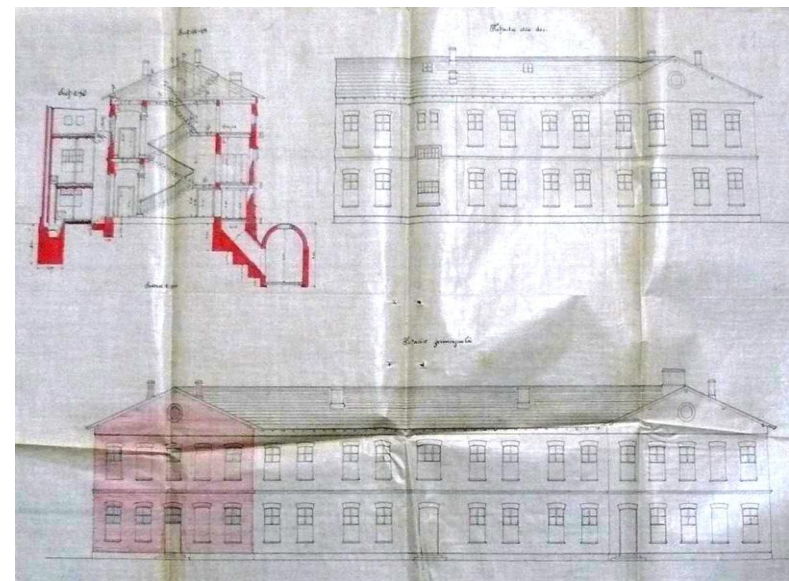Image 28: Penitentiary authorisation plan

Image 29: Penitentiary authorisation façades and section

Located on Spirii Hill between Mihai-Vodă, 13 Septembrie and Fonterii streets, 1885, File 30/1885; on June, 18th, I.N. Socolescu requires *the approval* to start the construction of the Military Penitentiary. It is a strictly functional work, a pavilion of many buildings, one of which for soldiers and the other for officers. The decoration is minimal, the entrances are highlighted in order to break the monotony of the façades. The buildings functioned as military and then political prison until 1983, when they were demolished to give place to the House of Parliament.

Dumitru Neagu House, 1885

Was a building on 2, Dulgherilor Street, in the middle of the lot, with free façades and the extensions built on the posterior line of the land. It was made of massive masonry, ground floor and first floor symmetrical. The main façade with the entrance is richly decorated in the Baroque style, highlighting the windows and entrance recesses, which he will also use for Moroianu and Rusescu houses.

Image 30:   D. Neagu house plan

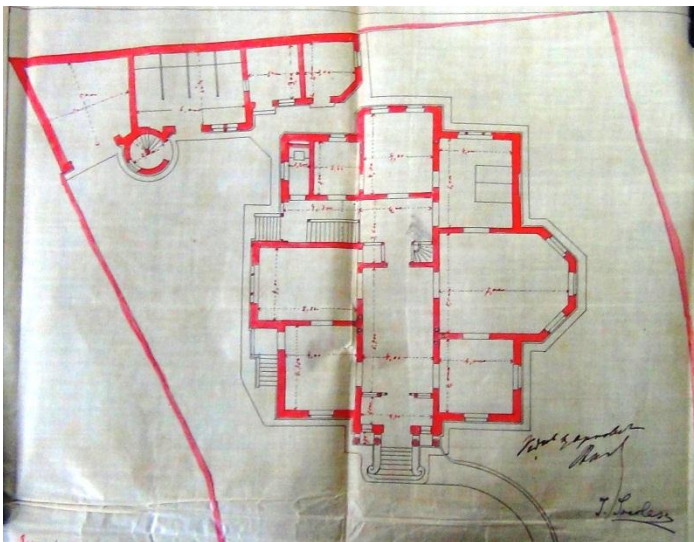Image 31: D. Neagu, facade

I.   Rusesscu house – 1886

The residence was located on 4, Sfântul Mina Street. In order to design and build this house, Socolescu obtains *Permission no.37,* of March 24th 1886, stating that the proposed building will use *„massive dead wall and metal masonry facing the neighbours"*.

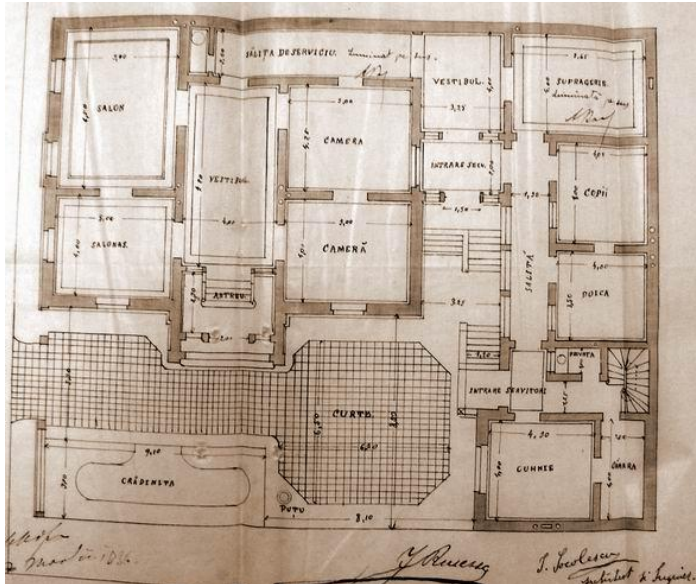The sleeping partner was I. Rusesscu, who owned a lot of land in the area.
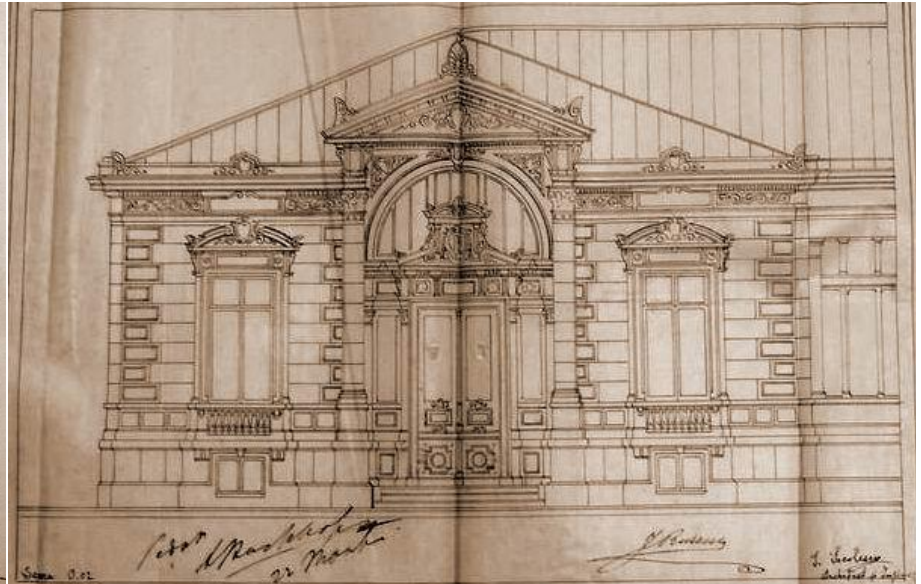
Image 32:   Rusesscu house plan   Image 33:   Rusesscu house façade

Similar to the house on 41, Călăraşilor Street, this house has the narrow side oriented towards the street, with the façades developed in the precinct. The house had a semi-basement and a ground floor, with the outbuildings developed on the posterior side of the land. The plan of the main building is developed symmetrically. The entrance is through a porch whose pillars hold an archway. On the other hand, the main façade, with the entrance, is developed inside the precinct and is richly decorated in a Baroque style, highlighting the window opening and the entrance. The building was demolished due to the reorganisation in the area.

Residences and shops on 4, Calea Moşilor, 1889

A symmetrical design building, highlighting the central span detached from the rest of the façade.

There is a balcony supported by consoles and four built-in columns which hold three accolade arches, element used by Socolescu in most of his works. The space between the arcades and the cornice is decorated with niches and buttons.

There were two shops located on the ground floor, divided by the entrance door and whose windows were protected by metal shutters. The floor had a central corridor, where the stairway reached and five rooms. The building was destroyed during the 1977 earthquake and then demolished.

The Enache Cantili house, 55, Clopotarii Street (Grigore Alexandrescu) – 1890

Upon submitting the project request, he receives Authorisation no. 36, on May 1st 1890. The name or signatures of the owner do not appear in the State Archives file, PMB fund.

The building had a dead wall on the right side of the land.

The authorisation mentioned: "*The building will be erected facing the street. As the blue line cannot be applicable, as communication would be interrupted, I consider authorisation should be given for the yellow line, following the neighbour houses' alignment Nº-53 intersection with Puţul de Piatră Street*".

The house was demolished in 1938 and an apartment building was erected according to architect Tiberiu Niga's plans. The building had a demi-basement, a ground floor and a first floor. The staircase is circular, on the left side, towards the interior yard. The entrance is made through a covered perron, which forms a balcony at the first floor. The house has a wrought iron gate, richly decorated. The hallway gives into a vestibule, which leads to a small saloon lightsome towards the street and a dining room which continues into an open glasshouse towards the backhouse garden. The circular stairs go up to the first floor where we find a dormitory with a balcony. The dormitory had a bathroom and a room for the maids.

The façades were designed by Socolescu according to his style. The street façade, the most important of all, was highlighted by the rich decorations. He divided it in two spans, according to the importance of the buildings behind the walls. The windows of the ground floor saloon and the first floor bathroom (two for each room), are connected by richly decorated frameworks.

A torsade cordon, highlighted by a medallion on the main façade, above the three-lobbed arches, circle the façade. The wide cornice, specific to the architect's style, is erected above the main span.
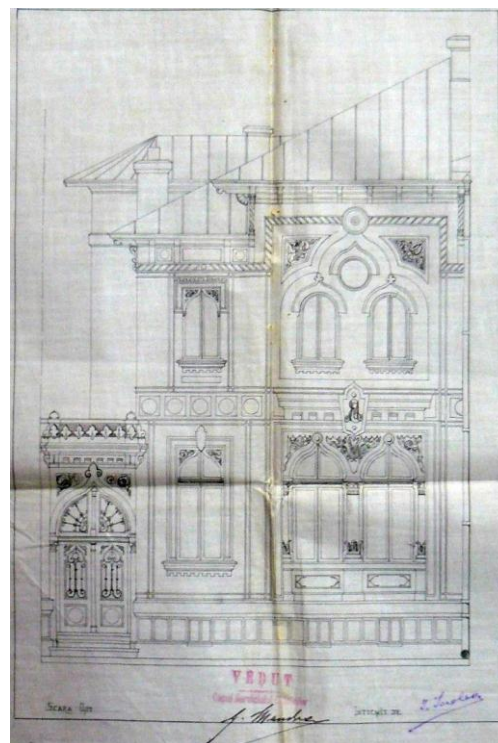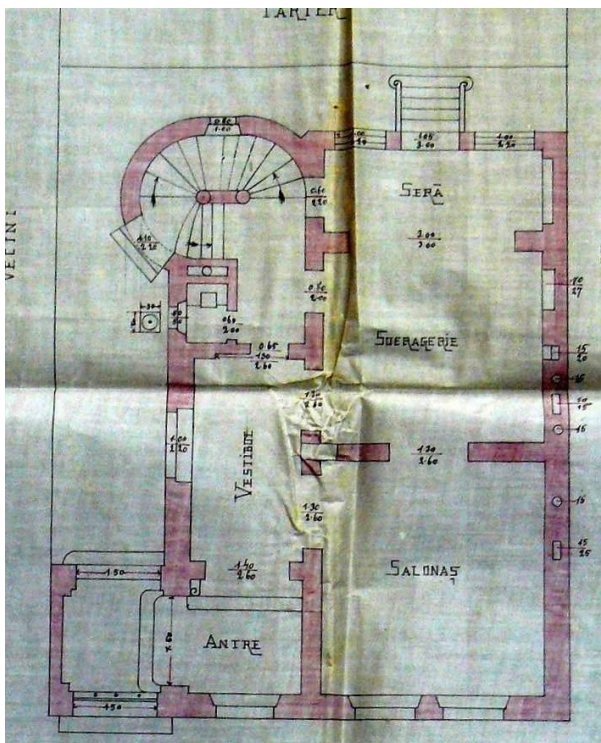

Image 34: Cantili house plan
Image 35: Cantili house façade

Illustration Source

Image1:   Annals of Architecture No. 1/1890
Image, 2 and 3:   The Annals of Architecture, No. 1/1890
Image 4:   N.A. Fund MLP-Ct
Image 5:   Author's photo
Image 6:   N.A. Fund PMB., D.46/1884
Image 7:   Author's photo
Image 8:   Author's photo
Image 9:   N.A. Fund PMB., D.47/1884
Image 10:   N.A. Fund PMB., D.47/1884
Image 11:   N.A. PMB Fund, D.33/1889
Image 12:   N.A. PMB Fund, D.33/1889
Image 13:   Author's photo
Image 14:   Author's photo
Image 15:   Author's photo
Image 16:   Author's photo
Image 17:   Author's photo
Image 18:   Author's photo
Image 19:   Author's photo
Image 20:   Author's photo
Image 21:   Photo: Arch. Sidonia Teodorescu
Image 22:   Author's photo
Image 23:   Author's photo
Image 24:   Author's photo
Image 25:   Author's photo
Image 26:   Author's photo
Image 27:   Author's photo
Image 28:   N.A. PMB Fund, File 30/1885
Image 29:   N.A. PMB Fund, File 30/1885
Image 30:   N.A. PMB Fund, File 32/1895
Image 31:   PMB. Fund, File 32/1895
Image 32:   N.A. Fond PMB, File 15/1886
Image 33:   N.A. Fond PMB, File 15/1886
Image 34:   N.A. PMB Fund, File 25/1890
Image 35:   N.A. Fond PMB, File 25/1890

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LIVING AS MEMORY

Lecturer PhDc. Arch. Raluca DIACONESCU[*]

Abstract

In our living space is all about the memory of the space: about the the traces, about our personal memory identificable in the collective one. With this type of memory we are establishing relationships with places or maybe, with people involved in theese one. To save what we know about a space and his history and also about our personal or collective history becomes the most important thing to do in relation with space. We are saving memories while we are conservating a building, or an important historical site, we are saving memories reinterpreting spaces, re-using them, but, first of all learning how to read them. Learning how to live with there past, with there meanings, in our personal sense, right now, in our personal present. For these actions, archaeology has an immeasurably role, because it reveals always new layers with important historical sense. In this idea, the society has developed itself, in a spatiality with memories. And just for that the conservation systems, as well as the ones of reproducing the images from the past, are along with the archaeological memory and urban archaeology –these terms that will be add to the conservation and the „ image"of the past new possibilities, new „fragments" of collective memory, of the memory of living.

Key words: *space memory, collective memory, heritage, archaeology, conservation*

Living in a city or living in a house, resembles an appeal to memory; your memories are built there, this is where you learn to „read" places, streets and how to remember – this is the place where you learn how to save in your memory bits that will connect you to this entire process of living. While living, filling up spaces, this **memory of living** is developing inside us. The spaces maintain their trace via our „passing", in that we go through them and borrow from their movement, with slight changes, and adjust them to small requirements that will eventually lead to future modifications. Urbanism also keeps its permanent „becomings", with a distinct memory: the one of the paths, street directions, markets, parks, green areas…besides the disposition of the houses, the street frontage. They are quite special. The memory of a city is in its movement around the points of interest and the interaction with them, for longer periods of time. As being compared to the same „urban movements" in the past, this can be a rather regular one, the past of yesterday, of a few days ago, which surely does not go through major changes; or yet, it can be one from a few hundred years, which can disclose information to us of a totally different value. We can still say that this „memory of the cities", so much necessary in „comparisons", is collective. The passers-by become aware of the fact that a while ago someone lived or wrote in a certain place

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(memory saver). It is probable that such memory differs from one individual to another, as perceptions are different, depending on the education level. The age of the people looking at the space changes the memory. The proustian time, „lost", becomes a chase after the traces of the past, after a certain redemption of the past: a personal one, with personal memories or a collective one, as Halbwachs said in his work *Collective Memory*.[1] The orientation towards a collective life, as found with this author, relies on those relations between the life of generations, of the family ages and the confrontation with that „impassibility of the stones", of the time passing, hardships of people. The relations can be made here between **memory and time** and between **memory and space**.

The **space as a memory** becomes a more important space, with a myriad of meanings and amplifications of the path. In fact, the notions mix together, interfere with each other and then they carry each other. It is more than obvious that memory brings with it a type of a time and a „certain" kind of space in the past - a mental one - that loses its shape in the past or it has a much more modified shape in the present. As Halbwachs says, there are religious times, social times and space times, if we extrapolate. He perceives the collective memory in terms of the aspect in which it stores in itself, „like an objectified sediment in the space of the experience accumulated by a group"[2], a *collective memory*, which consists in exteriority and not interiority or a singular life. The society has developed itself, from the very beginning, in a *spatiality with memories*. The behaviors occurring during the confrontation with historic, social and (mainly) space pasts are a must. The conservation systems, as well as the ones of reproducing the images in the past, are again objects that Maurice Halbwachs operate, along with the archaeological memory or urban archaeology - these terms that will be add to the conservation and the „image" of the past new possibilities, new „fragments" of collective memory, of the memory of living. Even the fact that every society includes groups of members who deals with the „**conservation of the collective memory heritage**" as professionally as possible, this is worth mentioning. Memory is an action that is performed in the present and „the restitution of the past corresponds to the interests, the thinking styles and the ideal requirements of the present society"[3] depends on a certain space „present".

These types of requirements actually change the LIVING. The spaciousness gains new forms in time and the cities undergo changes and get new boundaries so that „the preservation of the past becomes a dynamic action"[4].   Our simple action of living and the urban living turn ourselves into witnesses and comparison terms in this action of preservation and comparison of the past. It seems that the memory of the places we keep in ourselves becomes a landmark and a manner of identification for the space: thus, when we go back to a city where we have been before, this will help us recompose a frame with many parts that have been already forgotten. On the one hand, what we see today overlaps on the frame built from our old memories or, on the other hand, those memories adjust and mould themselves on the present perceptions.

Everything becomes as if we were confronting various evidences. And for the fact that we agree or disagree about the essential things, sometimes with small divergences, we can rebuild an ensemble of „**recognizable memories**".[5] It seems that we live with the collective memories in ourselves, we carry memories involving other people. Halbwachs actually says that „we always carry with us and inside of us a quantity of distinct personas."[6] The memory is being built, becomes stored, due to the angle we see things. From the perspective of an artist, a city is seen in one way; on the contrary, a historian or an

arhitect memorize things differently. All the aspects of a certain thing, of a part in a city stick with the memory of a person and are closely connected with the people who were present when the experience took place. Another manner to perceive a city is a way to change it, as in Halbwachs, to change its landmarks – from static into material, sometimes human.

The idea to change that **habitable, visitable and memorable city** into a person can be found in the cities with female names at Italo Calvin, in his famous work *Invisible cities*. Similar to a reporting to memory, to travel, disclosures, Calvin's cities roll off via meanings, the eyes of the mind. Here is recommended the renouncement to memory for a total absorption of the space to be travelled. „In order to see a city, having your eyes open is not enough. First, you have to dispose of everything that would obstruct you from seeing it - all the inherited images and the preconceived ideas."[7] The idea of a **city-being**, with a female name, brought about by Calvino in an amplified metaphor in the text, makes us associate the reporting to the space memory and to the memory of people, with the latter being a little idealised. The links between the cities and the female characters devise an austere dialogue, a sort of speech about the past and the future via the person who is visiting or living in them. Besides the collective memory, it is obvious that the cities have their historic memory - on the surface - and an archaeological one, hidden from view and sometimes revealed by the archaeologists during research and digging. The earth thus sustains a type of an underground map of the cities that let themselves found during the efforts of the archaeologists and brings to light steps, trails, ancient civilizations ofthe city we live in or travel through.

The **topic of memory** at Calvino transposes into a type of premonition of the quasi-present „antique" in the contemporary city. Someone could tell you how many types of steps make up the stairs, how many types the portico arches are, how many zinc sheets include the roofs, but this is nothing. It is not in these details that the cities are made of „but in the **relations between the measures of their personal space and the events of their past.**"[8] Calvino divides the cities of his travels into *cities of memory, citis of desires, cities of signs, subtle cities and evasive cities,* cities where personality, living and lives ,change, cities that are a feast for your eyes and embellish your sight, where you encounter and learn to read the …"signs"…the cities that disclose a name…the cities where you bury your deceased. All these cities of the travel, of memory, of time and even of the inner discovery make you become the being that you are, with all the associated connotations, the experiences that were able to take in. All of these build you up, take you away from your own memories, give you a more solid and a broader memory, to better appreciate your past and understand it, make you look at your life from a different perspective.

The cities bear the print of a **name**; while they are celebrated by the ancient visitors, they do not have any „reason to make veridical presumptions; the city of Aglaura is being assigned a durable portfolio of quality in comparison with other cities of its time."[9] After travelling through an **imaginary** city, dealt with all its qualities and failures of imperfections, a specific feature for every urban space, the writer obtains the result and draws the conclusion,"the city that says to have a lot of what is needed to exist, will exist more and more intense than the city that exists in its space for thousands of years – it will last for less time."[10]

The **city of changes**, Eutropia, discloses itself not as a single city but more, equal in beauty and grandeur, which cannot be told apart, as they are located on a vast area. Eutrropia is not a single city but

all of them together; only one of them is the city to be lived in - the others are cities of change, the city that can be lived in. When all the citizens are tired with the routine of the social, public life and their own personal lives, they have the option to move into the neighboring city, completely empty, which exists there only to wait for them, where every person can start a new life, in a brand new house, along with other people, complete strangers. Thus, people improve and renew their life through several relocations; the variety of such life is perpetuated by new and multiple tasks to be fulfilled, by adjustments and re-adjustments…all these changes and new lives between these cities of the empire, Eutropia reemains itself forever, thanks to that god of vagarious people, Mercury, for which the city is sacred and which makes exist this „ambiguous miracle"[11]: the sacrality of living.

The **city of the eyes**, or of the sight acquires a personal shape due to the state of mind of the lookers.   Hence, the living, i.e. city travelling, borrows from the memories of the lookers, from the journey in the past, turning the memory into something mercantile, to be opposed to a less glorious present.

The city of skies, Eudossia, resembles a constellation in point of form, dimensions and structure, having "the form the Gods had given the starry sky and its orbits below which the worlds ‹revolve›; the other is an approximate reflex just as the human work nowadays." [12] Everybody thought that the design of the city was something divine and that the city of skies was nothing but a "map of the universe", a shapeless increasing spot, with zigzag roads, houses "bumping into one another, rush, fire, crying in the darkness."[13] Another metaphor standing for the idea of beauty attainable by heavy, enduring and less inspiring things, is the one by which Marco Polo describes the great Kublai Kan a bridge over waters made of stones, depicting each and every stone. Realising the story might be a waste of time, "the listener" argues that the bridge does not rely on the stones, paying attention solely to the arch they form. The narrator explains that in fact those heavy, unimpressive stones underlie the **arch**.[14]

The city of memory, Maurilia, is the city in which the visitor is invited to compare their pathway with pictures of the old city: the same square, the same landmarks belonging equally to the past and the present defined another kind of space: the current and great metropolis introduced itself to the viewer as a country town. A town invites you to see its "ages"; its constructive images overlapping the old images of the same place make you live the "nostalgia" of the empty space with the building concentration from the past. "Avoid saying several towns rise on the same land and have the same name, they are born and die without even having met, with no communication channels among them. Sometimes, even the names of the individuals remain the same as well as the sounds and even the faces"[15], advises us the author saying in the end that the two cities, overlapping in point of images and evolution, are totally different, one was founded in place of the former, the city of the past died and turned into the present one just as people transmit their features, their lineament. Besides the fact that the narrator only relieves his own memories, using cities as didactic frames of mind with own feelings, towards the end he will use the metaphor of a cloud coming from the pipe smoke which, eliminated from the smoker's lung floats over the heads of the individuals, in order to conclude and to depict the atmosphere above the visited cities. Here the memory contributes too, generating that transparency illuminating the inhabitants 'lives.

The narrator claims the smoke of the uneasy souls "practically generates a crust above the city, as a sponge filed with the living matter which stops there, the *past - present - future blockage*, therefore

making the lives frozen in the movement illusion cease", arguing that "that's what you find at the end of the road", after having travelled a city: you find the already covered, already discovered and long-ago animated things and paths of the ancestors. If we refer to Foucault and his space duality, we can have a better understanding of the "afore-mentioned" and maybe they become feasible. Briefly referring to the modern city and the utopian city of Thomas More, to subsequently cover for a little while Filarete's ideal city, we would discover other types of perception, other types of habitation memories. Antonio di Piero Avelino, also called Filarete, who lived in the 15th century, between 1400 and 1469, was an architect during the Renaissance Age and worked in Milan. He developed a circular location plan for the ideal city within which the streets are arranged inside the circle according to 45° angle squares.

Filarete's ideal city is a city of the Renaissance and the arrangement of buildings according to the geometric rules described may be found (by overlapping) in some of the mediaeval cities.
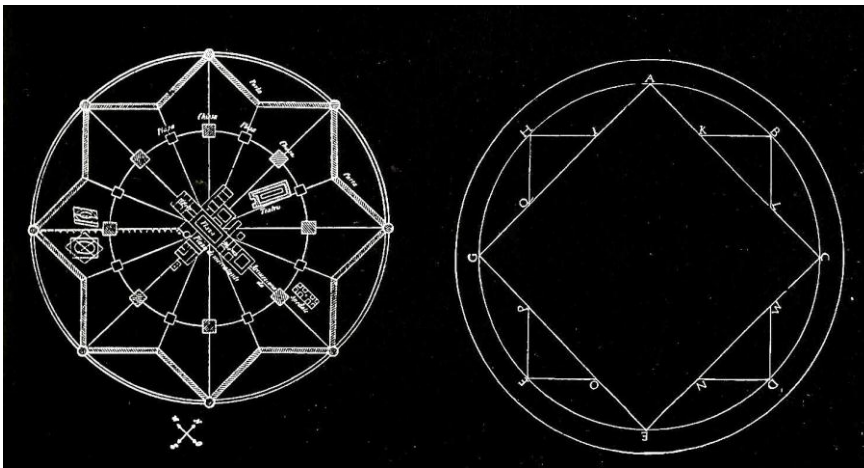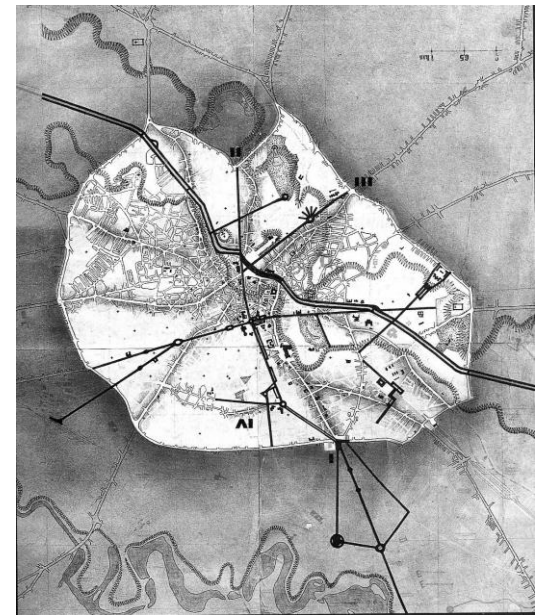

Image 1: Plan of Filarete's Renaissance ideal city

Image 2: Bucharest, the main street network of the modern city overlapping the one of the medieval city

The city of the future is an ideal city, its "builders" referring in fact to a memory of the future, making up images, senses and rules through the eyes of the mind. The policy of the future becomes nowadays the policy of bricolage and collage, making the modern city a mix of styles, intentions and suggestions.
All these vertiginously lead to the same call to memory, to the memory of a blend of civilizations in the history of the city. One of these policies makes the Roman Empire and the mix of styles a great example of luxurious bricolage.

"For instance, Rome – if we wish to see this – is an imploded version of London.

Through a shorter topographic survey, enlarged decorative objects and their reduced impact (call the Forum of Trajan, Bergravia, while the Baths of Caracalla, Pimlico, read Bloomsbury instead of Villa Albani and Westbourne Terrace instead of Villa Giulia), the imperial and popish ‹bricolage› works will find, more or less, their 19th century bourgeois correspondent- a compilation of grid-based fields corresponding greatly to the structure of the property, with confusing and pitoresque settings in an intermediate area, corresponding largely to riverbeds, roads and the like and originally serving as demilitarized zones.

Such inadvertences only help us balance the virtues of order and the values of chaos."[16]

Rome is therefore seen as a prototype, a sort of an authentic collage mix which catches the eye and overlaps the historical ages; such a model, not even unique as a prototype, may extrapolate implementing compositions and overlappings, "urban objects and customs" in London, according to the same rules.

Furthermore, the author, Rowe, suggests us the same "comparative analysis" of Houston and Los Angeles cities. He notices that "you have a certain frame of mind when visiting a place. That is, if you're hoping to find something bizarre, then you won't miss it, and if you're hoping to discover the unconventional future, you'll be ready enough to discover it; also, if you want to follow a model, then you'll rightfully have the capacity to recognize its influence. For if in Houson or Los Angeles such coherence fields and interstitial waste areas are undoubtedly more difficult to identify by names and if we recognize them solely by personal description, maybe the tendency of both cities to regain the almost Roman nature of ‹**bricolage**› is what's more important."

We find a certain pattern of Tivoli City in Italy in a few urban tissues of Houston, while Los Angeles has patterns from Cordoba which may be "recognized as equivalents of the great ancient scenography objects[17].
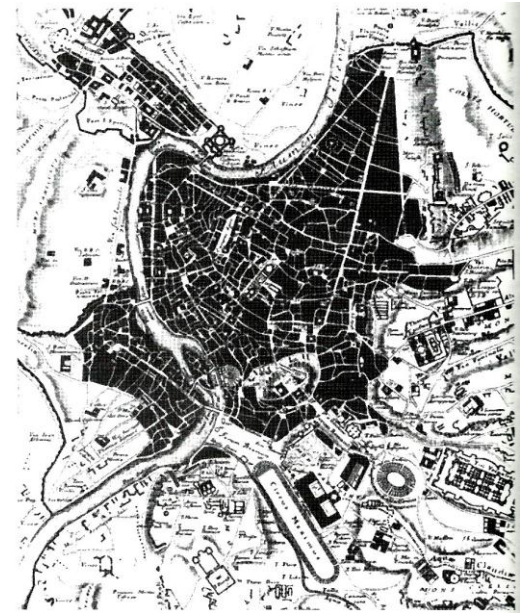

Image 3: Plan of Rome, 18th century, Bufalini, 1551
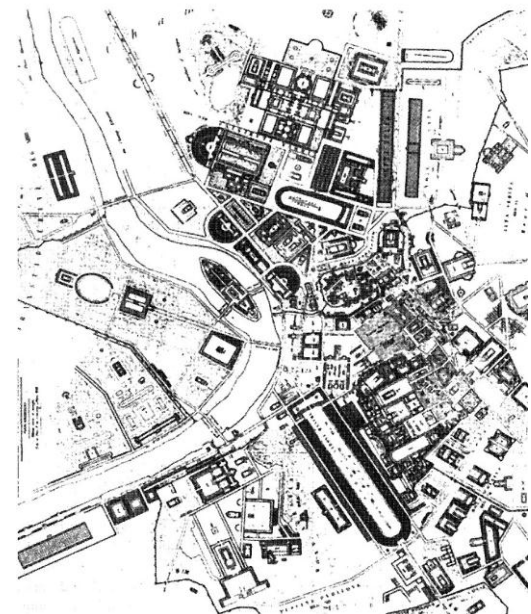

Image 4: Plan of the Roman Empire, Canina, around the year 1834

Of course, the Roman Empire is much more than the city of Baroque in its climax, it reflects something of the mentality of **bricolage** in its most luxurious times - an obelisk here, a column there, a range of statues from somewhere else; even in point of details, and this mentality is obvious."[18]

Therefore, in historical cities, the bricolage technique is subject to criticism and generates confusions and, probably the saddest thing is that it can be read and interpreted by an experienced eye. Then, „the testimonies of von Klenze Munchen can be remarked, added with the traces of Postdam and Schinkel's Berlin, the scene can be rendered a certain provincial character, Novara (maybe there are more of the same type scattered in the same way there), then I go on by including examples, of the best French quality, a bit later, (Bibliotheque Ste. Genevieve etc.) and slowly, late features of the Napoleonan dream begin to gain substance.

Doubtless, being self-conscious, **the museum town** is distinguished from the neo-classicism town by its multi-form; and in its clearest form, it does not

Image 5: Ludwig I and Leo von Klenye Munich, lay-out by L. Seity at Nationalmuseum in Munich

survive after 1860. Haussmann's Paris and Ringstrasse Vienna are only **degraded images** of this picture. As, at that date- and especially in Paris – the ideal of an independent parts conglomerate was replaced by a more "total" vision of the absolute continuity." [19] "In short, man has no nature…what he has is history" [20] Rowe Colins asserts, and this theory has its meaning, definitely a didactic one.

Were we to agree with Popper, we understand that "**traditions have that major, double function, not only to create a certain order or something similar to a social structure, but to also offer us something on which to operate**; something we can criticize and change.(And)... as the invention of the myth or the theories in natural science have a function – to help us order the events - the same happens with creating traditions in the social field."[21] Therefore, habitation is one of the main traditions we face, our inherited, imposed way, to live in a town, a building, to relate to pasts, regulations and laws. The city as collage, as an overlapping nebula with invisible, less visible or present layers makes us pass through, discern, evolve and why not, gain some sort of permanent knowledge. There are only a few steps to take from this to our archaeological memory. We will propose an analysis of this type of layers and of this type of memory, it being part of the "collage".

Another "**collage**" town, with overlapped layers, with similar architectural styles that influence each other, is Munich, offered to the viewers as a "museum-city, the city as a harmonious concert of culture and educational purposes, the city as a friendly source of miscellaneous information, carefully selected, fully materialised in Ludwig I and Leo von Klenze Munich, in that Biedermayer Munich, with its

abundance aware of the Florentine, Medieval, Byzantine, Roman, Greek references.(...)But if the idea of this town, which seems to have lived its blossom period in the 1830s, is involved in the political culture of the beginning of the 19th century, its significance still stays unrated."[22] It seems like all the history leads to certain expression plans and the conservation of these "testimonies" and presences in the urban tissue plan and unsolve mysteries, meanings, steps taken with certain goals.

The collage city is a **"talking city"**, the habitation of a certain city is one full of stories, becoming thus a responsible one. If we found out on the way what kind of impact a multitude of overlapping layers may have on the town, in the following, we will try to present the meaning of the underground memory. If we have gained some understanding about the way the historical layers in a city, a "museum city" must be understood, lived, read, we will try to find out how to get or how it has gotten to this type of town and the relation between the over-ground and the underground. Archaeology may be read, may be perceived as " the source of information on the urban development, especially regarding the social and economic evolution, as it results from the habitation style, the workshops and the waste disposal units."[23]
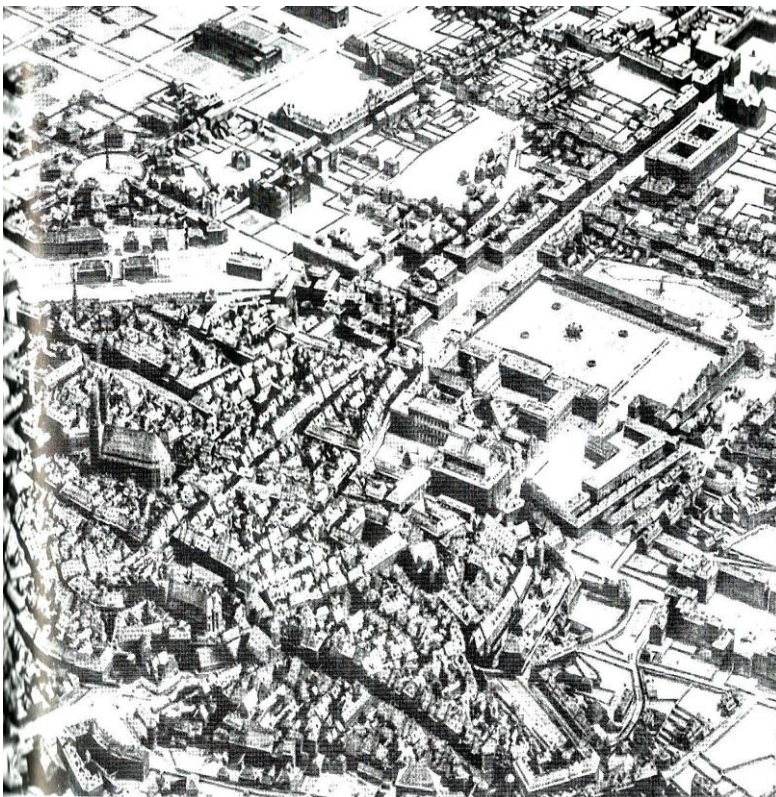

Image 6: Ludwig I şi Leo von Klenze Munich, lay-out by L. Seitz

Archaeology, as phenomenon and informative matter, seems to hold the key to all settlements, directions, urban developments and even habits of a town. The deep stratigraphy is revealing, through digging, studying the "habitation sequences", of an era, discovering, and making important deductions for the understanding of a society's evolution. It almost makes one think that if at the perceivable level of the town, certain testimony types can be found, they most certainly come from what is yet undiscovered underground. If a certain type of culture, respect, "interest" in the traditions exists in the habits of a region, then this reflex is probably inherited from the anterior civilisations who inhabited the same space.

The archaeological memory thus brings a sort of declick of a complex understanding of the existent, distinguishing some of the past steps and preventing somehow, an important part of the future steps. There is, therefore, an archaeological, documented direction towards the urban excavations, about the "strategies to determine where, when, what and how to dig and the manner in which complete verifications of the application field and the significance of the results can be

carried out".[24] There certainly also are modifications, directions of the urban tissue according to these predetermined axis of "urban" development, that have existed for centuries, in the deep layers of the town. This type of "traces", testimonies, mostly found under the foundations of the existent emerges in the less expected moments. The archaeological memory due to the urban vestiges discovered underground is a very important factor in the planning of the town: once the vestiges see the light of day, they will endlessly influence the development directions of the "fortress". All these influences and directions may be of an urban or historical nature. The urban archaeology and the built environment will influence each other mutually, imposing aesthetical measures on the environment and spatial measures on the built area. The archaeological maps are very helpful when planning the urban archaeology.

Many towns in Belgium, in the Brusels area, already have archaeological map collections, and in Turkey, for Ankara and Foca (Phokaia) these map collections are under publication. Archaeology as science, full of testimonies, may lead to the reinterpretation of the settlements' history, making us more conscious by the implication of the past in the present. Archaeology is guided by the two archaeological conventions, The Granada Convention, on October 3rd 1985 and the Convention for the Protection of the Architectural Heritage of Europe, right after the Paris Convention, signed in 1954 and the Valleta Convention, in Malta, on January 16th 1992 adopted in Romania in 1997 by a decree – L no.150 published in the Official Journal on 7/29/97.

Illustration source

Image 1:   Harhoiu, Dana*. Bucureşti, un oraş între Orient şi Occident*. Bucureşti: Simetria & Arcub, 1997, p.45.
Image 2:   Harhoiu, Dana*. Bucureşti, un oraş între Orient şi Occident*. Bucureşti: Simetria & Arcub, 1997, p.62.
Image 3:   Rowe, Colin, Koetter, Fred. *Oraşul Colaj.* Bucureşti: editura universitară Ion Mincu. 2013, p.112.
Image 4:   Rowe, Colin, Koetter, Fred. *Oraşul Colaj.* Bucureşti: editura universitară Ion Mincu. 2013, p.113.
Image 5:   Rowe, Colin, Koetter, Fred. *Oraşul Colaj.* Bucureşti: editura universitară Ion Mincu. 2013, p.130.
Image 6:   Rowe, Colin, Koetter, Fred. *Oraşul Colaj.* Bucureşti: editura universitară Ion Mincu. 2013, p.127.

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Endnotes

[1] Halbwachs, Maurice. *La memoria collettiva*. Milano: edizioni Unicopli, 1968.
[2] Idem, p.25.
[3] Idem, p.28.
[4] Idem, p.28.
[5] "Cosi, quando torniamo in una città dove siamo stati in passato, ciò che percepiamo ci aiuta a ricostruire un quadro molte parti del quale erano state dimenticate. Se da un lato, ciò che vediamo oggi si viene a collocare nel quadro costituito dai nostri vecchi ricordi, dall'altro questi ricordi si adattano all'insieme delle percezioni attuali. Tutto avviene come se noi confrontassimo diverse tesmonianze. E per il fatto che concordano nell'esenziale, nonostante qualche divergenza, che possiamo ricostruire un insieme di ricordi ricognoscibile " (HALBWACHS, *Maurice, La memoria collettiva*, p.37)
[6] ''perché ciascuno do noi porta con sé e dentro di sé una quantita di persone distinte.'' (HALBWACHS, Maurice, La memoria colletiva, p.38)
[7] Calvino, Italo. *Le citta invisibili*. Milano: Oscar Mondadori, 1993/2012.
[8] Calvino, Italo. *Le citta invisibili*. Milano: Oscar Mondadori, 1993/2012, p. 10. "Potrei dirti di quanti gradini sono le vie fatte a scale di che segno gli archi dei porticati, di quali lamine di zinco sono ricoperti i tetti; ma so già che sarebbe come non dirti nulla. Non di questo e fatta la città , ma di relazioni tra le misure del suo spazio e gli avvenimenti del suo passato"
[9] Idem. p 65.
[10] Idem p.65.
[11] Idem, p.63.
[12] Idem p.96.
[13] Idem.p.96.

[14] Idem, p.80.

[15] Idem, p.30.

[16] Rowe, Colin, Koetter, Fred. *Oraşul Colaj.* Bucureşti: editura universitară Ion Mincu. 2013, p. 107.

[17] Idem, p.107.

[18] Idem p.106.

[19] Idem., p.127.

[20] Idem, p.118.

[21] Popper, Karl. „Towards a Rational Theory of Tradition". In *Conjectures and Refutations*: The growth of scientific knowledge. London and   New York, 1962, p 120-35.

[22] Rowe, Colin, Koetter, Fred. *Oraşul Colaj.* Bucureşti: editura universitară Ion Mincu. 2013, p. 126.

[23] Perring, Dominic. Manuale di archeologia urbana. Milano: Liitocopy, 1982, p.7. "L'archeologia puo essere una vitale fonte din informazioni sullo sviluppo urbano, particolarmente sulla nondocumentata evoluzione sociale ed economica come risulta dalle abitazioni, botteghe artigianali e discariche."

[24] Idem. p.7 (" Sono sistemi nei quali la direzzione archeologica dovrebbe occuparsi solamente della determinazioni di strategie circa il dove, il quando, il cosa e il come scavare e del come ci si possa rendere pienamente conto della portata e del significato delle scoperte fatte")

LEON BATTISTA ALBERTI:
BETWEEN EXTREME SPORT AND THE THEORY OF ARCHITECTURE
VIA THE AVANT-GARDE SPIRIT

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The personal look and the Public Relations Department of history

When looking at Leon Battista Alberti as history deemed appropriate to introduce him to us at Uffizi, wrapped from head to toes in a plaited surplice, wearing a rather funny capote and reading a long written document in a serious mood, you cannot imagine him as the fun-loving guy and the avant-garde artist he actually was. Should we add what we were thought about him – that he was the scholar of his time, the theoretical conscience of Renaissance, etc – we will surely fall asleep. And it is unfair, though. Good athlete and comical, Leon Battista was taming horses, jumping over the shoulders of ten people and easily winning the competitions with javelins and spears. His back leaning on the wall of Santa Maria del Fiore cathedral, he was able to throw an apple over the dome. He was riding in a circle on one leg and left the audience amazed with various acrobatics. I strongly doubt that he was doing all the above while wrapped in that long-to-the-toe clothing and his capote on his head. But this is how history is used to present its values, always in a grave tone, even though individual truths are given up. Alberti was inviting his friends over to sing for them, play and entertain them, and not to read from his theories and bore them to death. (He was doing great playing an instrument, but his voice left much to be desired, as rumours say). It is a shame that history seems to have some grudge against lovable and nice people, who did not know to defend themselves in due time and, thus, to build their own image for posterity.

Image 1: Leon Battista Alberti (1404-1472), dignified, in the Uffizi gallery courtyard AST

I am sure that, in a different form of temporal organization of the world, Leon Battista Alberti would have at least participated in the Monza circuit and, unlike Marinetti, he would have not got into accidents. He was too good of a sportsman. He would surely have not fallen off the horse and died, like Boccioni the fool. And he would have probably gone, like silly Sant'Elia, into the front lines but he would have managed to get out of there alive. As a child, he would have been the best roller-skated at the

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playground. In winter time, he would have done acrobatic skiing. If he wanted, he would have been the best stuntman. However, first and foremost as a *Italiano vero* to his bones, he would have loved cars and motorcycles. Naturally, as a professional architect, he would have also taken care of their design. He might have pushed it into a revolutionary area, since he had a fairly technical inclination. Even though we cannot tell for sure how much time he would have spent on the internet, he would have had friends galore, as he – God knows how – found time for everything. Back then, he was hanging out with his friends, over a glass of wine and a song. Today, we would have found him jamming in a jazz concert, in the most non-conventional places. He loved the show and, as generous as he was, he liked to make a show of himself, just to please the people around him. Instead of churches, he probably would have liked to get involved in architecture for events – Olympics structures, art exhibitions in the public space, festivals, super media libraries…

When the entertainment allowed him, he was feeling as comfortably as ever in the library, too. Like a white-bearded scholar, the graceful, curly-haired and handsome sportsman was doing research, more into exact sciences, unlike the others mostly involved in philosophy. As Vasari said, Alberti was even more brilliant in the library than in front of the drawing board. And this is no surprise: while all the artists were trained in workshops, he was the first one to acquire his education in Universities. Could it that be an other sign of him being an avant-garde artist?

The answer is yes, if being avant-garde means pioneerdom in art; if it means fallowing unbeaten paths for art to follow. *„As I have new goals ahead of me, I start from new principles"*, said Alberti, aware of being a path breaker, as it seems. Along with Brunelleschi, whom he was praising in public, with Ghiberti, his friend for debating and with Massacio – all the three of them as practitioners – he made up the first avant-garde trend for which he created the theoretical ground. Other avant-garde trends existed most likely long before him – otherwise, we would still be living in mud huts and eating with bone-made spoons – but those trends missed a certain sparkle to make them famous. And it was not their lack vocality, but the support of the written word.

The avant-garde text, from natural to bellicose

De re aedificatoria was an avant-garde treaty, even though it was friendly written. As he was a gentle man, Alberti did not point his finger to anyone, either Villard de Honnecourt or the scholastics. But even so, it triggered an improbable victory of the Renaissance over the Gothic. Improbable, as the Gothic had an enormous advantage over the Renaissance: it was old and established, while new spirit was novel; Gothic was universal, while Renaissance was spatially confined and locally specific, limited to Florence and to its nostalgia for the Roman Ancient times; Gothic had been naturally born and disseminated organically, having everybody on its side, from instructed bishops to the illiterate peasants. It had been lasting for centuries.   But Renaissance emerged abruptly mainly within the small circle of the few existing intellectuals. The secret of its victory laid in a new and special weapon, which ever since then has proven to be the most powerful – the authority of the written word. (It seems that its power lasted until the end of the 20th century, but this is another discussion.) However, its genial spokesperson was the extroverted, merry-maker and jumpy Leon Battista Alberti.

Back then, the word meant a *bon mot*, even in arts. It was by means of his soft voice yet determined and due to his systematic thinking that Leon Battista Alberti did his pioneering work. The word turned a reasonable, talented and diligent guy, into the first scholar of his time. It is still the word that converted the artistic crafts into intellectual disciplines and it was the education through words – and not the apprenticeship in masonry and carpentry – that created the architect of the modern world. But that was then. And the same thing happened again, only once, in Europe. The second glorious moment of the word in architecture was the inter-war avant-garde. The new spirit was also engaged with the intellectualization of arts, that's why the avant-garde had a lot to say in words. But that time, words were not anymore simply spoken, but they erupted from a volcano. *Parole, parole, parole,* like the theories from 500 years ago but a few tones higher, allegro impetuoso and often furiozo. The big difference in tones was between the avant-gardisms and Avant-garde. As tumultuous as it was, Avant-garde did not have the patience to build a systematic discourse, but it turned to war calling, verdicts, interjections, pamphlets, trumpets and impertinence. It had the excuse that it had to kill an art that had been on the market for centuries but whose spirit had fallen into a deep coma, leaving a consistent but exhausted result behind. Like during the Gothic times, the society embraced it to the point of identification. It is always this society to be blamed, for it is the one that after understanding a new trend, it makes it conventional to never let it go again. But what can you do? Life is tough. So was it during Alberti's time, but it was Savonarola alone who dared to aggress his contemporaries.[1]

Avant-garde exhausted its words in spatters, directed towards the enemy everywhere, and very little to explain itself. Tristan Tzara was saying himself: ‚*I am not even thinking to explain myself, as I hate the common sense… Boomboom, Boomboom, Boomboom.*" But how can you not love this inter-war avant-garde people, funny and living their young years to the full, despite their harsh humour and their spirit of contradiction, anti-academic, anti-institutional, anti-constraints, anti-bourgeoisie, anti-decrepitude, anti-boredom and anti-anything? *„We want to demolish museums, libraries and academies, to fight morality, feminism and all the utilitarian and opportunist cowardice!"*[2] Marinetti was taking pictures in racing cars and in funny posings, Schwitters was accompanying van Doesburg to his conferences, to bark from the audience when everyone was least expecting, Rodchenco was taking photos of Lilya Brik screaming from the top of her lungs, for a poster that travelled all around the world, in Köln police closed the Dada group exhibition for reason of obscenity, and in the America of freedoms, the fountain-urinal of Duchamp was controversial, to say the least. They had a big mouth and were aggressive beyond all limits, they were scandalizing you and you would get over it as you did not think to take it too seriously – they were instead talented girls and boys.[3] Alberti had not gone beyond all limits. He was playing leap-frog on a standing man. He was turning the horse around without moving the little stick on his foot and was riding it like no other. But what's the use of it – the history pictures him as a boring lecturer, enveloped in his long shirt, like in his harmony and beauty called *concinnitas*! He was imagining that *„beauty alone can receive clemency from the despicable people; it alone will calm down their flushes and stop them from doing bad things."* Not to forget that he might be living among brutal people. But Marinetti was not. He was living among poets and refined art historians, whom he wanted to defy. He obviously picked up on the Greeks, as nationalism would not let him attack the Roman Ancient times.

Image 2: A Ferarri is more impressive than the Basilica of Sant' Andrea in Mantua! AST

But who knows? If Alberti were in his shoes, he could have said, "*A Ferrari is more beautiful than my Sant'Andrea in Mantova!*" Only he had lived in a different era. Then, his statement „*every art and science has its specific principles, values and rules that will help you to reach your goal as beautifully as possible, if you are carefully complying with them*" might have said „*we defy the principles, values and rules of every art and science and our purpose is reached as aggressively as possible*". And his image for the posterity would have been a different one. In other words, avangardisms meant the courage to recommend a new spirit. The same thing for the avantgarde, only that the recommendation was coming from bellicose positions, along with nihilism and fighting spirit.[4] The word was their first weapon. Then followed the image.

Word and image, idea and babel

Today, the time for words is gone. As it happened in Byzantium and during Baroque, only the image is meant to surprise and impress. If it is accompanied by a few words – just a few, because no one will read more than ten – is because the audience should not understand the message upside down. The word has confined itself to a small circle of insiders, who are using it for philosophical theory of architecture. In fact, there are no more Avant-garde trends either. Here and there, you will see a small group of neo-avantgardists, comprising fans of as much as possibly computerized future or, on the contrary, other groups made up of followers of Rousseau and William Morris, supporters of an eco-bio-logized future. Besides that, there are architects who are struggling more and more to find innovative concepts for their projects. And each of them wants to be an avantgardist– on his own.

Image 3: Lilya Brik, a portrait from 1924 by Alexandr Rodchenko, the cover of LEF magazine
(The Left Front of Art)
Image 4: Filippo Tommaso Marinetti, happy between industrial waste and exhaust gases
Image 5: Marcel Duchamp"s urinal, New York, 1917

Quite often, they financially support themselves by means of professional photography. Rarely, someone like Rem Koolhaas founds architectural ideas in more consistent publications.

What would Alberti do today? How would he associate the word with the image, the library with the net, classicism with the obsession for originality, the tone with the message, democracy with elitism? We cannot tell exactly what, but since the time of the exalted Avant-garde is long gone, in full *concinnitas*, of course.

Unless he would go gliding in the Alps.

Image 7: Marcel Duchamp travesti. Marcel Duchamp as Rrose Sélavy. Rrose may stand for Eros or arouser, while Sélavy for c'est la vie. In conclusion, the pseudonym may be translated as Eros – "that's life!" or "let's drink to life!"

Image 8: Readymade of Marcel Duchamp, entitled LHOOQ and displayed in 1919. The French pronunciation of the work is „Elle a chaud au cul."

Image 5: Poster of Kurt Schwitters performing the "UR Sonata" in a Dada show, accompanied by the audience's uproar, unacquainted with modern art.

Endnotes

[1] How can you not have enemies when saying about your contemporaries that „*They have become the slaves of the ancient people, their freedom of thinking is so enthralled that not only they would not say anything to oppose the opinion of those people but they would not even dare to say something that has not been said by those people.*"
[2] Quote from the futuristic manifest of Marnetti.
[3] Carl Jung had said that „*„Everthing is too idiot to be schizophrenic*."
[4] About Dada, even some artists of the movement later said, „*It was a phenomenon that was deepening the moral and economic post-war gap …a monster that left a mess behind it. It was a creation of destruction and systematic dismantling. After all, it was nothing but a sacrilege.*"