

NEW (RESIDENTIAL) FUNCTION IN OLD FORM
Modern living in traditional /inherited/ house

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Abstract

Old houses that we inherited, many times do not serve to our contemporary needs. In Croatia there are quite important number of traditional stone houses. Many of these are inappropriate for living, many deserted and many are in bad condition. On the other hand there is some sort of beauty in them, value that cannot be repeted. That is reason to use these objects, or some their elements should be incorporate in adequate modern living environment.

Total «protection» saves few lifeless structures as historical documents, and unfortunately causes plenty of ruins because of economy weaknes to reconstruct them in proper way. On the other hand, new born life «devastation» spoils historical image of inherited structure for the sake of improved contemporary living conditions.

Some are afraid that one set (of modern) could ruin another set (of traditional) images.

If changes are visually hidden, they still do exist, but someone will not feel them- and that might be acceptable. If those changes serves to our modern, present comphort and pleasure (insolation, intimacy, hygiene, hightech devices, etc), it should not be hidden.

An approach to this problem will be shown in my own example. It is renewal of an over century old (stone vernacular) house in my born place Klis, near city of Split.



Figure 1,2: Chimney on a stone roof; TV aerials on a stone roof

1 Introduction

In Croatia in Adriatic coastal areas all houses built until WWI had been made with stone walls what made stone expression of that environments. Also roofs were of stone tiles if not of brick tiles .(Brick tiles appeared in XIX century , first in towns and later in rural areas , subsequently have been substituted stone roofs. Among many , only one town whose roofs have allways been covered with red brick tiles is Dubrovnik). So authentic housing type in these areas is stone house with stone tiles on roof, but widely accepted also is type with stone walls and brick tiles roof. Pitched roofs are sloped in two directions.

One part of this heritage has been absorbed and transformed with latter building process with loosing its authentic identity, but a big part of it is still existing – unfortunately often in bad condition. These houses have been mostly deserted or used for unimportant auxiliary purposes without much demanding care.

What can be done to save them? How to install modern living in these traditional houses? How to mix, compromise new residential function with old form?

People like very much vernacular architecture, stone houses , but more to *look at* than to *live in*. If somehow involved in renovation, there is not much «mercy» for old structure integrity. All romantic parts if handicaped in functional or constructive sense will be easily changed.

(People consider that is much better to build a new house then to renovate an old one: renovation is considered as more expensive and less productive. Giving to new structure some traditional signs and motives is welcomed ,as covering some walls with stone, making grilled shutters or installing some arches)

Modern living means to have a decent and proper condition for everyday life as running water, sewage sistem, electricity , phone connection, bathroom (tub, shower, bidet, washbasin, WC), washing machine, kitchen line (oven, sink, refrigerator, many plates, dishes, glasses, dish machine), hi-fi and TV-setting, good and fresh air of about 20°C, all levels connected from inside, isolated (not passing through) bedroom, enough wardrobes, natural light and sunlight inside.

Old form (in this case) is stone house in not splendid condition, not very spaceful -mostly 2 (rearly 1 or 3) stories and loft space. Thick stone walls are of 60 or more centimeters (good isolation toward outside), floors are divided with wooden beams and boards (bad isolation in- between). Old form encompassed utility in ground floor, living in the first floor and cooking in loft space or in separated object nearby.

Style of life that was running in these old stone houses ceased to exist, and new contemporary functions cannot fit so easily in those structure without needed adaptation. In one example that I have been involved in I tried my best to compromise modern living and an old form.

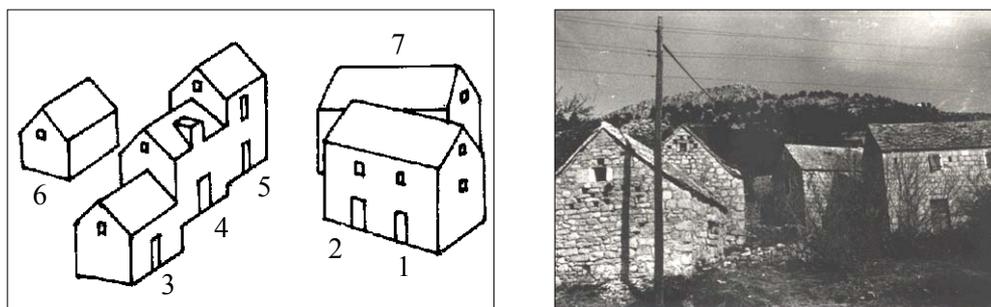


Figure 3,4: Scheme of neighborhood with 7 units and photo from 1980.

2 Case Study

My project has been renewal of an old stone house that I inherited and where I acted as an architect and client. House #1 is part of seven units neighborhood.

2.1 Genius loci

This place has historic importance, topographical attractiveness and natural power.

Ancient Roman city of Salona was about 4 km away from the location of this old house, emperor Diocletian had his famous palace in Aspalathos, 8 km away, old Croatian state is constituted in this area, dux Trpimir from IX century was somewhere around here, the Croatian king Zvonimir was crowned 1075 in church 2 km from this place. Medieval fortress is about 800 m north west, and it is a sign of Croatian medieval noblemen possession, the Turkish 111 year presence, the Venetian flag from 1648-1797, the Napoleon and the Austrian-Hungarian rule till 1918. Agricultural activity was by the beginning of XX century gradually substituted with industrial occupations. In the area there had been five cement factories (1876, 1905, 1910), big shipyard, plastic factory. This place happened to be on the outskirts of Split, second big Croatian city (nowdays about 250.000 inh.)

Being on 43,5° north parallel, 5 kilometers from the sea, place has mediterranean and quite temperamental climate. It is position with two dominant winds: fierce, dry, cold, northern wind *bura* sometimes in speed of 120 km/h with attractive whistling, and wet southern wind *jugo* coming from the sea and bringing the rain and bad mood. Summer could be hot (30°C) and dry for months, but by the end of August thunder storms are very usual. Each second or third winter brings a little bit of ice (-5°C) and snow.

Among different kind of vegetation, a feeling of south is in olive trees, fig trees and pine trees. In spring there are plenty yellow colors of wild bushes (*spartium junceum*).

Topography around is exciting. Mountains on north, east and west and city of Split and sea with islands on the south. On the back is impressive fortress and in front is view on many diverse contents (cement factory, ship yard, cargo port, ruins of Salona, football stadium, etc).

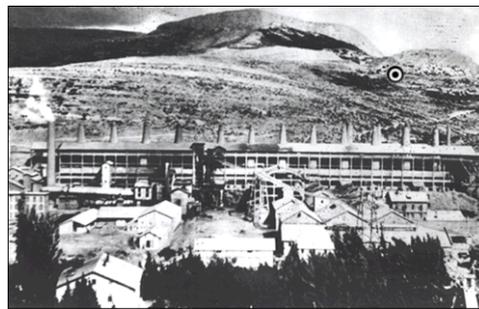


Figure 5,6: G. Santini – drawing, 1668.; Cement factory from 1928. (marked location)

2.2 History of house

In the stone block up on the house is chiseled year 1901., our family name and initials of my great grandfather who «ruled» a big family community. It was built as an auxiliary edifice to their household, 150 m in distance, as a hay storage. But it had happened that first tenants, for a couple of years, were group of Italian laborers working on the railway truck (Split-Sinj) passing nearby. In 1905. house was inherited by my grandfather (1/2) and his brother (1/2), split in two and separated with simple wooden boards. My grandfather part passed to my father in 1936. and to me in 1979. Another half is nowadays property of two or four heirs of my grandfather's brother. In the sixties both halves were

deserted and in no use after. There had not been any maintenance, the object was left to the mercy of time.

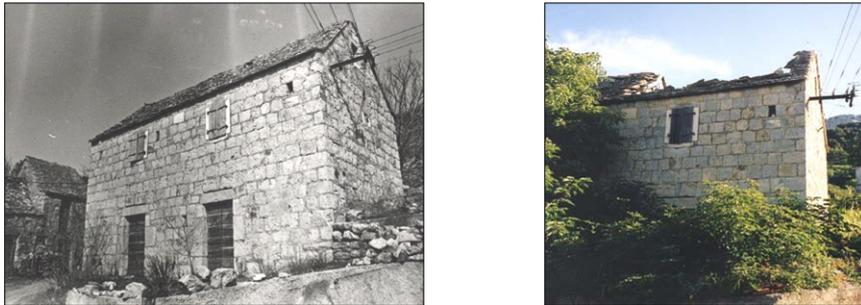


Figure 7,8: Stone house #1 subject of renewal from 1980.; and from 2000.

2.3 Condition in 2002.

My half house roof had been fallen down.

Roof was made of stone slates 2-4 cm thick, inserted in wooden rods over the wooden rafters, joints covered with lime mortar. Each several years this kind of roof was supposed to be protected of leakage with lime/sand juice (At that moment roof was white, getting grey in the coming year). Because of no care over more than thirty years, roof collapsed on my part, and soon all wooden construction inside got in decay. Even thick stone walls (60 cm) were cracked on several positions.

Last October I decided to renovate this family heritage.

I spoke with the owners of the other half, distant relatives, to adjust plans for both parts. They were not interested neither to take any kind of preservation nor to sell it. They declined even the proposal to put a common solid wall instead demolished wooden boards in between. Later I put my own wall on my side. What was their idea about their part of house? They didn't know- just leave it as it has been. They didn't have an idea who would get it, didn't have means for any enterprise, neither will to sell it because «it is family heritage» and «selling would be an offence to the ancestors».

So I forgot about the other part and decided to renew my own half.

2.4 Needs

I didn't need it as a stone sculpture, neither as a hay storage.

I needed it as a vacation dwelling unit with all needed contemporary comfort in it. So I had to install a bathroom, modern kitchen line, washing machine, TV-devices, what means quite a technological attack on a decent old structure. Besides I discovered fantastic views from the place-it would be a bad mistake to ignore it. A good southern position of main elevation gives perfect winter insolation of house front, and I wanted light and sun inside, much more than it was possible through modest small openings in thick stone walls. My wife wanted an open fireplace. Of course we wanted space to be warm in winter, cool in summer, without dampness, without bugs and spiders. I also wanted entrance door 10 cm higher than it had been or 10 cm higher than my height. Being planned for family use, it should have an isolated, protected room for couple and additional beds around for kids.

2.5 Approach

The house was in decay, fallen stone roof, wooden construction mostly rotten and torn, some cracks on walls. Stone tile roofs, although attractive, are demanding for maintenance, and if neglected and ruined, it is very difficult or impossible to repair. It was impossible to renew stone tiles roof in the way it had been because many tiles got broken, and there are no more craftsman of that kind. Mock-

up with new stone tiles (extremely expensive in getting them nowadays) on sloped concrete slabs would be quite a constructional lie. Solution with brick tiles would eliminate use of the third level. Because of the neighbors' demands I was not allowed to raise the house or to change the geometry of the roof. I decided to use modern materials aluminum and glass for the roof. White aluminum gives feeling of white lime color on stone roof. Glass opening is evolution of a dormer window for the sake of getting pleasant inside space and marvelous views.

Stone walls are making the theme of the house, main mark and the most valuable formal element. They can still have their constructive purpose and be a shelter. Stone walls should be treated as a value which is to be incorporated in renovated structure. Their expression can easily be put in range with stone walls texture in the best examples of modern architecture .

Comparison of these stone walls to those made by the masters of modern architecture, for example F.L.Wright:Falingwater, M.Breuer: Stilman, Herzog&de Meuron:Stone House, S.de Moura:Bom Jesus, Gwathmey&Sigel gives a feeling of real value.

It is impossible to repeat stone wall alike this one, because it is sculpture. Each block is chiseled, made by hands in hours and hours of work, and then in hours of work put together in wall construction. It is original, and everything similar made today, with help of mechanism instead of hand work, would be imitation, lacking its authentic beauty. (Expresion of stone in one contemporary way would give some other, quite different beauty alike stone plates in Mies van der Rohe's Barcelona Pavilion.)

Everything else inserted in this house was to be contemporary. Contrast old/ new is supposed to be valuable , much better than old+imitation of old.



Figure 9,10: Decay inside house from 2002.

2.6 Forms and materials in neighborhood

Stone chiseled blocks connected with lime mortair, 60 or more cm thick walls, with small openings, (insufficient insolation, in underground parts with quite dampness) is vernacular and traditional in the area. With cement factories, concrete wall (30 cm) appeared but with bad thermoisolation and bad dampness resistance. Nowadays plastered wall + (white) paint is a standard. Concrete or brick blocks wall (plane or spread with cement/sand juice) means that wall has not been finishes in plaster yet.

Stone tiles inserted in wooden rods on wooden rafters and covered with lime/sand juice (slope about 40°) is traditional roof in white color (when recently painted) getting grey afterwhile. Since 1920's red brick tiles on wooden underneath construction are new roofs - recently put on concrete slab construction makes lower slope. Having asbestos cement factory in area some roofs are made of asbestos plates. Flat concrete slab roof is used for additional auxiliary edifice. Flat roof also means that house is not finished yet (supposed to be eventually some sort of sloped roof). Vernacular stone tile roof has two side slope, as well as first brick tiles roof. After a while, four side sloped roofs have appeared, and recently broken roofs with more different slopes have become more attractive. The same sensitivity has also broken the previous clear stereotomic volume into more smaller ones.

Openings are vertical rectangular, small in stone wall and bigger in other construction, protected with outside full shutters (usually painted in green), with grilled shutters (painted green or white, rarely some other color, might be stunned in brown). Stone openings had frame (chambrane) that was sometimes imitated in plaster.

Among different elements railings have appeared on and around houses. In recent forty years fences got different interpretations of steel bars in wrought iron style.

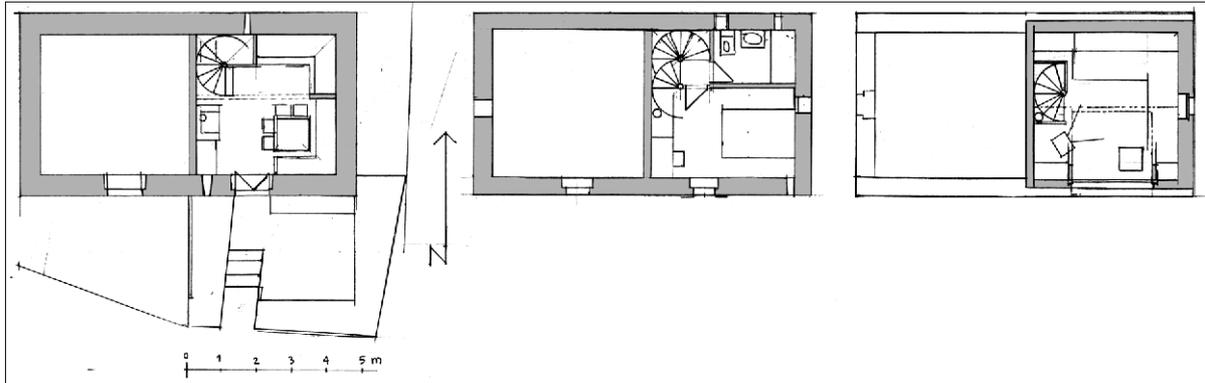


Figure 11: Renewal – ground floor with terrace, 1st floor and loft space

3 Solution and interpretation

3.1 New spatial organization

Inside space is tiny. Surface of 390x390cm in basement, 400x390 in the first floor and the same in the loft under pitched roof, all together 45 m² and space of 90 m³. Vertical communication should be as minimal as possible. Spiral steps happened to be a solution. Although quite steep they are not ladder. First floor or middle etage has bathroom and isolated room for a couple- the rest of the space is in flow.

Small yard in front of house became a terrace (a septic tank is put underneath it) with tiny green belt for planned greenery, vegetation of mediterranean area.

For the sake of the light, sun and the view a big opening on the roof was made.

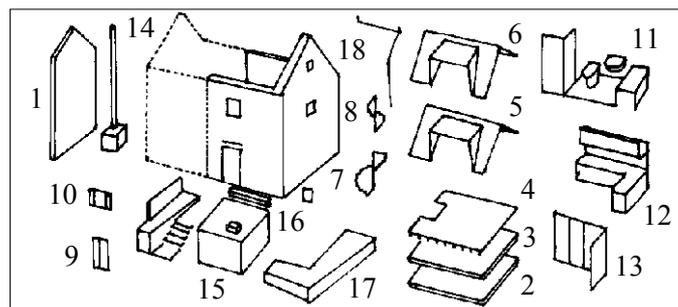


Figure 12: Three old walls- the rest is new: 1. western wall, 2.3.4. construction between floors, 5.6. roof, 7.8. staircases, 9.10. doors, windows, 11. bathroom, 12.13. kitchen, 14. fireplace, 15. septic tank, 16. stone bench, 17. terrace, mini garden, 18. thunder protection, etc, etc.

3.2 New construction

In constructive sense quite many things had to be done. Putting the level of ground floor lower for the reason of entrance door height, stone foundation of heavy stone wall had to be reinforced and

somehow protected from outside water.(Ground level of the house is about 1 meter lower than neighbouring ground on two side). On the ground and on the first floor, reinforced concrete slabs improved radically firmness of the house. The construction above the first floor and the roof construction are wooden. Roof has thermal isolation with gypsum board inside and wooden board in between , tar paper and aluminium on the outside. New roof is alike carpet over the old one. It was supposed that the total cost would be about 25.000 €, and the time of work about 8 months.



Figure 13,14: View through old window; and new dormer window

3.3 Form consideration

I saved everything «old» what I found on the site, what means three stone walls, I used some found not thorn boards for the entrance door, and one not rotten poplar beam to be exhibited inside. The rest was «new» material from the market . Old materials were local, from nearby (stone block from rocks couple hundreds meter away, poplar beams from less than 1 km away. New materials are from Croatia and from all over the world (plywood from Indonesia, glass from Italy). So I developed an idea of dualism old vs. new, local vs.global, traditional vs. modern.

Stone as a representative of the past, not decoration, but logic and truth, gives the feeling of stability and gravity, history and eternity, has come as a material of nostalgia and memories. Today's, contemporary but also future's materials are aluminum and glass. Big sheet of glass, made as big as it is possible in these circumstances, is the simbol of progress and also a very seductive material: transparent, nonvisible or reflective dark, grey or blue. Stone belongs to the ground and glass is flying to the sky.

3.4 Instead of theory

Obligation or freedom, sincereity or mock up, truth or lie, present or history, imitation and reinterpretation or imagination and originality.

House form is a result of functional (spatial) demands and construction (materials) possibilities. From the statement «form follows function» comes that «function obeys (adapts) to form». Change of the function either has to change the form, or cannot be realised and modern living will be handicapped in some non-adequate old structures.

In the background there are two opposite philosophical orientations and emotions.

History? *Magistra vitae*, memories, honesty, law and order, sources of life, art and inspiration, glory (for conservative romantics) , or - oppression, rule of the dead, illusion, lie, wars, poverty (for progressivistic critics).

Future? No thank you: Doomed day , apocalyptic end, brave new world, eternal suffering in Hell (who is not a sinner), losing of human virtue, or -yes,of course: liberation , help of technical progress, healthier and longer life, enjoyment in work, triumph of mankind possibilities.

Final judgement and emotions toward renewed house will be based on the *history vs. future* emotions, and *old vs. new* images that are in somebody's mind.



Figure 15,16: Neighborhood from 2003.; House in renewal proces

4 Conclusion

My design conclusion is that new residential function somehow changes the old form. High living standards if incorporated in an old house, should make some changes. So, either old house should be transformed a bit and improved for contemporary living, or should be left to disappear as a useless object.

Today in Croatia there are so many historical remains, vernacular and stylish houses- too many to be saved as conserved monuments and museums or shell for restaurants, cafes and shops. That heritage should be used for contemporary living, of course without ruthless new function violation, but also without oppression of inherited old structure.

Mixed and complex ownership over these properties is often a sort of obstacles for action.

Care for tradition should be run in an active way. State, municipality or diferent foundation should be active in giving free advice, projects and favorable loans for adaptations. «Protectors» might be buying and renewing the old houses to be rented later. Renewal is not cheap but worth to be done. In this work there should be a measure.

The measure that I've found to be appropriate, I gave in my project.

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