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Traditionalism as a Paradigm of the Architectural Creative Activity in the East

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Abstract: The application of the traditional principles and stable forms within the contemporary architecture is historically justified and compositionally effective. The development of all the civil architecture (and Iranian architecture in particular) confirms the very important role of the typological regularities in the evolution of the volume and spatial forms. The article presents the tendency of the multifaceted research and appliance of the historically emerged types of the plan structures, traditional architectural forms and architectural details within the contemporary architectural and construction practice. The experience of the Arabian, Persian and Indian folk cultures and architectural traditions, which developed for several centuries, shows the number of the amazing examples that reflect the social viewpoint on the solution of this problem. The attention is concentrated on the issues of the traditional form creation, principles of the construction, traditional constructions and the material in the architecture and their dependence on the climate, seismic conditions, wind directions and other objective factors. The prevailing influence of the Islamic spiritual culture on the traditions of the Iranian architecture has been uncovered.

Key words: Regional architecture · Traditions · Civil constructions · Climate

INTRODUCTION

Nowadays the contemporary world architecture pays more and more attention to such a trend as a "regionalism", mainly because of its targeting on taking into account the local conditions and not only within the borders of the separate country and nation but within the boundaries of a rather wide zone with the similar climate conditions. The above mentioned tendency makes a significant influence on the formation of the architectural image of the contemporary buildings and their complexes, this tendency is directly related to the climate problems and architecture issues in the countries with high annual temperatures and demands thorough and detailed research [1]. The best and progressive traditions and composition hints of the national architecture should be wisely combined with the contemporary scientific approach to the solution of the complicated architectural problems with the respect of the high art pieces creation, choice and application of the new and traditional construction materials, up to date methods of the industrial construction, establishing all grasping control over the local natural and climate conditions, though taking into account the new social, economic and technical ground.

Appealing to the basics of the natural architecture will be the logical proceedings of the taking into account the peculiarities of the national architecture. The exposing the essence of the organic architecture is viewed in the most rational correspondence of the architectural forms to the social processes as the living organisms, the plants and the animals appeared to be the most fit systems for their environment during in the course of the form creation and the life process. Although the constructions, created purposefully for the satisfying the certain human needs, among them the protection against the bad weather and social conditions, are subjected to the entropy. The solutions, undertaken by the architects, depend on the numerous factors and sometimes are more or less rightly chosen, but often they are ambivalent and sometimes they turn to be erroneous [2-5].

It is usual that factors, which are active within the folk architecture, are similar to the factors of the natural evolution: strict time period, searching for the best effect by the less organization means, sharing the best solutions.

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The folk architecture is characterized by the many centuries experience of protecting the humanity against harmful factors and natural disasters; it has been making a synthesis of the optimal functional, constructing and planning schemes using local materials.

The Traditional Means of the Microclimate Optimization: The main forms of the house buildings of our ancestors were developing under the influence of the external nature and climate environment, although with some deviations due to the local architecture traditions and social background.

The most of the territory of the North Africa, Near East, Middle and North Asia, number of countries, united by the similar religious, cultural and spiritual background, are also unified by the similar natural and climate conditions. The hot climate played a decisive role in the in adjusting of the population to it.

And so the Iranian folk architecture protected the people against the climate conditions for centuries. The most part of the country territory is situated in the tropic continental climate zone. The average July temperature is +35C. The level of the rainfall does not exceed 200-400mm per annum, but with exception of the Persian Gulf shore. [1, 4, 6-9]. Rare intrusions of the cold air masses from the North are accompanied by low temperatures, strong winds and dust storms under the clear skies. If to take into account the high level of the evaporation, exceeding the rainfall by 10-15 times, it becomes understandable the acuteness of the lack of humidity. Noticeable differences of climate can be observed in the mountain regions of the country.

The desert climate of the Iran Mountains is extremely continental, characterized by the big annual and day temperature changes. The hot rainless summer lasts for four months: from May to August. The hot weather is maintained also by the instant dry winds. Average summer temperature is about +30C, average winter temperature is -2C. The humidity is low, especially in summer. Sometimes it falls to 2-3%.

Many original solutions were found by the regional architecture for the protection against the above mentioned factors. After analyzing the creation of the forms and structure of the national architecture we can unveil the role of the different climate conditions which impact on the formation of the cities and specifics of the architecture within the certain region.

All the experience, stockpiled in the course of the centuries local citizens embodied in the solutions of the creation of the friendly environment. Finally following the stable recommendations enables the architectural solutions to satisfy the following demands:

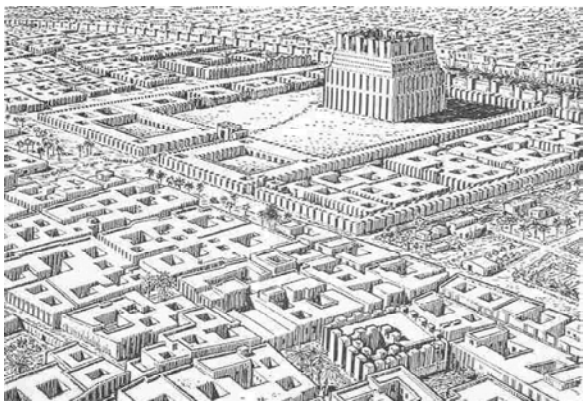
- To use the climate characteristics to the maximum extent
- To optimize the interior microclimate
- To minimize the energy consumption

Location: The location of the towns and civil complexes is defined by the specific features of the surrounding territory, its possible variants to use for the different purposes. Specific features of the soil, density of the ground, fertility, type of the vegetation, the water amount, seismic activity, local materials and climate characteristics exert an influence on the architecture of the certain region.

Iranians were the first who elaborated and used the constructions of the water channels 20-40 km length, which supplied the water to deserts. They were situated on the large distance from one another that is why human dwelling were also far from one another. The channels went through the sand grounds and led to the villages where the soil was more useful for the planting. Sea and lake coasts were more useful for the local population.

Irrigation: Underground water sources, water reservoirs and channels were located under ground and supplied with water living buildings and gardens. Then channels went outside as rivers and sources. The buildings were situated alongside these water arteries in the fry hot regions thus the channels built a carcass of the settlements. The majority of the constructions, buildings, schools, bazaars and mosques were connected by means of channels. The sizes of the living complexes were defined by quantity and quality of the water from such channels. The living settlements grew into towns in such places where supply of the water was rather sufficient. The water source played the decisive role in the formation and the structure of the settlements in the past.

The Castle Structure: The urban territories for the protection against dry winds were circled by the high walls which comprised labyrinths that hot winds coming from the desert could not penetrate. Adjustments to the wind impact were vividly expressed in the planning of the Babylon (Mesopotamia 2000 B.C.). During the general planning the main attention was paid to thee providing of the free exit to the settlement for the cool Northern winds and stopping hot desert South Western winds (Pic. 1).



Pic. 1: Babylon, general view [10]

Pic. 2: Narrow street in the old quarter in Sana (Yemen) [10]

The city of Fes (Morocco) is the evidence of the development of the architectural conception of the closed volume spatial structures. The buildings are situated closer to one another giving a shadow and a protection against direct sun rays. They have interior courts planted with the various vegetations and thus adjusted to the hot dry weather conditions.

The tallest buildings are situated in the town of Shibam (Yemen), they are positioned so compact and close to each other that the streets resemble rock canyons and there almost no squares. This picture will be complete if we mention as well the specifics of the covered street bazaars and palace mosques (Pic. 2).

We can discover the geometrical minimum of the separated buildings in the general desert village planning, we also observe the high density of constructions there, which alongside with the fencing structures defend and protect against from the hot dry waves. Moreover the buildings stand close to each other both on the horizontal and vertical levels, the buildings are blocked into the united massive clusters so the exterior surface, subjected to the insulation, is minimized.

Green Belt: The towns which had the compact structure were surrounded by the so-called "green belts", consisting of the fruit gardens and fields planted with crops. Thus the high temperatures, winds and sun rays, reflected from the sands, did not penetrate inside the settlements. This green zone heightened humidity, enriched the air and enhanced the creation of the more comfort climate of the environment.

Compact System: Traditional desert settlements had a compact structure. Contemporary researches show that there is direct interconnection between such notions as "ecological city" and "compressed and compact structure". This feature enables to minimize energy losses and to create comfortable life conditions [5, 10, 11]. This specific trend is widely used in the urban construction in the desert, mountain areas of Iran and Arab countries. Within the compact structure of cities the distance between the buildings is minimal and they densely surround one another. This paradigm determined the consciousness of the closed volume spatial compositions, which combined volumes and and external closed areas. Each urban constructing element was based on the cell with an interior court: they were cities and palaces, social complexes and living apartments, comprising the high density of the construction.

Orientation: Traditionally living and public buildings used available natural energy sources and natural conditions played an important role in the urban construction. The position of the old buildings was oriented to the South East. The purpose of such an orientation was for the effective use of one par of the premises in winter while another part of premises was more effectively used in summer. The construction and the materials of the "summer" and "winter" parts of the building were different too. Such disposition of the premises protected the building from the direct sun rays and from the strong winds.

As a rule for all the constructions there was a single premise, which took all the width of the central wall. We can present several examples of such planning: pueblo buildings (South West of the USA), palaces of Tel al Amarna (Ancient Egypt), living apartments with the

interior courts (Hodeida, Jidda, Yemen), building of the Middle East (Khiva, Bukhara). It is worth to say that such buildings were square planned, horizontal axes were directed perpendicularly to the main facades (South and North ones).

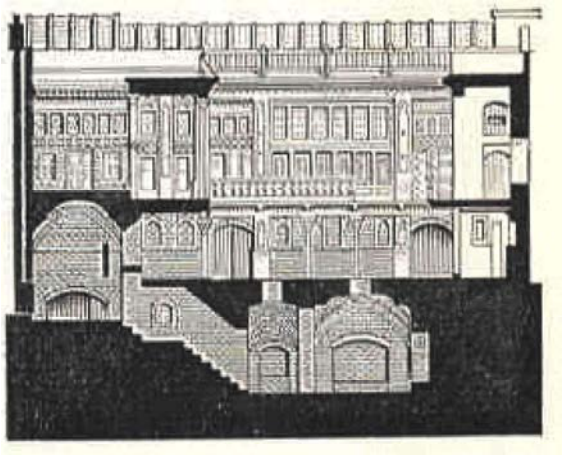
Central Streaming: The central interior court is the principal element on the desert buildings. It balances the air temperature and the humidity inside. There are solutions which suppose to deepen it into the ground and thus the comfortable temperature is preserved. The interior court creates closed area where the cool air is poured in by night which is effectively used in the hot summer day.

The ground mass located below the surface preserves the temperature which is almost close to the average annual temperature of the outside air, thus creating rather warm conditions in winter and cool atmosphere in summer inside the premises. The absence of the exterior exits with the exception of a small door provided secure protection from the bright light of direct sun rays, heat air waves and provided the preservation of the cool air within the premises. When the air temperature was too high in summer, the people could go down to underground premises (serdab) where more comfortable temperature and humidity were maintained (Pic. 3).

So back in times round farmers' building were grouped together and connected with one another by means of the underground crossings. And they had only one common entrance from the outside. The main element of the entrance group is the central portal of the civil buildings (hashti). It was always an expressive and vivid element though it was deepened in the plain of the main façade. The significant decorative and sun screening effect on the visitors was produced by the entrance portal of the building, which lead right from the street or the square; the same impression was obtained by viewing the half opened premises where the guests could wait. One or two level hashti varied in forms and sizes but they always had an arcade.

Under the necessity the court was screened from the entrance doors by the special fencing. All family life was concentrated in shadowed green interior court with the water pond. This court was efficiently protected from the aggressive factors of the environment. This specific volume space composition was widely spread because of the acute biological demand of the population.

Living and working premises of the apartments were constructed from the inside to the outside fencing wall almost without holes; thus creating interior court (hayatt),



Pic. 3: Living residence with underground premises in Baghdad (Iraq) [10]

which was partly shadowed in any position of the sun. Visiting guest, before entering the house premises, was always going through the hayatt, which played such role in the perception of the architecture, which can be compared to the role of the façade in the European architecture (Pic. 4).

Summer zones are the specific compositional centers of many constructions. In some cases the first guest court was followed by another one, which served exclusively for the family needs.

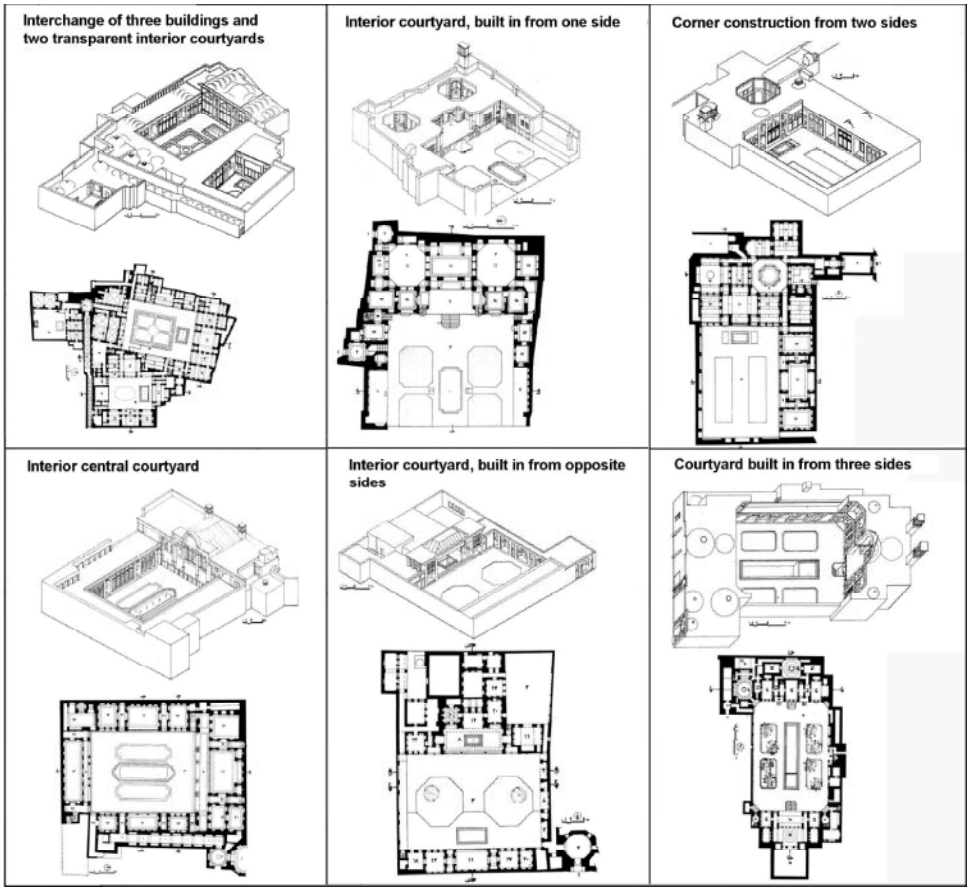
Multifaceted image of hayatt could be expressed in their various classifications on the sizes of the square from 9 up to 2500 m^2 and also by forms, disposition, fullness, location of the adjusted premises.

As rule even small buildings have their own internal connection system between the premises, although narrow and long rooms of the Yemeni buildings are not connected between themselves but have exits directly to the interior courtyard (Jidda).

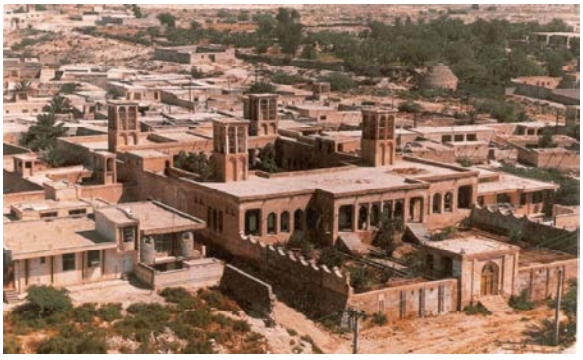
Hayats are always supplied with small basins for the additional aeration, decorative gardens with fruit trees and planted flowers for extinguishing the heat.

Interior Vegetation and Water Supply: Garden roofs, green courtyards with fountains maintaining comfortable microclimate and cool temperature were the characteristic feature and significant key element of the architecture for the countries with dry hot climate (Pic. 5).

Trees and plants inside the residence create a shadow and decorate premises; they also raise humidity level in the house. Green plants accumulate sun rays and then reflects them and therefore the inside temperature does not heighten.



Pic. 4: The examples of the general plans of buildings with courtyards (hayats) [1, 12, 13]



Pic. 5: Traditional urban construction in Bandar Langeh. (Iran) [14, 1]

It should be reasonable to mention that fruit trees were preferred among all others; peach trees, grenade were widely spread. In the coastal areas orange and mandarin trees were grown because of the higher level of humidity. Grape was highly valued because of its ability to extinguish the heat; its threads embrace facades and pergolas on the roofs and courtyards. Grenade trees were considered the best protection against the heat. Forms and drawings of the leaves and flowers became the traditional elements of mosaics, ornaments and carvings.

Hints and principles of grouping the premises around the open courtyard, which are traditional for the East, were presented in the architecture of Alhambra Palace (Granada, Spain, 13th-14th centuries). Cool and clear water, which goes from the mountains through the Mauritanian underground water pipes, supplies all the Palace; courtyards and gardens are fenced with high walls, the water from pools and fountains runs as light streams in the special carves, made in the Marmora plates of the floor and water is brought into all the main premises.

Depending on the well being of the owner hayats were supplied with the decorative and splash pools (houz), but they were always decorative. They were of the square form, randomly with fountains, which usually differed in the configuration and sizes of the mirror, the depth (40-120 cm) and decorations. The richest people could afford themselves the swimming pool in their residence.

Space Transformation and Functions: Many routine house functions were performed in the inside galleries of the courtyards, half opened balconies and terraces (aivan). The terrace with plain or arc cover, supported by columns or blocs was paved with carpets, where the place for the comfortable rest was arranged by summer night. The diversifications of the similar spatial structures could be presented by examples which vary in sizes, forms and construction.

In the cities of the Middle East (Khiva) the living residences always had small courtyard with two ayvan, axes of which where strictly oriented from the South to the North. The main summer room had windows looking to the North and respectfully windows of the winter room looked to the South. Aivan in front of the summer room took the height of the two floors; all the other parts took the height of the one floor. During hot summer days this big ayvan caught cool air streams and directed them down.

There are buildings with the transformed wall fencing. Grating doors on the windows allow transforming the open ayvan into the closed living room. In the Western part of Georgia (Mingrelia) we can observe a type of the residence, which included two rooms, divided by the wooden partition, which could be easily removed for the creation of the one single large premise. Seasonal transformation could be performed by turning this partition into the tent by summer [1, 4, 9, 10].

Most of the rooms with exit to hayat were additionally aerated through the windows and doors. The number of the big interior premises was consequently connected to one another by entrances in the form of the enfilade.

The houses were constructed with high and deep premises, stretching to the full width of the building with the short façade front. They have thick brick walls with wind traps and holes, the high warm inertia of which let them to hold cool air in the day and warmth by day.

The roofs of the leaning to hayat premises were built in a plain form, on which the pergolas can be installed (the elements of the vertical and horizontal sun protection). In the hot and dry areas the rainfalls are rather random that is why the local dwellers spent their time on the plain roof and during hot nights slept. For this purpose the light portable canvas tents were installed under the roofs (Egypt, Mesopotamia). Sometimes such tents worked as high parapets. It is worth to pay attention to the structure of theses houses, high wall parapets of Ayvan type, oriented to the North, which catch air flows and divert them to the down thus providing the natural aeration of the premises.

Pic. 6: Dome construction in ancient Bukhara

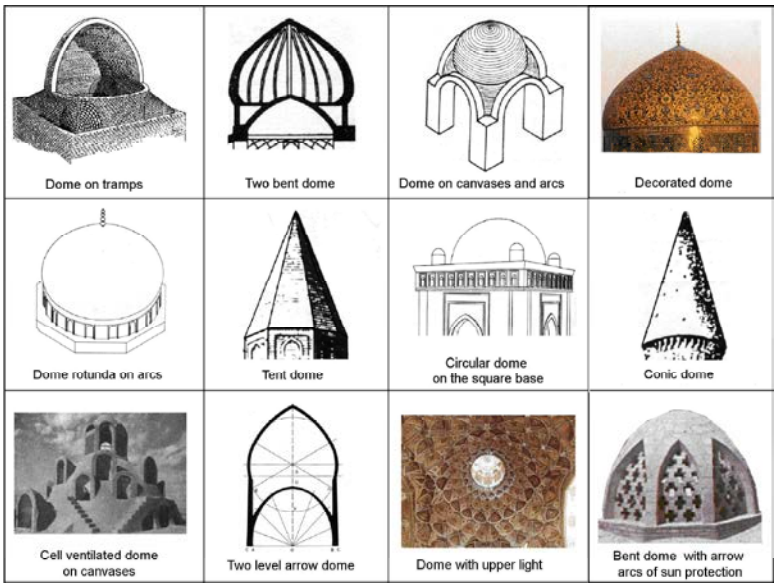
The roof is the most important element of the architectural composition and determines the image of the buildings in the region. Plain roof can be seen in hot regions, gradient and dome roofs are present in the dry regions (Yazd), gradient roofs were built mostly in the regions with mild climate and dry summer year season (Pic. 4). The types of the living residences with more high roofs can be found on the territories with moderately mild and cool climate in Tabriz (Iran).

The domes and gradient roofs is the specific case of the tool of overlapping large spaces and the mostly wide spread forms of ceilings in the past architecture of the hot countries with low air humidity, strong sun radiation and large amplitude of the day and night temperatures (Pic. 6, 7).

Moreover the sphere of the semispherical gradient receives an amount of insulation under high sun position which is lower in its foundation. This fact causes the low heating temperature of the ceiling surface and maintains comfortable conditions for the take of the heating by night which enhances fast cooling of the surfaces [4, 6, 7, 11, 15, 16].

The dome bears also high artistic, imaginative and compositional features. Expressing he idea of the ultimate calmness and balance this form asserted itself in the monumental cult and civil architecture of Asia and the Middle East. It is known the in the ancient cities overlapped the market streets completely, creating wave like covering or they covered only crossroads of the streets, or they were used as the cover at the ends of the crossings.

Besides the traditional single dome which was often excessively decorated we can point to the arc ceiling under the same name; it has a central hole, which combined the role of the light source and ventilation channel that had a centuries' history. It is a natural reliable construction for overlapping the space; as well it



Pic. 7: Examples of dome system in the Islamic architecture [1]

serves as an effective tool for lighting and evaporating the heated air. The double dome with the interior ventilated space is another achievement in the continental climate (Pic. 7).

Several cities in the deserts as for example Zavarra (Iran) are characterized by instantly blowing strong wind. That is why four cupola ceiling were commonly used; they are rather imaginative and symbolic. The high draft is installed on the threshold of the two perpendicular cupolas. This system of the air motion is an opposition to the system of the wind traps which will be observed below.

Different sizes of these constructions and their forms are main criteria of their differentiation. They are varied from four cupolas ones to the round ones and can gain 100m2 on the plan and 24m by height (Taj Mahal Mausoleum in India).

Construction Materials: The need of the cool air caused the emergence of the smoothly plastered wall surfaces, painted with the light color, which reflected well the sun. Afterwards these walls were decorated with color incurved and partly volume images and signs.

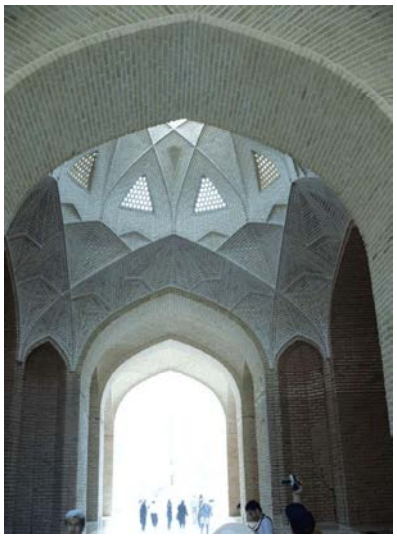
The maintaining of cool air temperatures in summer and warmth in winter provides high coefficient of the warmth resistance of the used materials. Thick walls (from 50cm up to 2 m) were a commonly used construction hint. Curved ceilings were made from clay and armored with threads and straw (the most available material in the desert), these materials slowly intake the high temperature and slowly give it away.

The majority of buildings were constructed using raw bricks, clay and other materials, which have low warmth coefficient. Bricks were used to decorate the walls and at the same time they were the construction materials for the main parts of the building (walls, ceilings and so on) (Pic. 8, 9).

Circulation: All the waste and the garbage are used in the construction and architectural practice of the desert, even broken clay vases and plated go in for usage. Construction materials left from the old houses were dismantled into parts; moreover the gardeners added them into the ground for raising its fertility. And vise versa when the exhausted soil lost its fertility features and became useless for the agriculture; this soil was used in construction.

Besides forms and technologies of the buildings' construction regional ecologists are trying to create construction materials, which do not devastate the environment, minimize energy consumption and do not pollute. This aim also goes in correspondence with the desire to avoid stockpiles of the garbage and waste, which are not subjected to recycling and exhaust the pollution into the environment.

Regional Inventions: There were a lot of popular architectural creative solutions which helped to minimize energy consumption of the microclimate optimization in the desert regions. Among such local inventions we can point to the exhaust draft, underground water pool, windmill, natural refrigerators and other.



Pic. 8: Caravan serai in Meibod (Iran)

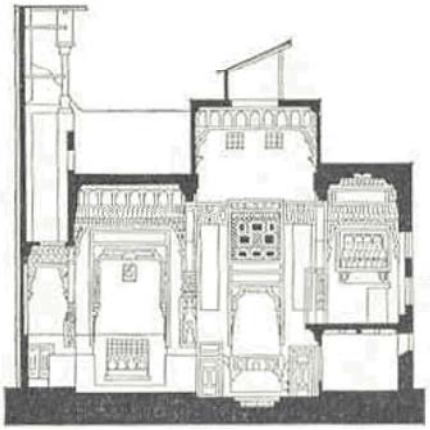
Pic. 9: Underground water reservoir in Meibod (Iran)

Nowadays the same tasks are completed by a lot of high technology devices and respectively with high energy consumption.

Air flows, going through the underground water channel (3,5m) or underground water tunnel, will be cooled when directed to the residence and the microclimate will be improved within the premises. Because of the high warmth resistance of the ground large differences between day and night temperatures on the ground surface penetrate to the depth of 60-70cm under the sun radiation.

This inertial ability of the ground to maintain the certain temperature under the natural ventilation caused the emergence of the underground water and even ice reservoirs in the conditions of the hot regional climate as in the town of Meibod (Iran) (Pic. 9).

Sometimes the natural refreshing ventilation was provided by the system of the terracotta pipes installed into the wall under the ceiling (Iran).



Pic. 10: The section of the living residence in Cairo. Upper light and high parapet as means of ventilation [10]

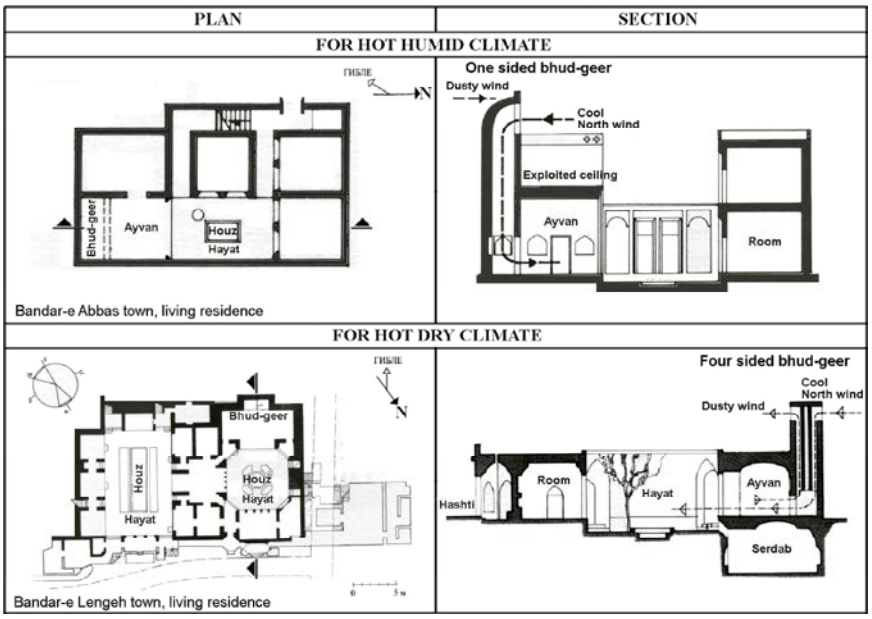
In the living residences of Tel Al Amarna the natural ventilation was performed by the lamp the upper light. This lamp, called “malqaf” in Egypt was placed into the center of the house roof above the central hall oriented to the North (Pic. 10).

In this case the cooling effect can be strengthened at the expense of building a hall (2m height), Marmora floors, cool surfaces and fountains’ streams (Mesopotamia palaces).

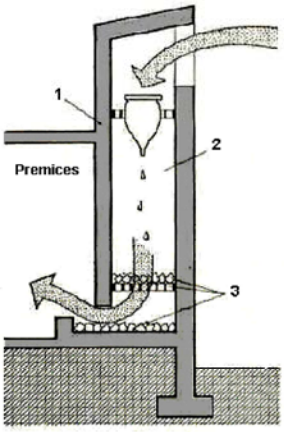
Wind Traps: The effective system of the natural ventilation of the buildings is provided by the wind traps (bhud-geer). They are considered to be one of the types of clean energy usage.

Wind traps in the forms of the ventilation pipe block go in connection with the main halls of the first floor and underground premises where water pools were situated. The wind caught in the trap on top of the tower is cooled when goes down and thus the rooms are cooled. Under the windless conditions vice versa the warm air is inhaled and goes up to the tower, walls of which are warmed by the sun and thus in taking cool humid air from the interior courtyard and underground premises through the rooms. For additional air humidity small bamboo screens with pots of water were installed in the middle of the tunnels.

Besides the difference in sizes the wind traps on the roof of the Persian residence, many buildings in the Middle East, from Pakistan to the North Africa, largely varied in forms, construction and decorations, which depended on the location and as well on the well being of the owners (Pic. 9, 11).



Pic. 11: Traditional techniques of the enhancing micro environment in the building (bhud -geer) [1, 11]



Pic. 12: Profile of the water cooling channel [10]
1. Ground or stone wall
2. Cooling trunk
3. Gratings with brown coal

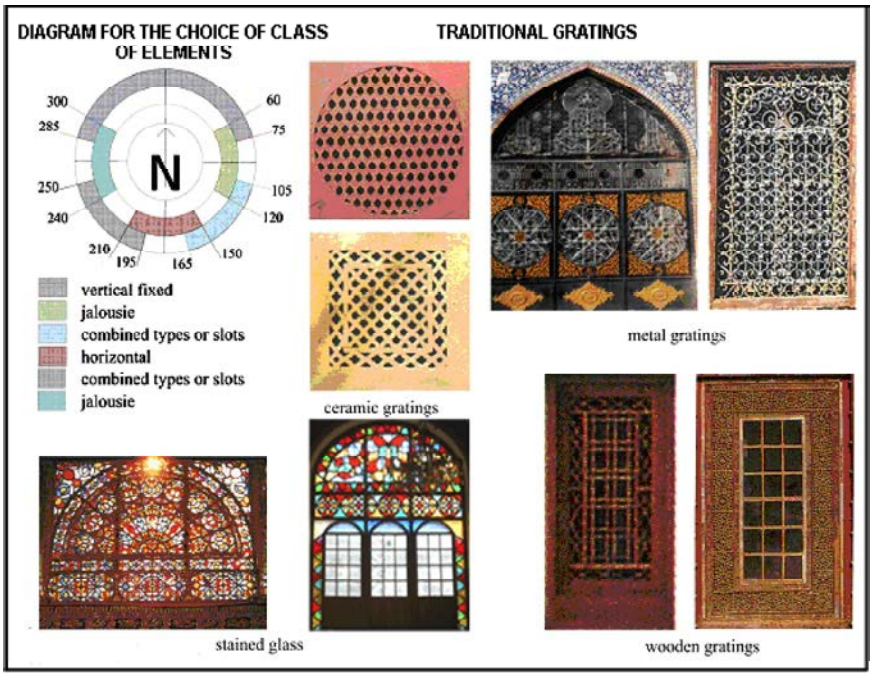
In the medieval architecture of the Arab countries the windows were often fenced with the wooden volume gratings (mashrabiya), which performed the above mentioned functions.

Mashrabiya served as a place for the preservation of the cool water in pots made out of pore clay. Due to the vast surface of the evaporation the water in the pots remained cool and also the air flows around the pots were cooled down. In the Egyptian palaces mashrabiya in its initial form were the stone boxes of jetty type, placed in front of the windows of the residences. They overstepped outside the wall surface from 20cm up to 70cm and had three vertical walls with plenty of the small penetrating holes for the air flows (Pic. 12) [10].

Apertures and Sun Protection Techniques: When the need for the widows emerged they were usually made as small ones and placed almost under the ceiling, thus restricting the flow of the directed bright sun light and also rays reflected from the ground and neighboring buildings. The wall apertures were minimal in the zones, characterized by excessively high or low temperatures and this fact was cause by the need of the protection from the sun radiation and the cold temperatures.

Different sun protection devices such as gratings, slots and jalousies with fixed of flexible elements played an important role in the protection of people against high temperatures impact. Jalousie devices, closing exterior window and partly door apertures played an active role in the creation of the image of the buildings (Pic. 13).

In the ancient Egyptian shrines alabaster plates were used which were penetrated by the natural light but they hold away direct sun rays and hot winds; at the same time there were perforated stone plates or gratings in the window apertures which protected the interior premises against sun radiation and created natural ventilation as it was in Karnack shrine. In hot and dry regional another traditional hint was known: to install in the windows apertures thin water soaked shields, made out of straw or linen and used as an entrance for air flows [1, 10].



Pic. 13: Examples of the traditional sun protection devices in the building apertures [16]

Main Tendencies of the Architectural Solutions of the Region: The correspondence of the certain architectural construction conceptions to the certain every day life routine and climate zones is not just an eventual coincidence but a sign of such process when the nations of different continents elaborated basic principles of the regional architectural forms during the struggle against the similar natural and climate factors of the environment [1, 4, 9, 10, 11, 17]. This fact causes combining common features and establishing the qualification zones of certain conditions and typical traditional features of the architectural and construction practice in different countries and regions.

The climate classifications of the Earth by Berg L.S., Keppen V., Atkinson G.A., Alisov P.B. are of the most theoretical and practical importance, they interpret the hot climate in a similar mode. The interesting results of researches were obtained by Dollfuss, Olgy and others, who paid an attention to the types of constructions, warmth resistance of the construction materials and their abilities to react to the certain temperatures, they classified main types of the living buildings of the early epochs, located in the different climate zones of the Earth [1, 10].

There is a tendency in the architecture and in the construction practice of the hot regions to voluntarily combine artistic forms of the various styles borrowed from the architecture of the past of different countries and styles of the local architecture. It created a chaos in the architecture and led to the ultimate ignoring the control under the climate impact, negligence towards the local regional conditions and climate situation and traditions (reconstruction of New Delhi) [10].

In the last decades the prevalence of the Western technologies led to the pressure of the Western culture, including the architectural culture as well. Many architects from Asia and the Middle East obtain their education abroad: in the countries of Western Europe, the USA and former Soviet block countries. The majority of constructions projected or built in Iran for the last years lost national specific features and presents themselves a provincial copy of the western architecture with more or less successful appliance of the sun protection technologies, worked out for the countries of Southern Europe, Africa and Southern states of the USA.

Partly this trend is logical because the typology of the folk architecture does not always meet the needs of the contemporary construction and architecture. A lot of elements which were functional for the traditional residence are useless and senseless for the contemporary buildings. The speed of constructing contemporary urban buildings is dictated by the modern shortage of time and place.

Pic. 14: The application of the wind traps in the contemporary constructions

Pic. 15: Contemporary sun protection techniques in the modern buildings

In the situation of the worsening energy crisis it is impossible to neglect and forget the grandiose experience of the climate optimization within the offices and residential premises, rational usage of the volume and space. The folk traditional architecture stockpiled these strategy using available, simple and natural sources (Pic. 14, 15).

Techniques of the traditional architecture does not demand excessive spending of energy, as air conditioners and ventilators do and also the folk architecture does not need very expensive imported materials, like sun protection architectural glass.

Nowadays in the countries, characterized by the hot tropic or sub tropic climate the trend of minimizing energy losses for each construction and using new technological hints remains still actual. Some approaches to the solution of this problem are presented below:

- Thermal insulation, which minimizes energy losses, minimizes the wall thickness and thus the weight of the whole building.
- Contemporary forms of the sun protection, with the help of which the penetration of sun rays and the sun radiation are lessened in summer and in winter the light is reflected inside the building.
- Systems of Helios light, which regulate the directing of the light inside the interior premises.
- Vegetation and proper water supply are extremely important because of the emergence of the effective hydro isolation and its multifaceted application in the various fields.
- Solar cell is the most modern, ecological and very expensive method with help of which the energy can be obtained.

The Specific Features of the Construction Solutions for the Buildings: The specific features of the construction solutions of the building in the countries with the hot climate similar to the climate of Iran are strictly distinct. In dependence of the type of the hot climate (humid or dry) and the character of the aggressive factors respectively, from which the protection is needed, in the first case these are high temperatures and dryness, in the second case these are high temperatures and high level of the air humidity, the demands for the construction of the buildings and tools are precisely formulated. So hot dry climate conditions demands the creation of the closed regime of the interior premises, whole protection from against hot air and dust; hot and humid climate demands open regime and the creation of the best regime for the ventilation, air motion and circulation.

Basements: The strip basements are typical for the hot dry climate, semi underground and underground premises

are located in such basements because the deepening of the buildings into the ground enhances the protection against over heating and hot dry winds.

In the hot humid climate the separate basements with carcass constructions are optional, they allow to raise the building above the ground level and provide air flows in beneath and to avoid wind shadow, to protect the building against the ground humidity, insects and rodents.

Skeleton: The skeleton of the buildings in the hot dry climate should be constructed in the form of the massive walls, which has good warmth protecting characteristics, high warmth resistance for the amortization of large temperature differences. The walls should be dense, strong, smooth, easy to wash; exterior layer should be a warmth isolation material with the cover of the water resistant material. Light tones, reflecting sun rays, are preferable for the exterior surface.

The exterior fencing constructions for the building in the hot humid climate (with the exceptions of the buildings oriented to the West and to the East) should be light, perforated, transforming, opening premises outside and enhancing ventilation. At the same time they should be equipped with curtains, shutters, grids, screens for the protection against ants.

Windows: Windows in the hot dry climate should be of the minimal sizes meeting the demands of the sufficient light. It is important that their disposition and construction provided minimizing warmth inside the premises.

In the hot humid climate widows should provide maximum air in take, their sizes and locations should enhance the air motion. In both cases it is important to use the sun protecting devices; in hot dry climate (and humid climate with the usage of the air conditioners) it is necessary to use warmth protecting glasses: stavit, Thermolux, glass profilit.

Ceilings and Floors: The floors with high level characteristics of the warmth in take are preferable in the hot climate; they are made out of concrete, Marmora, ceramics. In hot dry climate the floors are laid directly to the ground. Wooden floors can be built only there where there are no termites and bacteria.

Roofs: Coverings in the hot dry climate are subjected to the high warm temperatures. They are also subjected to the strong sun radiation as all the walls taken together.

In the hot dry climate plain roofs are traditional; they are also used for the rest and recreation. Cupola and dome roofs are also used; they minimize the sun radiation and enhance the warmth out take. We can also point to the ventilated double roofs,"heavy" roofs, made out of ground, watered roofs.

In the hot humid climate roofs and coverings provide not only sun protection but also protection from the rain falls. Ventilated two cupolas, umbrella like roofs are typical for such regions, these roofs have large ceilings.

CONCLUSIONS

The transition from principles, elements and forms of the traditional architecture of the East to the principles, forms and laws of the so called contemporary international is logical and reasonable in the case of the appeal to the buildings and constructions, which can not be built using traditional materials and constructions (for example sky scrapers) and does not have functional volume and spatial analogs in the traditional architecture of these countries. At the same time in this case some special concrete solutions and forms can be found to connect the new contemporary architecture to the traditional one and they will reflect logical connections between stable traditional forms with the new up to date ones.

The contemporary architectural practice of the Middle East, Iran presents us the exemplars of appealing and through research of the national cultural heritage and not only borrowing the best world achievements. Innovative projects featuring traditional specifics of the Persian, Arab, Ottoman constructions are presented at the architectural competitions of the last years.

The research showed that the majority of the traditional architectural principles, forms, laws of the forms creation correspond to the objective climate conditions, religious views and every day habits of the regional population. The presented research gives the reasons to assert that the further deep and thorough investigation is actual and very important in order to uncover the objective foundations and traditions of the architectural form creation in all the aspects of the architectural projecting and inherited appliance of the in the contemporary architecture.

The radically new level of the civil knowledge should be based on the enhancement and development of the national traditions in the architecture, ecology, nature and climate regional classification, climate and ecology modeling of the territories, preservation and creation of the natural environment.

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