

Brick Evolution



With all its inevitable imperfections, brick and pattern begins with the preliminary observation of a renewed popularity of the architectural use of bricks, in the context of which craftsmen and artists have been able to construct walls, adorned with patterns derived from their creative minds and that these patterns are different from those used in the past eras, as to constitute a class of their own.

According to Caroun website, since a long time ago, bricks have been inseparable elements of wall construction, thus acquiring a particular status in the history of architecture as the building material par excellence. Ever since they were invented in Babylon, the manufacture of bricks, whether sun-dried or fired, became common practice, developing steadfastly throughout the world.

Clay is available in most regions of the planet, providing the best building material, which all of the people soon put to good use, first mixing it with water and trampling it into a uniform paste, and then molding it into rectangular blocks, which they left to dry in the sun and later on took to kilns for firing. The hard, durable latter form could be readily used in building houses or other monuments. Thus, the simplest building materials available to rich and poor alike were none but raw bricks (Khesht) and baked bricks (Ajour).

> History of Brick Making

It is generally believed that the art of brick making originated about 5000 BC. The inhabitants of the banks of Nile had noticed that the layer of alluvial deposits left behind every year by the tumultuous waters soon dried and cracked into large and small 'cakes', about four to five centimeters thick, which could be used in construction of walls.

Thanks to the eagerness of man's mind for progress and innovation, it was a first step in casting mud into regularly shaped molds letting the blocks dry hard in the sun and utilizing the resulting bricks instead.

And soon, searching means for making these more solid, cattle dung was mixed with the clay mud; later on, in order to prevent the bricks from cracking, while losing their water contents, cut straw was added in about the same proportion as clay with its myriad blades acting as tiny "reinforcement rods" (the straw was first dipped in water, which softened in fibers, making the mixing process easier on skin).

Ever since baked bricks were invented, they constituted one of the principal building materials which were soon used in huge quantities, in all parts of buildings.

Scholars unanimously believe that the undisputed master artisans in the field were from East. Those early architects faced an arduous task, when they came to adopt appropriate dimensions and proportions for the molds to be used.

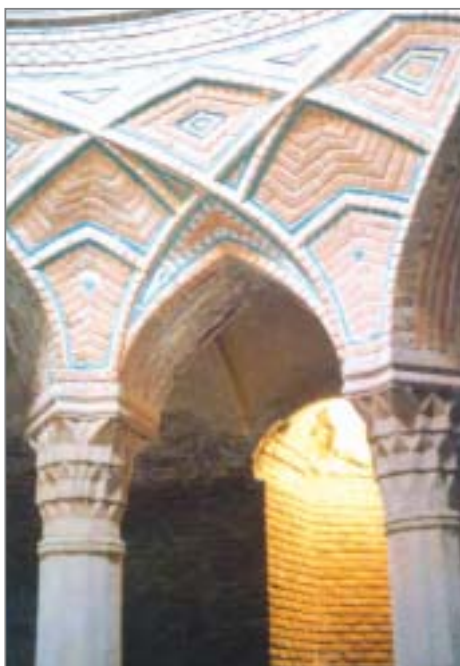
In other words, this was an artistic problem, which required reflection. The alluvial "cakes" of the Nile banks had been used as such, roughly stacked atop one another, whereas in making bricks, whether raw or baked, thought was to be given to the proper alignment and interlocking of individual bricks, to their resistance under burden, etc.

The best model adopted was the cubic two-widths-long, which was made in various sizes all over the world. As for their thickness, this varied in the course of time. At first, bricks tended to be quite large, and proportionally very thick, but gradually became thinner. These were in turn subdivided into various fragments, each bearing a name of its own. The form of bricks varied from one region to another. Moreover, for want of widespread literacy, these appellations were propagated orally, undergoing inevitable alterations in different regions. Eventually, they were transferred from one generation to another. It was only when the cultures of various countries could be recorded in written form that they became uniformly standardized.

> Bricks in Persian Architecture

Iranian architects also made the best use of bricks. In Susa (Shush), the prosperous capital of Elamites, brick architecture soon prevailed. The archaeological excavations made on this pre-historic site have uncovered illustrated porcelain, which speak to the long-lasting importance of the region as well as clay tablets dating back to 1700 BC which include various documents and contracts.

Darius the Great, of the Achaemenid dynasty had the Palace of Susa erected in 494 BC. This brick monument was an expression of the great civiliza-



tion, which had arisen in western Iran and transfigured the country. Thus it appears that, throughout the world, bricks have long formed the base of every building.

Situated in semi-tropical region, with average temperature around 40 degrees Celsius, Iran displays sharp variations of temperature between its northern and southern regions and therefore building materials have to be chosen in accordance with the local climate.

An unfortunate trend of covering the facade of buildings with stone slabs became popular all over Iran for a while, regardless of their low resistance to temperature variations, which exposed them to rapidly hot weather in summer and freezing cold in winter. Used empirically, with low level of technical know-how, these proved unfit for the purpose.

Meanwhile, relying on the progress of technology, manufacturers active in various fields began experimenting with all sources of natural and synthetic materials with which to construct buildings. But their products, notwithstanding the propaganda failed to yield good results and were soon abandoned. And yet again bricks, the traditional building material of every land, replaced them all. Thus, after a while, a renewed interest in bricks appeared, but this time, the artists' tastes had evolved. Brick facades proliferated in various cities, and architects were able to give vent to their creativity in decorating interior and exterior of the buildings with this material.

Since ancient times, bricks have essentially been molded blocks of clay mixed with water and eventually hardened by the fire. But, the evolution of this process varied from country to country. In Iran, bricks were first baked in cylindrical pit kilns, which were soon replaced by tunnel kilns. These remained in use until the advent of modern technology, when all kinds of quite different baking methods were used.

It is also noteworthy that by relying on advanced chemical technologies, efforts are being made for producing bricks of desired colors, which also can be more solid and resistant to corrosion.

Mashaei Meets India's Culture Minister

Head of Iran Cultural Heritage, Handicrafts and Tourism Organization (ICHHTO), Esfandiyar Rahim Mashaei said that Iran and India have a long history of common cultural ties.

In a meeting with India's Tourism and Culture Minister Ambika Soni in New Delhi, the two sides signed an agreement for boosting tourism and cultural ties, IRNA reported.

Mashaei said that Iran and India can collaborate in the field of research in Persian language.

"Through contacts at higher levels, both countries can become exemplary for other countries in terms of friendly ties and collaboration," he added. He pointed out that mysticism, philosophy, mathematics and medical science are some of areas where India and Iran have been working and can work further to forge bilateral ties.

Mashaei further said that both countries can play a key role in the regional cooperation by working closely on issues which will bring peace and tranquility to the region.

In Case You Missed

Archeologists Plan to Study Caspian Civilization

Iranian and European archeologists are planning to study the 50,000-year-old civilization of the southern and south-eastern parts of the Caspian Sea. Project manager, Ali Mahforouzi, said the archeological project pertains to Gilan, Mazandaran, Golestan and Semnan provinces.

"The project has been approved by the State Archeolog-



ical Research Center. European and American universities and research centers are expected to assist us in this comprehensive undertaking," he added.

Mahforouzi noted by gaining more information about Iran's culture and civilization and its neighboring countries, social security of the region will be improved.

"In this project archeological studies help boost dialogue with our neighbors within a cultural context," he further said.

Mahforouzi also underlined that technological developments from ancient times up to present is another topic of study in the project.

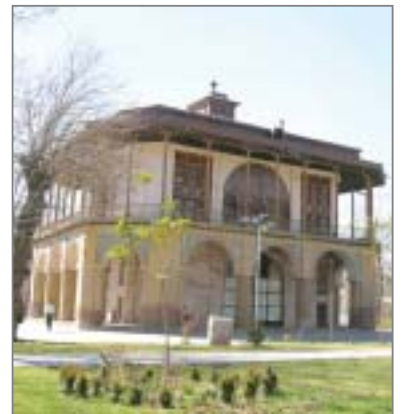
"We believe that this part of the country underwent an industrial revolution in the third century BC. This revolution naturally led to numerous social and cultural changes in the area," concluded the official.

Chehelsotoun, Among Qazvin's Beauty

Chehelsotoun Palace is one of the most beautiful and valuable historic buildings of the city of Qazvin.

In 951 AH Shah Tahmasb, a Safavid monarch, decided to change his capital from Tabriz to Qazvin due to foreign threats. In the same year, he bought a lot of lands known as Zangiabad from Mirza Sharaf Jahan, one of Qazvin's dignitaries.

Shah Tahmasb ordered selected architects to build a square-shaped garden in his territories and construct beautiful buildings, halls, verandas and ponds in it. Kolah Farangi building and Aliqapou's gate are the only remnants of the Safavid garden. During the Qajar dynasty, the building was renovated by the then governor of Qazvin, Sadul-Saltaneh and was named Chehelsotoun Palace, IRNA reported.



Chehelsotoun is an eight-sided polygon in two stories. It covers an area of 500 square meters. Semicircular arches surround the building on top of which there is a terrace with wooden columns. The ceiling of the first storey is covered with arches. Internal walls of the building are decorated with paintings.

The building was registered as a national heritage in 1955. A part of the building was used in an exhibition for showcasing historic and ancient works in 1956. The palace has been transformed into Qazvin Calligraphy Museum.