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Geometric development principles of historical cities of Central Asia

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Abstract: The article examines the geometric development principles of Central Asian cities, as well as the use of geometric shapes (square, rectangle, circle) on the historical cities drawings. It was analyzed the development dynamics of Central Asian urbanism and these cities development dynamics in different periods and in different government systems are.

Keywords: geometric, dynamics, tradition, principle.

Introduction

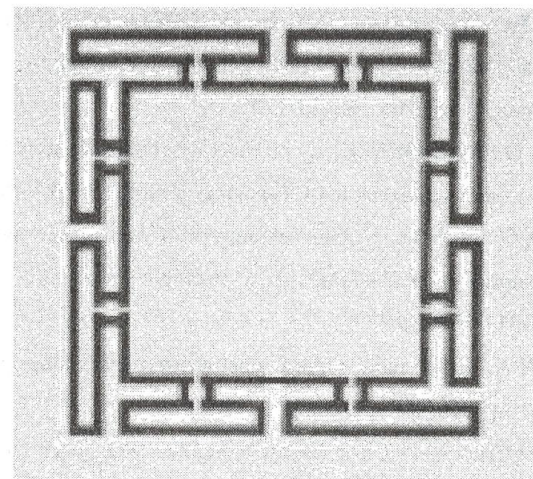
The architecture and urban planning development over the years requires solving the geometrically harmonious environments forming problem in cities. This problem is currently very important and related to the urban planning developing task in independent Uzbekistan. For man, harmonizing the urban environment, creating a comfortable environment for work and leisure is a professional task of the architecture art, the architect faces the problem of harmony everywhere in cities and villages, residential complexes, public buildings and facilities building and in creating garden projects. Thus, the urban environment harmony is not only aesthetic, but also social, it can only be resolved where the human person develops his or her own abilities, where humanity cares for human society. The urban environment harmony with different ideas is a topic that concerns many architecture aspects. A separate place in the big and small chain only the means of coordinating project and geometric relations within a separate structure and the urban ensembles territory in constant development, change and renewal.

Main part

The historical cities of Central Asia have developed in the following stages and reflect geometric principles.

In the Central Asia territory, in the lower Amudarya basin foothills of the IV-III millennia BC in Adjkuy and in the upper

Zarafshan oasis the Sarazm culture was studied. In these settlements many rooms built from raw bricks and straw for various purposes were opened and studied. In Surkhandarya region, the 82x82-meter-high Sopolli hill monument of the XVII-XIV centuries BC was studied. Each side of this square-looking fort was one larger and the other smaller consists of two elongated rectangular rooms with visible corridors.



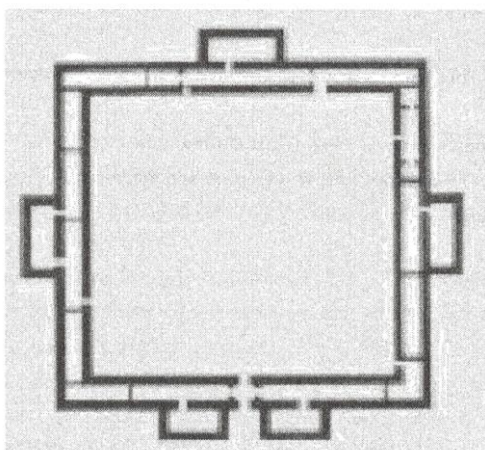
Сополлимтепа (м.ав.XVIII-XIV асрлар).

(Sopolli tepa XVIII-XIV centuries AD)

So, this is the skillful application of the first geometric principles in the Sopolli tepa monument, geometric shapes, rectangles, it is a monument created on the basis of the harmony idea in the squares form shows the urban planning development in the Central Asian region and will become a tradition in the Central Asian region and continued as a tent city during Amir Temur reign.

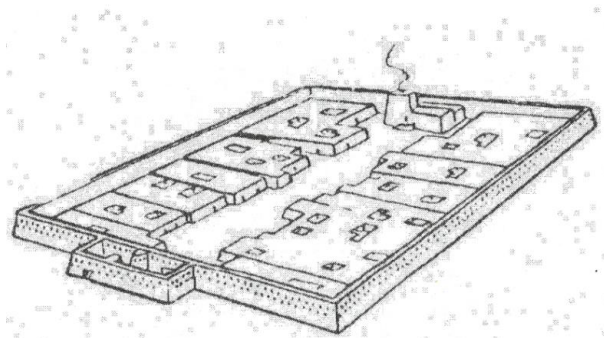
Information about the first cities is contained in the Zoroastrian book "Avesto". There are some phrases about "var." The phrase means "fortress" in Sogdian. Dalvarzin and Varakhsha can be mentioned as fortifications that appeared during this period.

Cities of this type are well studied on the example of ancient Khorezm (now Khorezm region, Karakalpakstan and partly Turkmenistan) and is known in the example of castles called var. As an example we can see Kalali Qir, Qonirli Qala, Anqqa Qala, Ayoq Qala, Qorgoshin Qala, Kozali Qir and Bazar Qala.



Анққа қал'я. Вар ёки Вара кўринишидаги чодирли шаҳар.

We can see another geometrically developed urban planning type in the Central Asian region. A central street crossed between such cities, there are administrative, commercial and public buildings in the city network, rectangular shaped dual cities. This type cities are preserved in the example of Jonboz and Tuprok fortress.



Жонбоз қал'я. Дуал шаҳар тузилиши.

Jonboz fortress. Dual city structure

The development of Central Asian urban planning based on a geometrical principles later led to the formation in the Middle Ages of the three-part Movarounnahr cities, consisting of the Ark, city fortification and fortification. This composition type of cities is built on the basis of applied traditional and complex geometrical principles. We can say that these cities are complex, in which if four gates are formed from the geometrical principle in the form of Var the arch formation, which is dual cities characteristic, determines the administrative parts formation of medieval cities. Outside of such cities, the fortification emergence has three parts (ark, shakhristan (city fortification), fortification) and is geometrically circular, which is the basis for the cities formation. Such cities formation and development is associated with the Great Silk Road development.

The Russian troops influx into Central Asia in the second half of the XIX century had an impact on urban planning. The Russians began to build their cities in the new territory, in contrast to the old cities of Tashkent, Samarkand, Kokand, Andijan, Namangan.

Russian engineers used a three-beam composition, which was first used in Versailles, and later as a basis for projects in St. Petersburg, Washington and other cities as a basis for the cities they built in Uzbekistan. According to this, in the area where the old city arch was located, or adjacent to it, they took out their castles, and from it three streets, scattered under three lights at an acute angle. In this way

it was created on the basis of the radial-ring composition.

In summary, geometric shapes used in Central Asian urban planning (square, rectangle, circle) has become a tradition in architecture over the years, the cities development on the basis of manual principles and based on these principles can be seen the cities growth dynamics.

Therefore at our modern urban planning development stage on the basis of manual principles, theory actively influences practice. This is directly related to the art of architecture and if we review the urban planning development in the past and gain in-depth knowledge, our cities will be beautiful and unique and sustainable.

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