

In the autumn of 2020, the park was finally renovated, but we should name several remarks. In the very centre of the park, we would very much like to see a large fountain, which could become a visit card of this park. And also, to equip vicinities of a fountain with abundance of benches.

We also believe that parks are places that are often visited by young people. Therefore, citizens would like to see sports grounds for basketball, football, table tennis and other sports there. As we consider, it would be interesting, for example, to hold competitions and tournaments in one or another sport every weekend, this would help attract visitors. And, in our opinion, without attractions reconstruction won't be complete. Ten years ago they actively worked and attracted hundreds of visitors to the park. Therefore, we believe that it would be very useful to restore them.

Therefore, the issues of reconstruction and improvement of parks are very relevant in modern society and require the involvement of the best specialists in the field of urban planning.

References:

1. Abakarov A. S. Blagoustrojstvo i rekonstrukciya parka "Sokol'niki". Mezhdunarodny'j nauchny'j zhurnal "Innovacionnaya nauka", nomer 6/ 2016g. ISSN 2410, S. 4.
2. Kapelyush Ya. S. i dr. Chelovek i uchrezhdeniya kul'tury`. – M., 1985.
3. V Khar'kove provoditsya masshtabnaya rekonstrukciya parkov i skverov [Elektronnij resurs]. – 10.06.2020 – Rezhim dostupu do resursu: <https://www.city.kharkov.ua/ru/news/u-kharkovi-provoditsya-masshtabna-rekonstruktsiya-parkiv-i-skveriv-44797.html>.
4. Vergunov A. P. Arkhitekturnaya kompozicziya sadov i parkov. – M., 1978.

ECOLOGICAL ARCHITECTURE

OLEXANDRA VUSTIANOVA, student

VICTORIA V. IVASENKO, Associate Professor, PhD in Engineering,
Scientific Adviser

ZHANNA P. BEZTSINNA, Senior Teacher, Language Adviser

O. M. Beketov National University of Urban Economy in Kharkiv

Humanity has accomplished amazing designing achievements that can be seen all around the globe. Humanity began to create very diverse projects from staggering innovation accomplishments to fantastic man-made structures, from late history to achievements a great many years old, which demonstrate that when individuals cooperate to achieve a shared objective, there truly is no restriction. Here are some of the greatest engineering achievements.

Taking care of the environment is gradually becoming an integral part of modern life. The preservation of nature in urban areas is the most urgent problem because modern megacities are literally suffocating due to the lack of

clean air. Awareness of the fact that nature is not only beauty but also health led to the development of ecological architecture and engineering.

For example, the project of Norman Foster, who introduced an innovative facade finishing system. The technology of using plant panels is to absorb moisture from the air (which is distributed using special membranes and saturates the plants with water). A skyscraper with smooth outlines, decorated with lichen on the facade, like a natural carpet, resembles a cucumber in shape and looks very unusual next to concrete structures.

Also, as an example, you can name the Bank of America Tower in New York. The 366-meter skyscraper Bank of America Tower, which is located in New York, cost Americans \$ 1.2 billion. The bank building is made of recycled materials that can be disposed of in the future. The skyscraper also has a rainwater storage and purification system. In order to save money, Bank of America Tower has installed waterless urinals that store about 30 million liters of water per year. All air entering the building is purified by 95 % using a filter. A special cooling system produces ice reserves during the night hours to use it to cool the premises during the morning and afternoon hours.

The facade of the building is lined with special glass, which partially absorbs solar radiation, while providing maximum natural light. Double-glazed windows allow to reduce heat loss, which makes it energy efficient. The building has an automatic lighting system, which is adjusted depending on the time of day. And at the entrance to the tower there is a parking lot for bicycles. At the same time, parking for cars in the Bank of America Tower is not provided.

The relationship between environment and architecture is currently at an all-time low, and contemporary ecological architecture is battling that. 21st century eco-architecture uses design and urban ecologies to create buildings that work with the environment rather than against it.

The pillars of this style are the reuse of materials, using alternative energy sources, energy conservation, and careful siting. Implementing all of these structures when designing and building results in eco-friendly, sustainable architecture.

The “House without a Trace” is a prototype for a whole series of zero-carbon homes located in the small village of Ochochal. The building was designed so that a comfortable temperature inside was maintained without the use of air conditioners or heaters. This is only the first prototype, but it already emits 40 % less carbon into the atmosphere than a standard Costa Rican house of this size. The next prototype should provide a 60 % reduction in emissions. The third will deduct another 20 %, and the final version of the house will achieve zero emissions through energy production.

The opening of the new office in 2019 was timed to coincide with the 125th anniversary of the foundation of the organization. The construction cost was \$145 million. The building received a high environmental status due to the reduction of carbon dioxide emissions into the atmosphere and the minimization

of electricity and water consumption. 95 % of the materials of the former headquarters of the committee were used in the construction of the new building. The windows are designed to allow the maximum amount of light inside the room, rainwater is used for toilets, and solar panels are installed on the roof.

Design and urban ecologies are always changing, but ecological architecture brings these two together, protecting and enhancing both. Ecological architecture has changed drastically since its beginnings with the first cities, and even since its contemporary beginnings in the 1960s.

The relationship between environment and architecture is now being tested by expanding cities and increasing threats of climate change. Mainstream architecture in the 21st century is damaging the Earth to such a degree that contemporary ecological architecture is now invaluable as an alternative. Luckily, cities around the world are embracing ecological architecture, both through their city planning guidelines and implementing features like living walls and green roofs.

The future of ecological architecture will hopefully include a further rise in popularity, as well as positive effects on urban ecosystems.

References:

1. <https://www.homely.com.au/advice/building/top-advancements-in-building-and-construction>
2. <https://www.intelligentbuildings.com/technological-advancements-in-smart-building-design/>
3. <https://wfmmedia.com/future-facades-advancements-in-technology-materials/>

FEATURES OF CHINESE GARDEN LANDSCAPE

IEVGENIYA ZHMURKO, student

MARYNA S. KOLIENKINA, Associate Professor, PhD in Agricultural Sciences, Scientific Adviser

OLENA V. NAZYMKO, Associate Professor, PhD in Psychology, Language Adviser

O. M. Beketov National University of Urban Economy in Kharkiv

In modern ecological conditions, landscaping is of great importance in the improvement of the city. Chinese Garden is a landscape garden style that has evolved over three thousand years. They reproduce idealized miniature landscapes that express the harmony that should exist between man and nature. The main ideological line of the Chinese garden is copying famous natural landscapes.

A typical Chinese garden is surrounded by walls. In each park an important place is occupied by reservoirs, which significantly enrich the