

# Local and Global Tendencies of the World Expo Architecture: The Case of Lithuanian Pavilion at Expo 2012 Yeosu, Korea

Martynas Valevičius, *Vilnius Gediminas Technical University*

**Abstract** – The research focuses on the Lithuanian pavilion, which represented Lithuania as a country of amber in the “World Expo 2012” held in South Korea. Scientific problem of this paper belongs to the type of applied arts and is of practical approach. The paper explores local and global tendencies of architecture, taking into account the history of World Expo architecture and analysing the Lithuanian pavilion design process. These tendencies resulted in main ideas and objectives (including a narrative of space, national identity, etc.) which had an important role in architecture and could be more or less adopted in the future exhibition design.

**Keywords** – Architecture, exhibition, global and local tendencies, Lithuanian pavilion, world expo.

This paper brings together the author’s interest in the World Expo architecture, in a narrative of space which it forms, and national identity, in this case, a content of this narrative. The author intends to present a case study of Lithuanian pavilion design process. In the beginning, some local and global tendencies of World Expo architecture will be described based on the history of the World Expo. The paper will conclude with some principles, which result from these tendencies and which were used by the author in the Lithuanian pavilion design.

In the process of writing the paper, the Lithuanian pavilion has already been constructed. In the International Exhibition “Expo 2012” in Yeosu, Lithuania appeared as a country of amber. It is time of rethinking goals, which the author expected to achieve and the complex of tools and tactile actions (the use of symbol, lighting, etc.), which he used. The author will evaluate efforts undertaken and also draw conclusions in the current paper.

## I. HISTORY OF THE WORLD EXPO

World Expo is not an invention of nowadays. It dates back to the times, when large markets were regularly held in cities and attracted a lot of people, some of whom travelled great distances to visit these markets. These events, thus, provided an environment for exchanging and evaluating ideas and for demonstrating and comparing skills. Through these events a highly beneficial atmosphere of expedience developed between people of different nations and cultures. Tradespeople travelled to the cities from all over the world. Thus, the early commercial transactions paved the way for the world expo of today, which plays an educational role and promotes progress [1].

The first “universal and international” exhibition in the modern sense of the term took place in 1851 in London, the capital of England, the world’s leading industrial power, which with its vast empire had profited handsomely from free trade and the prosperity of the Victorian era [2].

The exhibition was an overwhelming success. Every nation was invited to contribute to the exhibition, which constituted an inventory of all branches of human endeavour. The first building for an exposition purpose — the Crystal Palace — was built. The first expo pavilion was designed and constructed in Hyde Park, London, by architect Joseph Paxton (Figure 1). The figure shows the scope of the Great Exhibition: a structure made entirely of glass (the first of its kind) was built. The building was so high that it towered over elm trees (which were left standing and are still located inside the building), featured fountains, and many exhibits. The Great Exhibition of London in the Victorian Era was proposed to introduce the world to the great advancements in knowledge and inventions made during that period of time.

Paris took over and organized brilliant exhibitions in 1867, 1878, 1889 and 1900. Soon, other large centres were also eager to welcome craftsmen and manufacturers from all over the world; exhibitions held in Vienna, Amsterdam, Brussels, Barcelona, St. Louis, Turin and Philadelphia were among the most successful international exhibitions. World’s Fairs excited and inspired millions of people around the world by expressing the hopes and desires of their times. Perhaps unwittingly, they also provided a fascinating glimpse into the realities of those times. Although the expo architecture was represented by temporary buildings, some of them were actually genuinely iconic, which made a huge impact on the history of architecture. Because of the limited scope, this paper will recall a few constructions: the Crystal Palace (mentioned above), because it was the first expo pavilion, one vertical and one horizontal example: the Eiffel Tower, built for the Exposition Universelle in Paris, 1889 (Figure 2), and the legendary Barcelona Pavilion (also known as the German



Fig. 1. The Crystal Palace, London 1851.

pavilion) by Mies van der Rohe at the International Exhibition 1929 in Spain (Figure 3).

The Eiffel Tower was built for the World Exhibition in 1889, in commemoration of the 100th anniversary of the French Revolution. The tower created by Gustave Eiffel was intended as a monument to the technical and substantive expertise in France, but also as an observation tower to the city and entrance arch for the expo. Several French writers protested against the tower in the magazine *Le Temps* on February 14, 1887, among them Alexandre Dumas and Guy de Maupassant. In the petition they stated that “the senseless, monstrous Eiffel Tower” would be ugly and give shame to Paris. It took approximately one year and nine months to build the iron tower — it started on January 26, 1887, and the tower was opened on March 31, 1889. The Eiffel Tower was the world’s highest building until 1930. After the World Expo, it was planned that the tower would be demolished, but as we know, it was left [3].

Mies van der Rohe designed one of his most famous buildings, the German Pavilion in 1927 [4]. For this pavilion he also designed the famous chrome and leather ‘Barcelona Chair’. Since 1929, when the Barcelona pavilion was built for the International Exhibition in Spain, it has become a magnet of spatial studies for architects everywhere. The design is constructed as a large horizontal roof-plane, under which columns and vertical planes of marble and glass are positioned. As a result of the apparently random positioning of the elements, one experiences the building as an assemblage of different parts and different materials. Because all surfaces heavily reflect the sunlight and each other, all materials are transformed in their appearance — marble becomes transparent, the steel columns become almost invisibly, the glass is so dark that it becomes a mirror, etc. The fragmentation and distortion of the space is total. When visitors move through the building, these elements are in an ongoing flux. The building itself becomes an event that is continuously being reproduced.

These examples show that from the beginning of World Expo architecture had a new function — it entertained people. As times change, world expositions have changed to fit those times. World Expo architecture evolved over time. Ever since the first world’s fair in London in 1851, the goals of world’s fairs have been both high-minded and commercial. They also allow people to explore the world outside their everyday experience — outside cultures, new scientific advancements, and new inventions. The architecture continue to reflect both the commercial needs of their times while presenting the ideals, hopes, and aspirations of people even as those evolve. This allows formulating the first significant global tendency: World Expo architecture is increasingly entertaining people. Entertainment plays a crucial role; it becomes more important than education, share of knowledge or discoveries of science.

As people have more and more entertainment options, world expositions have continued to find new ways to provide information and inspiration in new ways [5]. The following global tendency of architecture of world’s fairs is seen: people claim that television and the Internet have made world’s fairs obsolete — people have finally exhausted the potential to entertain, enlighten, and inspire outside their own home. Another global tendency of architecture is that building surfaces become media screens



Fig. 2. The Eiffel Tower, Paris 1889.



Fig. 3. Barcelona (German) Pavilion, Barcelona 1929.





Fig. 4. Expo 2012 Yeosu.

and these screens are visually more significant than the form or shape of the building. The media content becomes increasingly important.

The World Expo is also a good place for searching of local tendencies, because there are a lot of participants from different countries. The World Expo incorporates a lot of local characteristics from all over the world into the expo architecture. However, there are mainly decorative motifs and themes inspired by national antiquity. The local tendency could be seen in ways how a participating country represents its national identity. These representations are essential for visitors to memorise a participant.

The local tendencies can be clearly visible when comparing the World Expo with the Olympic Games. World Expo can be related to the Olympics in many ways, but world's fairs are unique in that the everyday person can experience them firsthand, not just athletes or politicians. Anyone can enter that expo site and see a lot of local and global tendencies and feel a part of something new, feel a part of the world community, feel what potential the man has for doing good in the world. Perhaps that should be the mission of World Expo architecture — to make people a bit less cynical about the world and to let them feel a part of the world, and it is rare experience compared to that of television or computer [6].

The author of the paper believes that world expositions and expo architecture are changing and will continue to change over time. There will always be new ways to inspire, new ways to enlighten and new ways to entertain. And one of these ways could be described as a local tendency: to find something in history and national identity and to show it in a new light.

## II. EXPO 2012 IN YEOSU, KOREA

The World Expo for 2012 was held in Yeosu, Korea. Yeosu is a small port city in Jeollanam-do in the south of Korea. The Expo 2012 Yeosu lasted from 12th May to 12th August 2012. The actual site of the Expo 2012 was the harbour. The whole area had been under construction for the past few years. New buildings, such as

Expo halls and theatres, hotels, roads, walkways and train station, were erected to hold this event. The international exhibition in South Korea expected the participation of over a hundred countries and international organizations. It presented the most advanced marine resource technologies, issues of environmental protection and sustainable development, and ocean and sea coast people. Expo was expected to attract over 8 million visitors in three months (Figure 4).

The main architectural task was to embody the Expo's theme "The Living Ocean and Coast" and transform it into a multi-layered architectural experience. From the whole range of many pavilions, which in different ways explored marine themes, two most significant buildings (from the architectural point of view) should be mentioned: Theme and International pavilions. They represented the Expo's agenda, namely, the responsible use of natural resources and actually embedded into the buildings through a kinetic façade in the former case and through a digital ceiling in the latter case.

The Theme pavilion was state of the art and built offshore. The theme Pavilion tested architectural and engineering limits in a different way from its national namesake, by being as low-tech as possible. Inside the pavilion there were numerous smaller themes, but the overall exhibition showed us the diversity of life in the ocean, its beauty, its dangers and how the ocean life could be protected. All this information and ideas were presented to visitors in a very unique way using the latest technologies. The aim of the design was to create an iconic landmark integrated into its urban context and the surrounding nature. The authors – Soma architects from Austria (Stefan Rutzinger, Martin Oberascher, Kristina Schinegger, Günther Weber) – experienced the Ocean mainly in two ways, as an endless surface and – in an immersed perspective – as depth. This plain/profound duality of the Ocean motivated the spatial and organizational concept of the building. Continuous surfaces twist from vertical to horizontal orientation and define the significant interior spaces. The vertical cones induce the visitor to immerse into the Thematic Exhibition.

They evolve into horizontal levels that cover the foyer and become a flexible stage for the “Best Practice Area”. Continuous transitions between contrasting experiences also form the outer appearance of the Pavilion. Towards the sea the conglomeration of solid vertical cones defines a new meandering coast line, a soft edge that is in constant negotiation between water and land. The opposite side of the pavilion develops out of the ground into an artificial roof – landscape with gardens and scenic paths. The topographic lines of the roof turn into lamellas of the kinetic media façade that faces the Expo’s entrance and the “Digital Gallery”. A counterpart of the virtual multi-media shows of the Thematic Exhibition, the kinetic façade like the overall architecture of the pavilion evokes sensuous experiences through analogue means. During daytime the lamellas are used to control light conditions in the Best Practice Area. After sunset the analogue visual effect of the moving lamellas is intensified by LEDs. The bionic principle of the kinetic media façade supports the idea of a “consistent effect”. Form, material, movement and light are seamlessly interrelated. The longer the single lamella – the wider the opening angle – the bigger the area affected by light. The bionic approach also underlines the ecological agenda of the EXPO. As a moving, emotional experience the kinetic façade combines the sensation with the sensational while communicating the EXPO’s theme in an innovative and investigative way. [7] Kristina Schinegger of Soma Architects said that the spirit of adventure and experimentalism, in keeping with the history of Expos, was a key part of the design process. “On the one hand the architect has to do less, but on the other hand much more. It has to be extraordinary, which is why architects love Expos” [8] (Figure 5).

The International Pavilion designed by Haeahn architects is the largest building at the Expo complex and occupies the central part of Expo site. The Archipelago, as a characteristic of Korea’s south coast, is here metaphorically expressed. Conceiving a concept known as ‘The Third Nature’, the architecture follows an eco-friendly ethic and sustainable methodology that incorporates both a passive and active attitude to its design. It heralds a global tendency of design approach, delineating a shift in which we move from the “first nature” – that is the human being is viewed as an integral element of nature to the “second nature” – that is the survivalist endeavours to process an artificial nature. Culminating the “third nature”, channelling all the accumulated intellectual achievements made by disavowing the unassuming integration of the artificial nature and by applying and reinterpreting the inherent immutability of nature [9].

The building is composed of three layers: the ground floor contains various leisure activities, the roof emulates ocean waves by controlling its microclimate, and a multi-purpose tower forms the Archipelago shapes by determining the natural ventilation and light source. The visitors can, therefore, experience a topography of simultaneity, connecting interior and exterior, in which a street full of vital urban energy exists in the same space as a number of more unpredictable natural areas, all connected through the theatricality on the over-arching roof structure [10]. The roof structure is covered with media ceiling – a phenomenal scale screen, which reaches 218 m in length and 30 m in width (Figure 6). In the International Pavilion, all the participating countries had their own local pavilions, where



Fig. 5. Thematic Pavilion, Yeosu, 2012.



Fig. 6. The International Pavilion, Yeosu, 2012.

countries created their own architecture, which represented main attractions at the World Expo.

### III. THE LITHUANIAN PAVILION

According to local and global tendencies mentioned above, the primary task of the Lithuanian pavilion was stated: to find something that corresponded to the theme of Expo (The Living Ocean and Coast) and had roots in the Lithuanian context (culture, history, folklore, etc.). Our idea was to use amber as a national identity. Amber is mentioned in a lot of Lithuanian legends and the main fields of amber are in the former territory of Lithuania. The idea that won in the national context was to show amber in a new way – to create a space with a narrative, with a feeling of looking at the world from inside the amber. The inside of pavilion was covered with amber imitation coating, shining monochromatic yellow light. About 20 floor tiles – rectangular slabs that were trimmed with steel and lit from underneath – were imprinted with photos of ancient life perfectly fossilized in the resin: plants, flies, and spiders with their limbs wrapped about their prey like nature’s 3D photographs. A column built near one corner displayed jewellery made of amber from the Stone Age. Overhead, a metallic, golden ceiling reflected the intense shade like an amber sun. The whole pavilion was designed to encase one in the amber universe just as those Cretaceous insects that were lost in the world a long time ago. This was done to create a feeling of looking at the world from inside the amber.



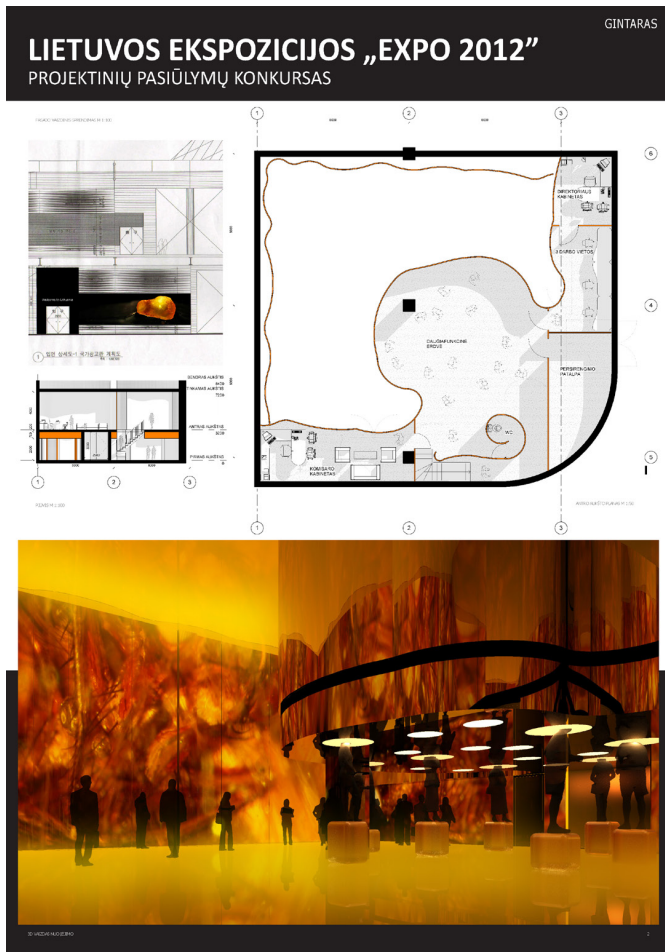


Fig. 7. Visualization of Lithuanian Pavilion.



Fig. 8. Lithuanian Pavilion, Yeosu 2012.

The principal concept behind the Lithuania – the inside space had an unusual ambiance, as people and objects appeared in black and yellow and light came from the bottom, so there were almost no shadows, thus creating a special feeling (Figure 7).

The pavilion stood out with its amber image among other participants, who chose marine colours. To bring in more flamboyancy and escape uniformity, it was decided to match yellow and black colours. The entire Lithuanian pavilion looked like a big amber. There were three openings in the pavilion; they could provide glimpses of Vilnius, the Curonian Spit, Trakai, the

Hill of Crosses, and other notable sights. There was a possibility to get acquainted with the history of amber with different samples containing all sorts of relics trapped inside. The upper floor was used for a specialized presentation on Lithuania, film days and photography exhibitions (Figure 8).

The facade of the pavilion featured a piece of amber with an inclusion, and the entrance was decorated with stylized aged tree figures, reminiscent of Juodkrantė treasures. A stylized amber amulet from the well-known Juodkrantė's treasure of the Neolithic period served as a talisman of the pavilion. The Juodkrantė treasure was collected in 1860–1881 in the Curonian Lagoon, 0.65 miles north of Juodkrantė. It is believed that the articles could have washed through the passage, which was present at that time at the Curonian Spit, from Stone Age settlements of Semba peninsula. Displays embedded into a column and an undulating sidewall showed off pieces of amber jewellery, while sculptures – including a massive ring studded with amber – pepper the surreal space. The visual inspiration behind the logo and exterior of the pavilion was a series of ancient amber pieces, carved into various shapes. After commencing the tour throughout the pavilion, visitors were invited to purchase actual amber pieces in the pavilion's gift shop.

Different events and publications reflect the theme of the exhibition. “We will try to tackle environmental issues during these events, and the pavilion will serve as a platform, a place where you can talk about it”, says Romas Jankauskas (Commissioner General of the Lithuanian Exposition at EXPO 2012) [11]. The exposition was aimed at attracting a diverse audience; therefore, we sought to draw the people's attention by, first of all, focusing on the appearance, making it as memorable as possible. Since the audience is very diverse, serious concerns must be addressed in a simple and accessible manner. The age bracket of the visitors is also very wide. This type of audience, first of all, seeks for entertainment, attractions and events, but the theme of the exhibition should not be forgotten.

It might be written that the Lithuanian pavilion met its objectives, because the international press wrote about the Lithuanian pavilion: “...Every day at Expo 2012, you see wonders that would make a Roman emperor feel like the lowliest barbarian in the worst salt mine in his kingdom. In Lithuania's pavilion, the walls, floor, and ceiling glowed in amber tones to highlight the mineral that was the focus of their effort. Black steel tubes shot up from the floor like polished stalagmites, their silver tips contained chunks of amber older than T. Rexes” [12].

#### CONCLUSIONS

1. A global tendency of World Expo architecture is to entertain. Media technologies are increasingly used for this purpose.
2. Media technologies become more important than form or shape of architecture, and this fact increases a risk that World Expo will become obsolete, because people can stay at home and access everything via the Internet.
3. It is a great challenge to attract and entertain Expo visitors, because most of them get used to technologies and everything can be seen on their smartphones.
4. It is not easy to show something new in the World Expo,

but the local tendencies, which come from national identity studies, could help.

5. The strong idea could form an impressive narrative of space and it could hide some technical failures.

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**Martynas Valevičius** (Vilnius, 1979). B. arch. (Vilnius Academy of Arts, 2001), MSc. arch. (Vilnius Gediminas Technical University, 2004), Dr. arch. (Vilnius Gediminas Technical University, 2010), PhD research thesis *URBAN LIGHTING: HISTORICAL DEVELOPMENT AND CONTEMPORARY TRENDS*, academic supervisor Prof., Dr. arch. Konstantinas Jakovlevas Mateckis. He has been a Lecturer at the Faculty of Architecture, Vilnius Gediminas Technical University since 2006. He is a Visiting Lecturer at Vilnius Academy of Arts.

Methodological work at the Department of Building Construction, Faculty of Architecture. He is a RESEARCHER in various scientific projects, Private Architect, Architect at Vilnius Gediminas Technical University. He is a Participant of various scientific conferences and the author of scientific publications.

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- Current and previous research interests: architectural lighting, light architecture, media tools in architecture.

#### CONTACT DATA

Martynas Valevičius  
 Vilnius Gediminas Technical University, Faculty of Architecture, Department of Building Structures  
 Address: Saulėtekio al. 11, LT-10223 Vilnius, Lithuania  
 Phone: +370 68611363  
 E-mail: martynas.valevicius@vgtu.com