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Article

Fluid-iconologic forms in Ecourbarchitecture

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Abstract:

As opposed to the classical-conventional physical structure in ecourbarchitecture conceptualized on rigid orthogonal-static matrices designers were slaves to for decades, and which characterized the architecture of the previous century, the new age architecture is based on energy efficient, functional structures, whose geometry and design contain an inspired archisculptural message. They bring about new, organic, rounded forms of structures with multitude of experimental curves, conical and visually fluid, structural elements in their appearance. This lends them the specific artifact-iconologically dynamic character, as imitation of biomorphic "blob" natural structures, fresh and interesting artistic and designing, effective message, definition of local identities of the environment. The changes in the world of ecourbarchitectonic forms are dramatic, influential and significant in terms of strategic scenic and architectural changes and reformation of the living space which are interpolated in the micro-ambient entities. We observe a new integrative-designing, non-stereotypic spirit in which the "deformed" ecourbarchitectonic physical structures, in terms of changes, are increasingly inspiring and closer to natural forms. They are combined, hybrid, made of the parts of form having deconstructive elements or fragments from the parametric architecture. They promote the spirit of a new esthetic city-building culture, bring about a new reality as exceeding in the urbarchitectonic everyday existence. The spirit which extracts us from the current chaotic ecourbarchitectonic worlds and places us into another, better, promising world with a more regularly arranged world.

Key words: ecourbarchitecture; fluid forms; blob structures; iconologic character; strategic design; space.

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Introduction

Contemporary ecourbarchitecture at the turn of 21st century obtained, through the designs for a large number of significant structures in the world, a new philosophy of shaping of forms as of events having a designing-sculptural character. New tendencies indicate important changes in designing-structural elements, as well as in artistically-dynamic, moved surfaces of facades and volumes. this paper indicates a poetic interpretation of new architecture and public spaces which are spatially and linguistically considerably more complex, attractive and sensational. It addresses the architectonic, complex and contradictory compositions of fluid character which do not follow the existing manufactured "coded" space of the environment, nor have any similarities with it. The emphasis is on the iconological aspect and powerful, transformed narrative of curved lines and surfaces, on the contrasting forms in comparison with the earlier urban realizations with the intention to ingest a different spatial intercultural city-building equilibrium, on the frontier of material-philosophical conceptualizations, where the concept of a newly designed form and the surrounding space are of the equal importance and which is dialogically harmonized. The goal is to move the current ecourbarchitectonic frontiers, and the "disturb" in esthetic and artistic terms the traditional aspects of architecture using the new discontinued frameworks and new rhythmicalness. Fluid, soft ecourbarchitecture is globalizing and unlimited, archi-sculpturally-spatially scenic, eventful as opposed to the dominating inherited, tough, rigid-angled and stereotypically polygonal one (fig.1).

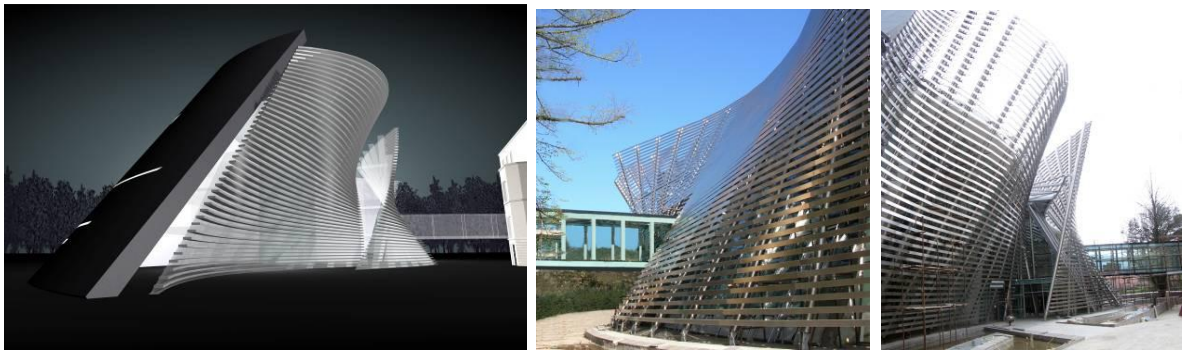


Fig. 1. The New Hall of Justice. Architect Manfredi Nicoletti, 2007
http://c1038.r38.cf3.rackcdn.com/group1/building3062/media/arezzo%2030x20%20copia.jpg
http://openbuildings.com/buildings/the-new-hall-of-justice-profile-3202
http://openbuildings.com/buildings/the-new-hall-of-justice-profile-3202/media#!buildings-media/12

In the immediate proximity of the Medici fort, inside the historical park, the Italian architect Manfredi Nicoletti designed the first Hall of Justice building in Arezzo, Italy. An ecourbarchitectonic design of the new wing of the structure mostly symbolizes its environment and its relation to the prominent vegetation in the part and its fitting in the urban medieval structure of the buildings. On one hand, those are high walls, and on the other it is a wide open visual-communicative openness of the hall of Justice towards the squares and gardens on the location. The newly designed physical structure, with the simple design of the central volume in motion, contains rounded, undulated and inclined facade lanes made of stainless steel horizontal laminated bands, with elegant, dark coloration which provides iconic-esthetic, strikingly artistic character. In addition, this bionic form receives sunlight through the slits between the bands, so the movement of the sun during the day yields very attractive, dynamic, visual compositions of shadows on the floor and walls, which creates an extremely interesting experience of a variety of light effects. On the northern side, the skillfully curved fluid facade is clad in dark, granite, matte slabs (fig.2).

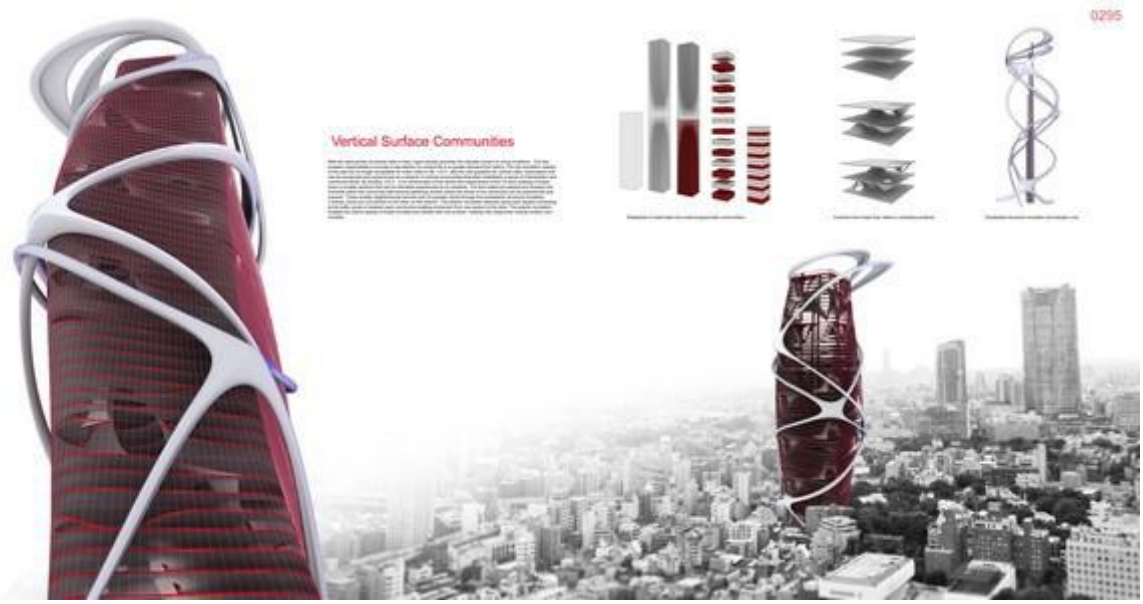


Fig. 2. Jan Lim, Los Angeles, California, Evolo Competition by Jan Lim, via Behance Futuristic Architecture, Architecture Showca, Skyscrapers Design 2008
https://www.behance.net/gallery/2008-Evolo-Competition/125923
https://www.behance.net/gallery/125923/2008-Evolo-Competition
http://officialjanlim.tumblr.com/post/13610415194

The tower having extraordinarily powerful architectonic and visionalry design, of a deconstructivist character, is dominated by curved planes with structural elements, which, apart from the esthetic effect

have primarily impressive static character. The designer Jan Lim[1] planned in 2008, to make a powerful, innovative-futuristic step forward in the vertical composition of the city, amid the rigid-angled matrix of Los Angeles. He created a gigantic 70 floor high structure which ought to set a new city-building direction in philosophy of conceptual formation of urban physical structures and to produce an iconologically valuable, landmark. New, mildly wavy surfaces and deformed facades as well as uncharacteristical, geometrically amoeboid floor layouts are organized around the vertical axis of the volume, lending a peculiar charm to this ecourbarchitectonic form. The structural system of the tower is exotic, skeletally non-stereotypical, especially in the zone facing the façade planes dominated by the load bearing warped reinforced-concrete walls which render the interior exclusive (fig. 3).



Fig. 3. The undulating metal facade of New York by Frank Gehry 2009
http://news.newyorkbygehry.com/2011/05/11/council-on-tall-buildings-and-urban-habitat-new-york-by-gehry-tour/http://www.newyorkbygehry.com/#!new-york-by-gehry
https://s-media-cache-ak0.pinimg.com/736x/49/1e/76/491e766ffe01af2f16c0064069360e94.jpg

An idea to negate the same or similar visual-artistic or designing characteristics of facades on the numerous Manhattan skyscrapers was realized on the building of the architect Frank Gehry. New architectonic impulse was brought about by the new metal undulating façade elements, horizontal flickering and dancing bands, whose plasticity sets new city-building and esthetic standards in this part of New York. The critics said that the skyscraper "danced" with its new appearance, and escaped monotony and visual inertness, ignoring surrounding structures and become a new "screen" for them. It definitively became attractive, fresh and recognizable, with iconical details, with different symbologic-memorizing properties and fluid linear geometry which partially escapes the world of orthogonal matrices. New design in ecourbarchitecture of Manhattan signalizes a non-conventional new urban intention, innovated formation of the skyscraper appearance, a strategic need for differences in artistic-architectonic and designing evaluation of façade planes (fig. 4).



Fig. 4. Euromed Centre Marseille - France, Architect Massimiliano Fuksas 2009
http://img.archilovers.com/projects/820C1C2E-1C56-4953-AF62-18017056F3B4.jpg
http://img.archilovers.com/projects/FA54A989-FC4A-4B89-95AD-E9B4C018BE7C.jpg
http://img.archilovers.com/projects/3816DB5A-851A-4C21-A9E8-69484FF533F7.jpg

The design of the Italian designer Massimiliano Fuksas for the multifunctional complex Euromed Centre Marseille, of 2009 on an island in the port, produced an ecourbarchitectonic structure whose iconological-sculptural blob shape, with playful and moving masses and curved façade lines essentially changed the

[1] www.janlim.com

functional character of macro location. The structure is the mainstay of a new ecourbarchitectonic identity in the central part of the business district La Joliette. It consists of administrative-business offices, a hotel[2] with 210 rooms, commercial and service units, congress center, entertainment rooms for film projections, cultural events and a parking for 950 cars. Organic linking of new archi-sculptural volumes with the existing rigid-angled physical ecourbarchitectonic forms in the environment were conceived by the designer using interpolation of the vegetation belt and a promenade. The idea to abandon conceptualization of the space with orthogonal volumes and the cliché with stringent utilitarian functions, brought about a new, extraordinary, attractive urban landmark. In addition, a new quality of ecourbarchitectonic life in the windy waterfront area was created, where the connection of the interior with the exterior surfaces is dominant, and the mobility of visitors due to the attractiveness of the center's services is noticeably increased. The designer claimed that the "poetical dimensions" of contemporary architecture of the structures in the Center generated emotions of the users who wish to be in it (fig. 5).



Fig. 5. Korea-based dmp Architects has proposed an iconic building for Seoul Performing Arts Center[3] located in Nodul Island, Seoul, Korea
http://www.arch2o.com/seoul-performing-arts-centre-dmp-architects/

On the island location Nodul, in Seoul, the designers used a bridge communication across the river Han, to form a Multifunctional artistic-cultural center whose physiognomy of ecourbarchitectonic layouts and the volume have an iconical, symbolically powerful, futuristic character. The structure has a function of an opera, theater, concert hall, studio theater etc. The composition is characterized by a complex layout with a dynamical roof structure which defines the avant-garde and sculptural appearance. Performing Arts Center is the main cultural focus of Seoul and it was created out of an idea about revitalization of an island area. The architectonic design of this structure ranks among the premium city-building achievements at the turn of 21st century. It is about a new philosophy of conceptualization of macro-spatial physical structures with an active participation of natural materials. The most impressive is the wing of the structure with perforated roof structure. The cultural center was designed on the basis of contemporary environmental principles. It contains photovoltaic, roof solar panel elements for energy production. It was designed with natural ventilation and vegetative structures inside the complex, as well as the natural light in the interior zones of all functional units (fig. 6).

[2] The four star hotel is owned by the "Marriott" hotel chain.

[3] Architect: DMP Architects Sdn Bhd - Kuala Lumpur, Malaysia, 2009. Title: Seoul Performing Arts Centre. Location: Nodul Island, 302-6 Ichon-dong, Yongsan-gu, Seoul, Korea. District: Urban District; Green District; Cultural Facility District. Site Area: 52,391 sq. M. Existing Road: 8 Lane High Way through bridges. Gross Area: 55,307 sq. M. Building Area: 30,108 sq. M. Building Coverage Ratio: 54.47%. Floor Area Ratio: 105.56%. Structure: Reinforced Concrete + Steel Structure. Number of Floors: 7 above the ground; 1 underground. Height: 51M. Exterior finish: Metal Panels, Wood Panels, DPG. Mechanical System: AHU(Air Handling Unit) System. Parking: Total 861. (28 surface, 833 basement, 42 handicap). Landscape: Making of the Island into a park.



Fig. 6. Zayed National Museum Abu Dhabi, Norman Foster, 2010
https://www.protenders.com/companies/action-international-services/portfolio/zayed-national-museum
https://cdn.protenders.com/projects/photos/251/natural.jpeg?1424261604
http://www.thenational.ae/uae/environment/zayed-national-museum-gets-design-award-for-energy-efficiency

For the conceptual ecourbarchitectonic design of Sheikh Zayed National Museum in Abu Dhabi, in the United Arab Emirates, 12 design teams from ten different countries competed in a tender. The team of internationally distinguished architects Foster+Partners[4] won, which created a unique structure of a dynamic, significant form, with fluid geometrical lines and archisculptural details on the location of Saadiyat Island, in honor of the late Sheikh Zayed bin Sultan Al Nahyan, founding president of the UAE. The basic concept originated in the dynamic flight of the cult bird – the falcon. The physical structure was designed with five inclined towers having lightweight steel structure – streamlined bird feathers with solar panels, the highest of which has a spectacular height of 125 meters. Every spatial unit houses an exhibition-gallery space with exhibition pieces which evoke historical past and culture of the peoples of the United Arab Emirates. The museum building is encircled with water and gardens which bring back the memory of the distinguished Sheikh Zayed. The expressive movement of the volumes, their archisculptural character dominating the surrounding polygonal architectonic structures is impressive, as well as its vertical contour of the macro-ambient entity. The organic connection between the contemporary form of the Museum and the elements of traditional Arabic design was accomplished. The designers' intention was to familiarize the visitors to the cult location, and to make it more monumental, glorious and attractive.
Lord Foster said: "It has been a great privilege to work on the Zayed National Museum, to carry forward Sheikh Zayed's vision and to communicate the dynamic character of a contemporary United Arab Emirates. We have sought to establish a building that will be an exemplar of sustainable design, resonating with Sheikh Zayed's love of nature and his wider heritage" (fig. 7).



Fig. 7. Harbin Cultural Center by MAD Architects in Northern China, MAD 2010.
http://www.trendletter.info/downloads/interior-design-contract-business/06-2015/de/4/03-mad_harbin-opera-house_c_mad-architects.jpg
http://www.formakers.eu/project-924-mad-cultural-center-of-harbin
http://www.archdaily.com/430314/harbin-cultural-center-mad-architects

The design[5] for the Harbin Cultural Center, in the north of China, was done in 2014 a group of architect from China for the location in natural, marshy "Sungari" ambient. The character of architecture and the concept of for the composition of ecourbarchitectonic form with fluid geometrical lines and "softly

[4] http://www.fosterandpartners.com/

[5] Architects: MAD Architects. Office Profile. Location: Harbin Xiangfang Cultural Center, Zhujiang Road, Xiangfang, Haerbin, Heilongjiang, China, 150090. Directors: Ma Yansong, Dang Qun, Yosuke Hayano. Area: 1800000.0 sqm. In February 2010, MAD Architects won the competition for the design of Cultural center on the island. It was expected that the structure would be completed in 2014.

curved" parametric surfaces on the façade, resulted from the terrain configuration and natural environment. This resulted in the archisculptoral, iconical, artistically attractive and inspiring structure whose appearance mimics the gusts of air masses and circulation of wind, winding mountain treks and similar. The Cultural Center will not be an isolated place by city-building unit – an organic part integrated into the urban matrix, and a powerful regional symbol. The culture island will have a balanced relationship between natural and artifact materials with very rich and attractive functions: large theatrical halls, administrative-office rooms and rooms for recreation and entertainment. In the background of the island is a glacier which will be visually connected to the new complex. The will constitute a spiritual cohesion with the new structure, and it will be a synthetic-formal continuation rhythm in the natural environment (fig. 8).



Fig. 8. Metropol Parasol[6] - The World's Largest Wooden Structure, *Jürgen Mayer*, **Seville, 2011**
http://blog.fourshopping.it/2014/03/metropol-il-piu-grande-edificio-in-legno/
http://www.yatzer.com/Metropol-Parasol-The-World-s-Largest-Wooden-Structure-J-MAYER-H-Architects
https://jtkn.files.wordpress.com/2011/04/parasol_franck6090.jpg
https://en.wikipedia.org/wiki/Metropol_Parasol

Metropol Parasol is the most innovative and largest ecourbarchitectonic undulating structure mad of laminated glued birch wood[7], with polyurethane coating, created on the remains of Roman buildings. It is a contemporary iconological landmark for the medieval centre of Seville in Spain, interpolated as a parasol in a historically diversified central urban fabric, between the historical heritage and contemporary structures. The complex structure houses attractive restaurants, museum, shopping center and other functional units, elements from the world of art and sculptures in its interior architecture. German designer Jürgen Mayer observed the similarity of architectonic and sculptural forms, with no repetition of structural parts, which was a significant quality in formation of physical structure which was overseen by many, whereby he favored function and communication of users, employing extraordinarily and inventively defined, fluido-amoeboid, human-measured mushroom-like biomorphic volumes in the spatial framework of 150x70x26 meters. The play of light and shadows during the day, yields particularly variable visual images on La Encarnación square, in the old district of Seville. Parasol is organically designed as a composition of six separate parts in the form of a giant mushroom ("Las setas" – in Spanish), whose form is inspired by the cathedrals in Seville and ficus stems in the vicinity of Plaza de Cristo de Burgos in the central area. Construction of this fascinating building started by the end of June 2005, and ended in 2011.

Metropol Parasol is nowadays a cultural center of Seville organized in four levels. The underground, zero level houses where the Roman and Moorish periods were displayed in museums. At the first level of build, at the street level is the Central market with the promenade area. The roof over the first level is the area of the public square in the open, in the shade of the parasol with the geometrical division which is called by many visitors to be in the manner of intertwined waffles. It is made of laminated wood, and designed for public event. The second and the third level of the structure were constructed from two panoramic terraces, including the restaurant which provide the best and most interesting vista of the central area of the city. When observed from the outside, from different angles, the conicoid parasol

[6] Project**:** Metropol Parasol. Redevelopment of Plaza de la Encarnacion, Seville, Spain. Function: archeological site, farmers market, elevated plaza, multiple bars and restaurants Site area**:** 18,000 square meters. Building area**:** 5,000 square meters. Total floor Area: 12,670 square meters. Number of floors: 4. Height of the building: 28.50 meters. Structure: concrete, timber and steel. Principal Exterior: timber and granite. Principal interior material: concrete, granite and steel. Designing period: 2004-2005. Construction period: 2005-2011. Building/Cost: 90 Million Euro.

[7] Import from Finland

provides a surprisingly impressive and unbelievably sensational, enchanting iconological image of an urban center (fig. 9).



Fig. 9. Galaxy Soho, Beijing. Architect Zaha Hadid, 2012
http://www.uncubemagazine.com/sixcms/media.php/1323/Galaxy-Soho-074_Hufton%20Crow.jpg
http://www.archdaily.com/287571/galaxy-soho-zaha-hadid-architects/
https://www.pinterest.com/pin/203928689348881142/
https://www.pinterest.com/pin/191332684140889463/

The architectonic design of the Central complex of administrative-office buildings Galaxy Soho, in Beijing, at the location East 2 Ring Road, was done by the architect Zaha Hadid in 2012, together with the architect Patrikom Schumacher[8]. Zaha Hadid says that the ecourbarchitectonic form stemmed from very dynamical spatial conditions on location, in which one had to contextually harmonize and interconnect the elements of traditional ecourbarchitectonic fabric, with the modern composition patterns whose forms stem from the natural forms in the environment. The newly designed SOHO China Ltd building in Beijing was constructed in the 2009–2012 period, having surface area of 332,857m^2. The land has a surface area of 46.965 m^2. It has 18 floors, including three underground levels, two of them being used for parking area for 1275 cars. The ground level is visually and esthetically the most impressive. It is intended for commercial, catering and entertainment activities, while the upper floors accommodate office units. The physical ecourbarchitectonic structure of Galaxy Soho is conceived out of four monumental, domed, multi-floor volumes, connected by bridges, galleries and platforms among the curvilinear bodies, and not rigid-angled blocks, which are connected by floor areas and with the public courtyards in their center. The narrative-coherent design of the structure has no angles or abrupt communication-voluminous transitions, it is exquisitely dynamical, with the convolution effects of the surfaces. It does not disrupt the fluidity of soft spectacular lines, with deep visual penetrations and transparency of the interior, with open spatial façade curved lines clad in the state-of-the-art building materials. It is iconical for this part of Beijing, China and the world, and it represents an extremely symbolically powerful historical city-building and architectonic form whose functions and overall activities are logically generated towards central courtyard, clearly connected zones, which is a conceptual result of traditional Chinese architecture (fig. 10).

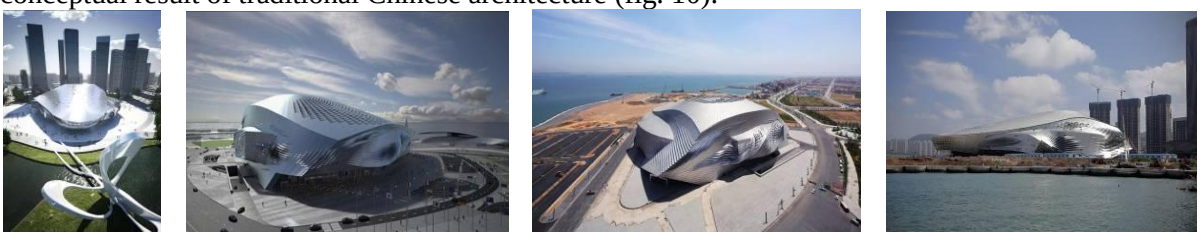


Fig. 10. Dalian International Conference Center, China - Coop Himmelb (l) au Lands A Spaceship-Like Conference Center, 2008-2012
http://smg.photobucket.com/user/cityq/media/Projects%20and%20developments/DalianInternationalConferenceCen-2.jpg.html http://www.dlbaituo.com/Upload/PicFiles/2013.2.28_10.37.10_7366.jpg
http://www.coop-himmelblau.at/architecture/news/oesterreichischer-bau-preis-for-coop-himmelblau
http://www.coop-himmelblau.at/architecture/projects/dalian-international-conference-center

[8] http://www.patrikschumacher.com/. Patrik Schumacher, Dr.-Phil., Dipl.-Ing., Architect, RIBA, ARB. Partner at Zaha Hadid Architects (ZHA), Co-director AA Design Research Lab (AADRL)

The architectonic team from Austria, Coop Himmelb(l)au[9] in the design for Dalian International Conference Center, Dalian, in China, offered, in very short time of three years, a new ecourbarchitectonic configuration with an associative idea of a landed "silver" spaceship, which has curved, perforated façade surfaces, of a bold and interesting design. With this structure the port and commercial city of Dalian turned a new historically important city building - artistic archisculptural page of its future. The quality design study yielded successful urban integration of the huge volume of building and the surrounding artifact structures and new iconologic reference important for the marketing of the city was created. On the waterfront location, outside the city core, next to a large body of water is "anchored" the hybrid, combined physical structure made of steel and concrete, a conference-opera center for 6000 visitors. The central part of the structure was designed for approximately 2500 users in the conference center and with 1600 seats in the Opera-theatrical center, while the peripheral zones accommodate other services in polygonal volumes. Ambitiously significant, unusual form of the volume with a lot of fluid-twisting communications, has a parking area in the underground section. The designers pointed out the idea of interlocking and visual connection of interior and exterior, public space, and the backbone of the building composition which coincides with the main axis of the urban matrix. In addition, the design "Dalian International Conference Center ", employs the wind resources, sea water and sunlight in a smart way. The structure is focused as an energetically efficient structure which generates more energy than it consumes. The designers obtained several international awards for such a complex designing approach to ecourbarchitectonic design.

Conclusion

In the presented examples of contemporary architecture building, created after 2010, it was clear that the designers had the intention to take a different approach to ecourbarchitectonic forms with a new logic dominated by evolutional archiscultpural-iconologic, parametric concepts in which the physical archiscuptural spatial structures are a scenic event. What is new, are artistic-designing, structurally-geometrical compositions, joints and connections of building elements, new strategy in production of harmonized fluid lines, new connecting joints and deformations, most frequently curved façade surfaces, which have a systemic and developmental formulations of forms. It seems that the volumes are conceptually directed to abstract articulation, with visual effects showing mild undulation, wavy and sometimes vortex movements. We deal with the dramatically important, complex historical changes in city-building, in an improved esthetic-artistic culture of articulation of functional volumes and walls in a micro-ambient space. We are in the midst of scientific-designing and material-technological shift, on a crossroads of creation of a new, innovated, more abundant theoretical and practical ecourbarchitectonic language in which all the forms of communication and dwelling of users in space register noticeable increase and accumulation of everyday living sensibility. There is no endless repetition of uniform elements in homogenized sequences and monotonous rigid-angled forms, but self-referential elements which dynamically insist on designing-architectonic and spatially-valuable image of complexity of structures and which offer thinking possibilities for new logic of figurativeness and more avant-garde styles of house building.

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Fluid-iconologic Forms in Ecourbarchitecture

Аннотация:

В отличие от классической-условной физической структуры в экологической архитектуре, концептуализированной на жестких ортогонально-статических матрицах, которым проектировщики были рабами на протяжении десятилетий и которая характеризовала архитектуру прошлого века, архитектура нового века основана на энергоэффективных функциональных структурах, чья геометрия и дизайн содержат вдохновенное архискульптурное послание. Они создают новые, органические, округлые формы структур с множеством экспериментальных кривых, конических и визуально текучих структурных элементов по своему внешнему виду. Это придает им особый артефактно-иконологически динамический характер, имитирующий биоморфные «капли» природных структур, свежий и интересный художественный и дизайнерский подход, эффективное сообщение, определение местной идентичности окружающей среды. Изменения в мире экобархитектонических форм драматичны, влиятельны и значительны с точки зрения стратегических пейзажных и архитектурных изменений и реформирования жилого пространства, которые вставляются в микро-окружающие сущности. Мы наблюдаем новый интегративный дизайн, нестереотипный дух, в котором «деформированные» экобархитектонические физические структуры, с точки зрения изменений, становятся все более вдохновляющими и ближе к естественным формам. Они комбинированные, гибридные, изготовленные из частей формы, имеющих деконструктивные элементы или фрагменты параметрической архитектуры. Они продвигают дух новой эстетической культуры градостроительства, создают новую реальность, превосходящую урбархитектоническую повседневную жизнь. Дух, который извлекает нас из нынешних хаотических экобархитектонических миров и помещает в другой, лучший, многообещающий мир с более упорядоченным миром.

Ключевые слова: экологическая архитектура; плавные формы; структуры-капли; иконологический характер; стратегический дизайн; пространство.

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