



Universal design: antidiscrimination challenge

By Mária Samová

It is inevitable to apply new approach in design of physical life environment, in particular, within the context of human ecology and respect for basic human rights and freedom. Architecture, urban planning and design, as well as civil engineering and industrial design are fields that fundamentally affect the quality of our environment. The non discrimination environment is an indispensable condition for inclusion of disabled people in everyday life. Universal design is the new method for creating of such helpful and accessible environment for all people.

Free use of public urban and architectural areas collides with one basic problem. The future users of public areas are anonymous to the designer therefore he should count with their diversity (physical, motion, sensual, and mental) since the first phase of his conceptual creative process.

Understanding the man as a unique human being having different qualities that cannot be made average appears hand in hand with democratisation of human society. Democracy as a cultural and social phenomenon declares such values like freedom, law and dignity for everybody without regard to age, race, confession, or health condition. Acceptation of diversity of people is a cultural deed that perceives every man as a complex being with extremely diverse bodily, sensual or mental qualities.

At present, design of non discrimination areas is an imperative for every architect humanist, supposing that he himself is a follower of such values and that he has knowledge of possible barrier free solutions that are often even more aesthetical. Numerous notable architects have included the principles of universal design and these principles are clearly expressed in their works (N.Foster, J.Nouvel, I.M.Pei, P.Cook, B. van Berkel, R. Koolhaas). They, no doubt, did not make concessions from their artistic and aesthetical demands

and yet they reached barrier free aesthetics in their architecture. It was because they included the idea of barrier free design into their very first phase of the design process.

Numerous initiatives arose at the Faculty of Architecture, Slovak University of Technology in this respect. They were initiated by teachers and researchers. After the basic social changes in 1989 has our faculty become, thanks to the supporting management, the only architectural university that fills the „European Resolution Res AP (2001) on the Introduction of the Principles of Universal Design into the Curricula of All Occupations Working on the Built Environment“. The all faculty workplace called the Centre in Design for All at FA STU is the member of European Institute for Design and Disability EIDD – Design for All Europe. It works on several research projects (MVTs, VEGA), educational project, (IP, Erasmus) and organises participation of students on international student competition Schindler Award – Access for All. This effort results in professional publications as well.



Car and architecture interactions – Carchitecture

By Zuzana Tóthová

As the automobile evolved in tandem with the modern architecture, it brought about myths, legends and new building types. However, has the car also responded to architecture? The car has significantly shaped the modern architectural vision, but was this a two-way relationship? Perhaps the most considerable contact between the built and mechanical environments was the golden age of streamlining in the 1930s.

The car was arguably the most dominant force for architectural change in the twentieth century, dictating the shape and the size of our cities and the way we experience them. The result – “carchitecture” – is all around us. But haven't we gone too far? The number of car owners continues to rise, but on the other hand the anti-car movement is growing, too. The automobile stands accused of destroying the community, environment, public space, health and perhaps even architecture itself.



Modular steel structures A storey of the inter-war period in Dessau

By Ján Pavúk

Understanding of industrial structures is based on knowing their historical development and on the analysis of the technical development and development of new technologies of that period, being the main holders of industrialisation. It is probable that this sort of view will result in simplification of some aspects, whereas their clarification is closely related with philosophical, ideological, artistic and historical analysis.

The topic of industrial buildings based on confrontation of industrial buildings of Junkerswerke and the industrial building tendencies of Bauhaus in Dessau was a point of interest of a few authors. Some of them a recognised professionals on Bauhaus, others, the enthusiasts, base their knowledge on the history of the Junkers company. Both sights are in their nature very simple and restricted as they did not grasp the core of the topic. In spite of this fact they all can be considered as unique, bringing precious information on cooperation of the two institutions, based on industrialised prefabricated building. Thus, as if the authors wanted to finish the forgotten piece of history of industrial structures. The analysis of the current state of these structures brought, as the first step, a selection of information resources and their division into primary and secondary resources. The primary ones are represented by sight research and search of archive documents, including graphic and text-like groundwork, photos, drawings, architectural, structural and building drawings, patents, company's professional analyses, notes from meetings, etc. The mentioned materials include particularly important facts on Bauhaus and Junkerswerke cooperation as well as their individual, separate development of industrialised prefabricated steel structures.

Bauhaus as one of the avant-garde movements of the 1920s was profound

part of general development of industrialisation, it was its second modern.¹ The cooperation with Junkerswerke in many areas is a direct proof. In spite of the fact that the first idea of Bauhaus was based on relation between arts and crafts, the turn of events started in times of Weimar when the relation between arts and technology had started. However, it is necessary to state that it was a formal following of technology, its purely aesthetic interpretation², motivated by forms only, and not understanding its essence. However, there is a light point in the period of Bauhaus, the point that confirms the no legitimacy of the above stated statement. It is the era of Hannes Meyer in Dessau. It is the period of deep understanding of industrialisation and prefabrication.

As a result of a split of the profession of a "Baumeister" into the professions of architect and engineer, a split of tasks and functions occurred, breaking the symbiosis of arts and technology. The split was also due to the growing requirements on the organisation of the building program and on the very complex and differentiated building tasks. However, the main outcome for the future should have been the mutual cooperation of the two companies' technical rationality. Technical rationality and a quality design should again, as it already had been before, find integrity in architecture. It is because architecture cannot exist without the structural system. There is no built work without space; there is no space without a plan, no plan without a structure and finally, no construction without a form.³ A structure is an important part of a design project. The sequence is as follows: design, structure, calculation. The static calculation is only a necessary proof to the correctness of the structural solution.

The above mentioned statement and confirmation of the thesis on

inevitable cooperation of an engineer and an architect shifts us to a different dimension that is to say to a field of expression of architecture. What is true architecture and what is only affectedness? This is, how a German theorist and historian in architecture and arts, Otl Aicher answers this question: a true architecture is building without citations, without such citations like the Palladio's, Mackintosh's, Le Corbusier's⁴. Thanks God, there exist buildings without any citations. Industrial buildings belong to them, although there are some with Manneristic tendencies and promotion of form and expression above the structure itself. The true architecture wants the only thing: be clear, to show only what exists and not to show what should be. It is a right opposite to transcendental aesthetics, aesthetics without sense and purpose, the one where task of function, value, production and economy is not important anymore. To this transcendental aesthetics belong columns that do not carry the load and still look like Greek columns, a portal that is so large that it must be cut to provide passage etc. However, it is sad, that right this aesthetics is a true version of the today's official architecture.

¹ The topic of modern is analysed by Otl Aicher in his book "Das Welt als Entwurf" in the chapter "Die dritte Moderne".

² Aicher, 1992, p. 47

³ Ackermann, 1944, p. 215

⁴ Aicher, 1994, p. 215



Membrane constructions: membrane cover

By František Kalesný

The new concert hall Zenith in Strasbourg was inaugurated in January 2011, making it the biggest Zenith concert hall in France.

The inner part of the building is not immediately visible. It consists of 30 cm thick reinforced concrete which is shaped into lines with different curve radius. The oval form was chosen as a sculptural element and its monumental volume gains some lightness by the ellipses of the steel structure. Twenty steel columns around the massive core form the primary construction for the facade structure which carries the membrane. The light membrane stands in contrast to the heavy building core and it envelopes the building above the entrance area. It was one of the key issues of the project. The Interglas Atex 5000 silicon coated glass fabric used meets all aesthetic and mechanical requirements.



Chaotic structures

By Michal Valúšek

Identifying, defining, evaluating and criticizing the basic terms or principles of chaos and looking for analogies occurring in chaotic structures in exact sciences and art (literature, music, film) provides a platform for understanding experimental research on the creation of chaotic systems in architecture. The project aims to be not only a theoretical work, but mainly to serve as a valuable material with samples of algorithm prototypes solving certain problems within the parametric design of chaotic structures in architecture, with the possibility of their further editing.

English Summary



Variability of generated architectural structures

By Filip Humaj

Current parametric design generates many possible solutions during the modelling and designing process. However, in the final stage it allows the user to choose only one solution to be developed. Physical parametric design is a design strategy for parametric design. It enables the parametric design to embody the knowledge from simulation tools and still permits a variety of possibilities at the final stage. Physical parametric design allows models varieties in a physical model, but also gives feedback to the virtual models, in order to improve the design process.



Pavilion as part of a city's image

By Katarína Boháčová

Spatial development of cities increasingly requires a strategy reflecting demands and needs of contemporary society. The worldwide trend of globalization is related with concentration of vast majority of job opportunities into urban agglomerations. This results in cities' rapid population growth and in occurrence of suitable conditions for new investments. As part of the mentioned trend: the concentration of production and population in urban agglomerations, the need for fast solutions for public spaces is emerging. This is due to the fact that public spaces have been recently considered as basic skeleton part for transformation of the intra-urban structures. Concentrations of population often create large mono-functional territories that are free of working opportunities or other activities, so there is an urgent need for integration of additional functions for public and semi-public spaces in these territories. Thus, public spaces in the new context of urban development are becoming an important social phenomenon of the city.

The so-called "temporary public spaces" start to be discussed recently. These are spaces offering a diverse range of incentives for the public e.g. city beaches, picnic areas, green parking plots with street furniture, areas for "street performances" - street art, and recently fashionable and often projected pavilions with variable disposition, intended mainly for presentations, education and relaxation.

A pavilion, considered to be a bearer of an impulse, identity, information and orientation, has become a favourite element in urban structures. At the same time, it is an object, which can determine human activities taking place in and around it, since it is

a part of the public space. Impulses, which a pavilion as a clearly defined space within the urban structure often brings, are associated with social interaction.



New aesthetics of modernity Commercial parterre in Bratislava of 1920s – 1930s

By Soňa Ščepánová

Bratislava in the inter-war period in the 20th century was the centre of the political, social and cultural life in the country. The major architectural trends had a significant application there, along with utilization of progressive technical and construction methods.

Among the realized projects a considerable number of structures created for commercial purposes from that period have been preserved. Their modernity was, apart from formal features, based on the application of the latest technologies and materials, emphasizing the mutual relationship between the investor, architect and contractor. The interior spaces of shops, cafés and department stores, together with their facades, shop windows, entrance portals and passages, bore an innovative approach and enabled a significant change in the appearance of the urban centre. The transformation of the commercial spaces involved new elements of urbanization, and gradually the poetry of the new aesthetics of glass, light and new materials was implemented in the streets of Bratislava in the 1920s and 1930s.