CONTEMPORARY DISCUSSSIONS AND DESIGN METHODOLOGIES IN ARCHITECTURE

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CONTENTS

MUSEUMS: NEW ARCHITECTURAL ICONS OF THE DIGITAL AGE.

Paola La Scala and Alessia Riccobono

Department of Architecture, University of Palermo, Italy

Introduction

The museum is like a theatre - in his noble sense of *mise-en-scène* - but whereas during a performance the characters tell their story, in the museums the objects are the protagonists which are represented and narrated by communication media to reach to the visitors-spectators. According to Susan Crane museums *'are site for interaction between personal and collective identities, between memory and history, between information and knowledge production'* (Crane, 2000).

In effect a museum is much more than a place for preserving artefacts and objects. Indeed, throughout history, the museums, flexible and adaptive places, have been designed as social aggregators, to house objects and collections in which community could identify (Witcomb, 2003). They have always represented powerful means of communication through their ability to convey knowledge and to involve its audience (tourists and local residents).

Expressive tendencies and new formal configurations in the Digital Age

For over half a century, museums have become an important design topic, so that in recent years we have witnessed a significant attention paid by the designers to the creation of new and always more audacious architectures. But where does this expressive impetus, that is creating new formal trends, come from? And which are its cause? Without fear of making mistake, we can assert that the origin of this revolution, both aesthetical and cultural, resides in the triumphal entry of computer inside architectural practice.

Since the commercialization of the first CAAD programs in the '80s, initially born to *aid* the production of *drawings*, software has progressively begun part of designer's tools. Despite at first the undoubted advantage resided in the representation power, above all to manage three-dimensional shapes, after some years of experimentation it was clear that software aided the expression of architects' creativity. Indeed, beyond to make shapes, that were never imagined before, thinkable and controllable, the computer use has modified design conception and has influenced design actions, thanks to the possibility of real time drawing and modelling (Colajanni et al., 2006).

Architecture history has always testified the designers' attitude to an extensive use of visual methods and techniques in the development of a composition (Koutamanis, 2000) and each radical discovery in representation field has always constituted a revolution in the architectural design thinking. Nowadays the endless possibilities guaranteed by new digital media have conduced designers to experiment more easily with morphology, by researching new formal solutions. The morphological approach to architectural design takes over, the conceptual aspect is often forgotten and many projects consist only in an obsessive search for the figural goodness, for unusual, radical and unconventional configurations. This has lead to

a lack of linguistic unity and a shared idea of architecture.

Nowadays the digital expressiveness gains the upper hand and architects have the freedom to fully play with the shape of architectural envelope, especially in relation to museums and exhibition buildings, that have to communicate and express values and thinking of contemporary society.

If, on one hand, the evolution of architectural design thinking, in relation to contemporary philosophy and new aesthetic canons, follows the progress of present-day and takes advantage of new software possibilities, on the other hand it risks to lead us to *fashion*, rather than to be an avant-garde movement (Pellitteri and Riccobono, 2012). Each building envelope become an expedient that allows full expressive freedom to designer, who can personalize endlessly his work and is pushed towards structures even more courageous.

The case of Museums is particularly manifest of this *digital* approach to architectural design, where the attention is focused on the formal properties of the envelope, because it is an architectural type where designers can experiment more, in terms of scenic and expressive power[1]. We have noted that Museums and Exhibition buildings are the absolutely most prevalent among *digital architectures*, while in architectures such as *offices* or *residences* the formal experimentation remains more limited by the intrinsic function of the building itself. In the museums the architecture is characterized by more flexible spaces, where functions are sometimes not well distinguished, by, very often, impressive dimensions and, above all, they all are buildings with a great cultural value for the community and the cities, where there are often required elements of novelty, iconoclasm, non-conformism, majesty. Museums are born with the intrinsic purpose of sharing information and communicating culture and belonging. Buildings where people can identify and admire the *mise-en-scene* of own passions in an atmosphere of grandiosity and celebration. In regard to this consideration we should consider, above all, the emblematic case of automobile museums.

Automobile museums

In the last ten years a lot of car companies provided themselves with new exhibition buildings, that were thought not only for exhibiting cars and objects, from the latest one to the oldest, but also with sales goals. The aim was to attract the visitor not solely to show the final product - cars, bikes - from the conception, through the production line, to the final assemblage, but to do this showing the most advanced technologies, the quality of the material, to make sure that he/she wanted that thing.

The best example of a place born both for exhibiting autos and sell them is the BMW Welt in Munich (fig. 1-4). In 2000, the BMW Group decided to build a brand-experience and car-delivery centre, close to the corporate headquarters, the BMW Museum and the Olympiapark in Munich. The central idea of the design by the Austrian studio COOP HIMMELB(L)AU, that won an open international competition in 2001, was to expand the configuration of the existing BMW Tower and BMW Museum with an additional element, so as to create a spatial, ideal and identity-forming architectural ensemble.

Fig. 1-4. The BMW Welt in Munich, designed by Coop Himmelb(l)au. Photos by A. Riccobono

The design, that took advantage of the latest architectural software, consists of a large transparent hall with a sculptural roof and a double cone informed by the relation with the existing company headquarter building. The various areas within BMW Welt are accommodated under a 'cloud-like' roofing envelope emerging from a double cone, that also both defines and encloses space. Its rising and falling underside articulates the hall below, marking out the different functional zones and giving the building its innovative and dynamic character.

Almost in parallel with the BMW, also the Mercedes Benz decided to build a new museum to celebrate its avant-garde work in this sector, by instituting an international competition won by the Dutch office of UN Studio in 2001. The sophisticated geometry of the museum synthesizes structural and programmatic organizations resulting in a new landmark building celebrating a legendary car. The structure is based on a trefoil; both in its internal organization and in its outward expression this geometry responds to the car-driven context of the museum. Inside, walking down the ramps of the Museum, surrounded by cars of different ages and types, the visitor is reminded of driving down the highway. Outside, the smooth curves of the building echo the rounded vernacular of nearby industrial and event spaces (fig. 5-6).
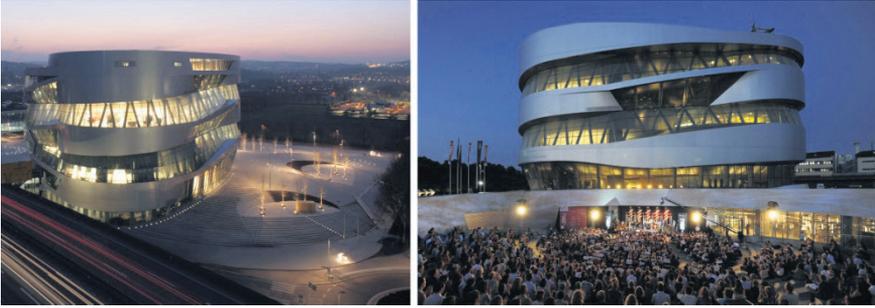
Fig. 5-6. The Mercedes Benz Museum in Stuttgart, designed by UN Studio. (Source: < http://www.unstudio.com/>).

The work on the concept for the new Porsche Museum in Stuttgart (fig. 7-8) began in 2003, when the brand choose the international studio Delugan Meissl among 170 participants to an international competition. The central draft concept was the translation of the brand into the language of architecture. The Porsche Museum is designed as a dynamically formed, monolithic structure, seemingly detached from the entry level's folded topography. Its reflective ceiling absorbs the architectural landscape below and atmospherically increases the space between base and exhibition area. From a large atrium lobby, a long escalator, that holes the irregular volume, ascends and bring the visitor to the top, where the exhibition begins. Drive and speed, statics and logjams can be experienced both in the building's configuration as well as through the spatial medium.

Fig. 7-8. The Porsche Museum in Stuttgart, designed by Delugan Meissl. (Source: <http://www.dmaa.at/>)

Finally, we take into account the Enzo Ferrari Museum in Modena (fig. 9-10), designed by Jan Kaplicky of Future Systems, who won in competition in late 2004. The Museum comprises of two separate buildings open to visitors: The Enzo Ferrari already existing birthplace, restored to its original condition, and a new Gallery, an innovative building that houses an ever-changing collection of racing cars. The new building is treated as an open space, that houses both the exhibition and other services, closed by a three-dimensional curved aluminium roof, with a traditional Ferrari yellow varnish, and an inclined, double-curved structural glass façade. In particular the roofing has an image that immediately cross-refers to a Ferrari bonnet, with the typical air intakes, reinterpreted as skylights.

Fig. 9-10. The Enzo Ferrari Museum in Modena, designed by Jan Kaplicky of Future Systems. (Source <http://www.shiro-studio.com/>)

All these designs have many aspects in common: firstly, all the projects were selected through international competitions, where several of the most recognised international firms participated; secondly, the overall image of the buildings is innovative, unusual, revolutionary and it reflects perfectly the concept of each brand represented. The materials used in the configuration of the building envelope were also similar of the ones used to give birth to the cars, making much use of glass, stainless steel, aluminium, coloured and varnished metals, in order to make immediately manifest what each museum contains, which brand represents. Each building is placed near neuralgic points in the landscape, that denotes the fact that these architectures want to be viewed and admired and, also, that they are thought for a specific visitor.

This analysis reveals as new museums can be also considered elements of urban renewal. Starting from the fortunate case of Guggenheim Museum in Bilbao designed by Frank O. Gehry by recovering the whole former industrial area along the riverside, the expressive power of such structures and architectural shapes have caused explosive mechanisms of urban regeneration, generating the so-called Bilbao Effect.

Despite of the adverse criticism, we can comprehend as some recent museums are often treated like objects by positioning 'these friendly aliens' - as Peter Cook defined his Kunsthaus design in Graz (Cook et al., 2004) - in fragile contexts with the purpose to attract people who want to admire these *artworks*. For this aim cities and clients competes to provide themselves with an architecture that convey the latest innovations in terms of style, materials, overall image and digital attitude. This is the reason why we can explain and justify their tendency to acquire new *fashion* architectures, particularly evident in those countries where the economy is growing. Buildings are statements to become part of the global system and then they have to express a certain sense of belonging to that system.

New digital media for museum design

New museum-design includes exhibitions that can generate emotions in communicative buildings, creating *narrative experiences* which integrate objects, space, and audience (MacLeod, 2005, MacLeod, 2013). Considering the recent developments in museum and exhibition design, adapting them to the contemporary digital age, museum professionals have increasingly employed multimedia in their

exhibitions. The creative use of technology in exhibitions allows museums to change the way of presenting objects and communicating their meaning, to show artefacts in their context, to explain complex ideas, to increase opportunities for interactivity, or to provide involving experiences.

In recent years the use of electronic media has become increasingly common in museums and exhibitions. However, the educational, technical opportunities and the design aspects of these applications have not always been adequately realised. Today the use of these media has improved, and curators, academics, media designers and visitors have become more competent and critical in this field.

Often the scepticism on use of new media in the museums originates from the perception that they are naturally opposed: the instruments are associated with hi-tech technologies, virtual, related to entertainment and in continuous evolution; on contrary museums are places considered static, permanent and monumental. According to Michelle Henning, the idea that the introduction of new media enhances the museum aspect is certainly an overstatement of the technologies themselves; rather we should deepen the ability to communicate knowledge and to stimulate the audience attention (Henning, 2006).

In order to achieve good communication outcomes, multimedia should help the visitor to create a real connection between all the exhibits simultaneously recognising a overall narrative. Instead, develop a series of high-tech exhibitions without carefully considering the level of interpretation of the museum or without evaluating how the exhibitions themselves may involve and affect the experience of the public can lead to a falsification of the displayed contents through expensive gadgets. By inserting incorrectly the communication technologies can therefore have a very negative impact in visitors involvement and in exhibition understanding. A well-conceived use of media can spur the visitor to different approaches: exploratory, narrative, playful, recreational. We could consider, as example, the permanent exhibition at the BMW Museum in Munich (fig. 11-12) designed by Atelier Brückner and opened in 2008[2]. The designing concept has a dynamic and innovative language linked to automotive world, mixing architecture, exhibition and communicative media by a ramp system as a central motif. Inside, the multimedia enhanced create an impressive and effective framework for the exhibits. Multimedia include audio-visuals, computers, photographs, videos, immersive theaters and the combination of two or more of these comprises a real multimedia experience, although the term *multimedia* is also often used for only one communication system (Marthy and Burton Jones, 2007).

Fig. 11-12. The exhibition of the BMW Museum in Munich. Photo by A. Riccobono.

Designing effective museum exhibitions

The museum, a complex machine of communication and transmission of knowledge, in the same way as theatre or cinema, has been affirmed as a medium. It is founded on objects, but also on audio-visual instruments, or direct manipulation tools and it may be centred on languages that are written, graphic, oral, and gestural, but also iconic and even olfactory: lastly it can communicate through theatrical performances, either directly or in a simulated environment.

Designing an exhibition within a space means creating an immersive environment in which the visitor can understand and feel attracted to the objects. Such a conceived exhibition needs to be designed by diverse professionals (i.e. visual designers, graphic designers, curators, educators, light designers) and choreographed by an exhibition designer. once decided the storytelling to communicate throughout the tour there needs to be an orchestrated rhythm between space, light, dimension, shapes, communication tools (in their general meanings) in order to enhance the real objects (Schwarz Frey, 2007).

Therefore In designing a exhibition the first aspect that we have to consider is its ability to communicate and interact with the visitor. Secondly, the story telling must be conceived in such a way as to encourage curiosity and a desire for knowledge and provokes a positive response in learning. as a result the museum turns into a place of free expression for the visitor, who will be immersed in an environment where he can see, reflect and experiment.

A project-designer should not consider any communication medium that is not supported by a precise plan for physical integration. once a decision has been made regarding the kind of instrument to adopt (it being linked with a specific approach), he should, in fact, carry out a detailed study of how this *attractive* instrument might function in an existing building, inserted in a display with which the building will inevitably have to confront itself. This can doubtless be a rather complex problem given the capacity of instruments to adapt themselves, or not, to an exhibition area. He might understand that a museum institution is closely linked to the idea of a specific instrument to be adopted in accordance with a particular approach to the visit that he wants to develop. in this case, one might think of an alteration to the lay-out in function of the instruments chosen, but, seeing as it should always be borne in mind that the aim of a display is constituted by the contents of the display itself, enthusiasm for a specific instrument might actually divert one from this concept.

Regarding this analysis as example we could refer to the International Slavery Museum in Liverpool, opened in 2007 (fig. 13-14). The museum was designed by Redman Design Studio which created a sensory and involving experience using diverse communication media like movements, sounds and touch to reach out to the visitors. Indeed the exhibition includes multimedia using unusual effects, i.e. the human voice to create imagined speeches or interpretative texts scratched on the walls or digital videos. All of these system are inserted into the exhibition.

Concerning on the approach to designing experimental exhibitions by digital technologies we should also consider the point that new mass-media exhibitions frequently breach their connection with the architectural space in which they are housed. in order to be effective, multimedia devices should only show the results of their activity and should thus be concealed behind the scenes (of the exhibition).

The ideal backdrop is a black, so that the exhibition can simultaneously and clearly display its *mise-en-scène*, whilst the building loses its scenic function and its architectural characteristics turning into a complex narrative environment.

Fig. 13-14. The International Slavery Museum in Liverpool, designed by Redman Design Studio. Photo by P. La Scala.

Conclusions. Towards a dichotomy between exterior envelope and interior space?

From our examination it clearly emerge one fact: the role of museum in the Digital Age has been changing. Museum is not only a place for exhibiting, also the container itself has become an artwork. Looking at the recent past, this is particularly evident if we consider as example the Wright's Guggenheim Museum in New York, probably the first case in which the focus was on the architectural configuration rather than on the exhibition space.

Sometimes this kind of approach causes a minor consideration of the interior environment, which is usually thought as a different and separated space, breaching the connection between the exhibition and the architectural space. Consequently, inside, the building loses its scenic function and the architectural characteristics are showed in its exterior form, generating a dichotomy between the expressive formal configuration of the envelope and the interior space. Among the multitude of possible examples, we should consider architectures as the MAXXI Museum in Rome or the Riverside Museum in Glasgow, both designed by Zaha Hadid, and the Jewish Museum in Berlin by Daniel Libeskind, where the impressive, communicative and meaningful shapes of the envelopes overwhelm the interior exhibition and distract visitor's attention from the displayed collection.

In contrary, some designers, like Ron Arad in the Design Museum in Holon (fig. 15-17) , take into account both the aspects (exterior and interior form) during the -design process, by giving the adequate attention to the exhibition space and not losing its communicative potential. The construction of the new museum, designed to become a new cultural and educational hub for central Israel and to promote the appreciation of Israeli design both locally and abroad, started in 2003, in a suburban area a few miles south of Tel Aviv. The notion of creating and exploiting the tension between an internal arrangement of efficient box-like spaces, where it is arranged the exhibition, and the dynamic and curvaceous external envelope, is the guiding design principle for the entire museum. The greater part of the museum is shrouded by five distinct bands of Cor-Ten structure which undulate and meander their way in, out and around the museum's internal volumes. In this way, the route through

the museum becomes more experiential, as it leads the visitor through a series of dramatic internal views across the Museum's internal courtyard. The rational shape of the interior spaces, treated as neutral and white boxes, allows to house any exhibition without difficulty and none distraction of the visitor with respect to the collection exhibited. But we have to remark that Ron Arad is principally a designer, who has also worked as curator for many temporary exhibits; then he is an architect. For this reason we can understand the attention that he put on the exhibition, without losing a communicative and sculptural power of architecture. Indeed, in recent years the detachment between interior spaces and exterior envelopes has lead many scenographers to design museum exhibitions.

From our point of view, it is necessary that also worldwide architectural firms, by designing a new museum, do not have only to try to build a new artwork. Instead, without losing their expressive power, they should take in consideration what every museum has to exhibit. If museum architecture will win this hard challenge, we may experiment both the beauty of an amazing architectural space and the communicative and educational power that each object will give us.

Fig. 15-17. Design Museum in Holon, designed by Ron Arad. (Source: <http://www.ronarad.co.uk/>)

Remark

This paper originates from two parallel PhD researches, both discussed in last February at University of Palermo (Italy), which topics are really close, insomuch as we were stimulated and influenced to each other along our doctoral route. Indeed, the Paola La Scala's dissertation, titled *'Communicating archaeology: multimedia innovations in museums exhibitions'*, deals with the new technological developments in museums design, with many examples of recent case; the Alessia Riccobono's thesis, titled *'Architectural Design in the Digital Era. Identifying computer influences and new expressive trends in current architecture'*, addresses the issue of the introduction of digital media in architecture and the consequent developments in design thinking and language. The occasion of ArchDesign '14 Conference has given us the possibility to put on paper continue debates and discussions about our common research interests, by dealing with the topic of Museums in the digital Age from both perspectives, museum exhibition and architectural design.

Notes

1) This datum is not presumed, but it derives from the results of a recently concluded PhD research, developed by Alessia Riccobono (Riccobono and Pellitteri, 2014), where it was analyzed a casuistry of more than sixty case studies in relation to the use of CAAD software in conceiving each architectural design.

2) The Stuttgart studio ATELIER BRÜCKNER was commissioned with the general planning, architecture, and exhibition design. ART+COM, a Berlin design office for new media, completed the spatial media design and interactive installations, while Integral Ruedi Baur executed the graphic design.

References

COLAJANNI, B., PELLITTERI, G. & CONCIALDI, S. 2006. Which new semantic for new shape? *In:* ALI, A. & BREBBIA, C. A. (eds.) *Digital. Architecture and Construction.* Southampton: WITPress.

COOK, P., BOGNER, D. & FOURNIER, C. 2004. *A Friendly alien : ein Kunsthaus für Graz : Peter Cook, Colin Fournier Architects,* Ostfildern-Ruit, Hatje Cantz.

CRANE, S. 2000. *Museum and memory,* Stanford, Stanford University Press.

HENNING, M. 2006. New Media. *In:* MACDONALD, S. (ed.) *A companion to Museum Sudies.* Oxford: Blackwell.

KOUTAMANIS, A. 2000. Digital architectural visualization. *Automation in Construction,* 9**,** 347-360.

MACLEOD, S. 2005. *Reshaping Museum Space. Architecture, Design, Exhibition,* London-New York, Routledge.

MACLEOD, S. 2013. *Museum Architecture: A New Biography,* London-New York, Routledge.

MARTHY, P. F. & BURTON JONES, K. 2007. *Museum Informatics. People, Information and Technology in Museums,* London-New York Routledge.

PELLITTERI, G. & RICCOBONO, A. 2012. Towards which expressive horizons? *SIGraDi 2012, XVI Congresso da Sociedade Iberoamericana de Gráfica Digital.* Fortaleza: Expressão Gráfica e Editor.

RICCOBONO, A. & PELLITTERI, G. 2014. The Digital change. Reasons and meanings of a new architectural expressivity. *In:* D. ROCKWOOD, M. S. (ed.) *Beyond Architecture, Making New Intersections and Connections. EAAE ARCC International Conference.* University of Hawaiˑi at Ma-noa.

SCHWARZ FREY, B. 2007. *Designing Exhibition. A compendium for Archtitects, Designers and Museum Professionals. ,* Basel, Birkäuser.

WITCOMB, A. 2003. *Re-Imagining the museum. Beyond the Mausoleum,* Oxon, Routledge.