TEMPORARY ARCHITECTURE:
THE SERPENTINE GALLERY PAVILIONS

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THE SERPENTINE GALLERY PAVILIONS

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ABSTRACT

TEMPORARY ARCHITECTURE:
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This thesis is a critical inquiry into conceptualizations of the term 'temporality' in architectural discourse. It is geared towards the expanding definition of the 'temporariness' as a pragmatic and intellectual source for architectural production. The Serpentine Gallery Pavilions between 2000 and 2012, given their acute embodiment of the concept of temporality, will be the subject and the object of this thesis.

The Serpentine Gallery has provided the setting for annual pavilion design project since 2000, which will be investigated thoroughly with emphasis on its role in supporting transitory architecture. Along with the characteristics of the pavilions and their structural properties, the agents of the investigation will be architects themselves.

The thesis introduces the idea of 'experimentation in architecture' as an inevitable component in the production and design of the pavilions, given the powerful relationship it forms between the domains of architectural research, discourse and practice. While offering new rules and classifications for architectural problem solving, experimentation produces a direction towards thinking to allow new concepts, new methods and new materials in architecture. It draws focus to the acts of searching, experiencing and opening of new possibilities related to space design. Experimental architecture is integrated with real-world conditions, and also can be evaluated as an agent to extend the borders of architecture as a discipline.

Keywords: Temporality, Permanence, Experimentation, Serpentine Gallery, Pavilion Design, Exposition, Display.

ÖZ

GEÇİCİ MİMARİ:
SERPENTINE GALERİ PAVYONLARI

Tunçbilek, Gonca Zeynep

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Bu tez, ‘geçicilik’ teriminin mimarlık pratiği içerisinde kavramsal hale gelmesini eleştirel bir bakış açısıyla araştırmaktadır. ‘Geçicilik’ tanımı genişletilerek, mimarlık üretimi için pragmatik ve entelektüel kaynaklar yaratacak bir kavram olarak ele alınmaktadır. 2000-2012 yılları arasında tasarlanan Serpentine Galeri’nin Pavyonları geçicilik kavramının somutlaştırılması amacıyla ele alınarak bu tezin hem nesnesini hem de öznesini oluşturmaktadır.

Serpentine Galeri tarafından 2000 yılından başlayarak her yıl düzenlenen pavyon tasarımı projeleri, geçici mimariye olan katkıları vurgulanacak şekilde incelenecektir. Pavyonların nitelikleri ve yapısal özellikleriyle birlikte mimarların tasarım prensipleri bu incelemenin temsilcilerini oluşturacaktır.

Bu tez, ‘mimaride deneysellik’ kavramını; mimari araştırma, söylem ve uygulama alanları arasındaki güçlü ilişkiyi de vurgulayarak pavyon tasarımının ve üretiminin kaçınılmaz bir bileşeni olarak ortaya koymaktadır. Deneysellik mimari problemi çözmede yeni ilkeler ve sınıflandırmalar önererek, mimarlık alanında yeni kavramların, yeni metotların ve yeni malzemelerin ortaya çıkmasına olanak verecek bir anlayışa yönlendirmektedir. Mekan tasarımıyla bağıntılı olarak araştırma, deneyimleme ve yeni olanaklar sunmada etkili rol oynamaktadır. Deneysel mimarlık bir yandan gerçek dünyanın şartları ile bütünleşmiştir diğer bir yandan da geleneksel mimarinin sınırlarını tekrar sorgulamaya olanak tanımaktadır.

Anahtar Kelimeler: Geçicilik, Kalıcılık, Deneysellik, Serpentine Galeri, Pavyon Tasarımı, Fuar Yapıları, Sergileme.

To Yasemin, Aydın and Can Tunçbilek

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INTRODUCTION

> Exposed in the sense that they have been displayed in those ephemeral cities those are exhibitions –universal or national, industrial, artistic.
>
> Exposed, too, in that they have taken risks, ventured along unknown paths.
>
> Exposed, furthermore, because through them their creators have experimented with motifs that, in the same way someone expounds a musical motif, they will develop in subsequent works.
>
> Lastly, it is exposed in the photographic sense of the word. Thus, as if this were inversion of the idea of exposure time, they remained exposed for long enough to be captured in an often-limited series of photographs...
>
> Moisés Puente (Spanish Architect)[1]

In this thesis, the definition, proposition and efficacy of the term 'temporary' in architectural discourse are to be re-visited. In broader terms, this study is concerned with how 'temporality' has been redefined in architecture, what its influences are on the contemporary architectural practice, and what roles it plays in the development of conventional architectural discourse. In this respect, the objective of the thesis is to understand the pragmatic and conceptual considerations by means of 'pavilion' design. Here, temporality in architecture will be analyzed by exploring the embodiment of the missions, components and complexities of permanent architectural inputs in the relatively small transitory structures covered here, being pavilion designs.[2] Ayşen Savaş underlines the fact that temporary structures, while satisfying the requirements of the architectural domain, also accommodate architectural programs or 'functional requirements'. While satisfying the functional requirements of architectural programs also accommodate a power to generate a discursive environment.

[1] Moisés Puente. Exhibition Pavilions. Barcelona: Editorial Gustavo Gili, SA, 2000, pp. 7.
[2] Ayşen Savaş. "Editor's Note". Expo Shanghai 2010 Better City Better Life. Turkey: Miki Press, 2010, pp. 8.

Researches into architectural history tend to define architecture in terms of its stability related with its location and durability. Here it is significant that, the architecture of the pavilion is not grounded on the land, so has no fixed location; and its temporary nature suggests also a context-free existence. The nature of the pavilion is to be erected and dismantled over and over again. In French, the words pavilion and butterfly (paveillon and papillion) come from the same Latin root: papilio,[3] both describing something that moves from perch to perch, as the life of the pavilion is as brief as that of a butterfly, and the connection between the pavilion and the ground is weak, avoiding anchorage to the earth.

Investigating the permanent and temporary qualities of architecture, Bernard Tschumi states that architecture is not meant to be permanent; it cannot be related to a limited time. Tschumi re-examines the Vitruvian trilogy of '*venustas, firmitas and utilitas'*, describes '*firmitas*' as a 'structural ability' and discovers that three qualities have remained obsessively in thoughts for centuries. He asks if these architectural constants did not exist, how would architecture be? Moreover, he underlines the fact that the permanence of architecture can be a bad mental habit and is a result of intellectual laziness that has been observed throughout the history.[4] Jean Nouvel, on the other hand, like Peter Zumthor, asserts that architecture is related to light constructions that are 'not heavy,' 'changeable,' 'not permanent,' 'dematerialized,' and 'not matter bounded'.[5] There are several forms of designing temporary architecture such as exposition, exhibition and pavilion. In recent years, the pavilion design has been witnessed a rising concern. The pavilion proposals disregard social concerns, in that they rather recognize the specification of architectural practice and its history. Contemporary technologies embrace a variety of techniques that in the end, offer diversity for architectural interpretation. If this fact and the possibilities of the current situation were ignored, architecture would be forced to retreat from the realities of the current condition.

In Nikolaus Pevsner's Dictionary, the pavilion, in its general terms, is defined as a 'lightly constructed, ornamental building, often used as a pleasure-house or summer house in a garden and also as a projecting subdivision of some larger building'.[6] Also as stated in the dictionary that pavilions are designed as single-bodied buildings, located within the park or garden of a larger edifice. They are designed as light constructions that can be quickly erected and dismantled, to be reconstructed in a different location. It serves for a pleasure-house that indicates the function of these structures.

Pavilion designs reflect some common characteristics such as flexible use, a standardization of each architectural element, easy transportation, quick/easy construction and dismantling. Pavilions, by their very nature, are nomadic, so there is no trace left behind when they are gone. Their ephemeral nature indicates that they can be used for different functions for short periods. They can be used as the extensions of some larger buildings to serve to minimalist functions.

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[3] Puente. op. cit., pp. 11.

[4] Bernard Tschumi. Edited by Kate Nesbitt. "Architecture and Limits II". Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory 1965-1995. New York: Princeton Architectural Press, 1996, pp. 159.

[5] David Leatherbarrow. Architecture Oriented Otherwise. New York: Princeton Architectural Press, 2009, pp. 85.

[6] J. Fleming, H. Honour and N. Pevsner. Dictionary of Architecture and Landscape Architecture. England: Penguin Books, 1999, pp. 427.

The last few decades have witnessed an ever-widening range of temporary architectural practices such as pavilions, expositions and exhibition spaces that invite the public to touch, enter, experience and think about architecture, whether they are located in a park, on a street, in a gallery or next to an existing building. These structures allow the public to comment on architecture and interact with the discipline.

In architecture, pavilions can be accepted as the convenient medium for exploring new architectural ideas, methods and materials, without the limitations of established functions and their economics. These structures differ from conventional architectural practices in several ways; and as such, they are temporary since their period of existence is planned from the very beginning. Allan Wexler, an architect and artist, touches upon the experimental possibilities of temporary structures and states that they can be constructed quite quickly, and can be built by the architects themselves. Additionally, they are usually inexpensive and relatively smaller than permanent structures of a similar kind. In short, they are suitable for exploring architecture in a reduced fashion.[7] He deals with the construction methods, economical requirements and the scales of these structures and states that these structures are a way of exploring the 'new' in architectural practice and discourse.

The definition of the term temporality in architecture is related mainly to the lifespan of the structure, which is quite short in the case of pavilions. On this subject, Moisés Puente claims that the temporary structures have died young, and that their temporary existence does not permit the passage of years. [8] Although there is an inherent downside to the short lifespan of temporary architecture, there are compelling advantages that transcend their period of existence, their impact can be long lasting, they create a memory of architectural practice, project the power of focus, perception, construction, and their inevitable destruction forms a part of their relevance. Moreover, the power of the experience of a pavilion lends importance to its evaluation and effect, as well as its meanings, thereby diminishing the relevance of its temporary nature.

Having been designed at various scales such as exhibition complexes, pavilions have served as testing grounds for innovative solutions, instruments and materials through the implementation of the latest tendencies in architecture. Exhibition has an important role both at a local and global stratum, and despite the fact that, temporary structures serve their purpose for a relatively short term, they usually have the potential to draw the attention of the press and the wider public. They can receive both complimentary and critical remarks, and may also be disputed or disapproved.

Pavilions are designed and constructed in a wide range of locations. These temporary architectural practices reach more and more audiences, by which architects are provided with a good basis for the architectural discourse of 'temporality' in architecture. There are observed mutual relationships between the audience and the pavilion, the pavilion and the context, the architect and the pavilion, and the last but not least; the architect and the public, and these relationships are the most significant aspects of pavilion design because they determine how the pavilion presents itself.

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[7] Sarah Bonnemaison and Ronnit Eisenbach. Installations by Architects. New York:Princeton Architectural Press, 2009, pp. 14.

[8] Puente. op. cit., pp. 8.

In architectural discourse, transitory structures have the power to create awareness by defining the space in which they reside, which is linked in a complex manner to their context. These temporary structures are the first examples of their kind that may be constructed more widely in the future. They have the potential to make an effective connection to the environment and space, and to have a greater connotation with architecture that more complex contemporary buildings cannot.

Hans Ulbrich Obrist, the director of international projects of the Serpentine Gallery, mentions that many essential inventions of architecture come from temporary pavilions or exhibitions. He supports his thoughts with examples such as Mies van der Rohe's Barcelona Pavilion (1929), Alvar Aalto's Finnish Pavilion for the World Exhibition in Paris (1937), Le Corbusier and Iannis Xenakis' Philips Pavilion at the World Fair in Brussels (1958), and Buckminster Fuller's Geodesic Dome for the American National Exhibition in Moscow (1959) that can be considered as part of the unwritten history of 20th century architecture.[9] However, they are not permanent structures; they have to be somehow seen as part of the cannon. Although, the structures are not meant to stand eternally, experiments can also happen. The unusual thing with the Serpentine Pavilions is that even though these structures are evaluated in the case of temporary architecture, the series of the pavilion design has been continued.

Julia Peyton Jones, the director of the Serpentine Gallery, claimed that the renovation of the gallery was her first experience of working with architects and it was in some ways different from working with artist. It was exciting and it absolutely had to be part of the future of the Serpentine Gallery.[10] Jones adds that the temporality has always been the part of the program of the Gallery since the exhibitions are up for few days. When it was asked to Zaha Hadid to design a summer pavilion, the first pavilion would resolutely be the example of future architecture. This series of the Serpentine Gallery Pavilion design can be the examples of international architectural experimentation site, while working with acclaimed architects and design teams for the first time in England with the invitation of the Gallery.

Great importance is attached to investigate the possibilities of temporality versus permanency in architecture to show how a temporary structure accomplishes the requirements of the architectural design and program, and the primary objects of reference of the inquiry are the Serpentine Gallery Pavilions from 2000 to 2012. The aim of this thesis is to recognize the architectural significance of these temporary structures, and to question their roles in architectural practice and discourse. For that, it is necessary to examine the architectural qualities, methods and materials of these pavilions, from which the main architectural tendencies are determined, the influence of which can also be reflected on future architectural design.

In this thesis, there are numbers of specific reasons for dealing with Serpentine Gallery Pavilions: First, the pavilions have been designed annually since 2000, and have been maintained on the assumption that this yearly continuity provides a platform for discussion on the concept of 'temporality' in architecture. Second, the documentations of these pavilions also offer a cumulative knowledge on pavilion design. Third, the gallery's committee selects the designer of the pavilion among internationally acclaimed architects,

[9] Philip Jodido. Serpentine Gallery Pavilions. Spain: Taschen, 2011, pp.11.
[10] Ibid., pp. 09.

and each architect deals with the subject of temporality, through their own unique approaches and perspectives. Fourth, the choice of the city for this investigation is captivating, in that London is a city in which universal expositions have been held regularly since 1851, and which has gained a reputation as a locality for the international exchange of architectural experiments, ideas, products and technologies.[11]

1.1 Serpentine Gallery and Pavilions

The Serpentine Gallery is located at the west of the Long Water in Kensington Gardens, Hyde Park, in Central London. It was built in 1934 and had been used as a tea pavilion until 1970, after which the gallery was established by the Arts Council of Great Britain, and since that time it has been used as a showplace for the exhibition of contemporary art.

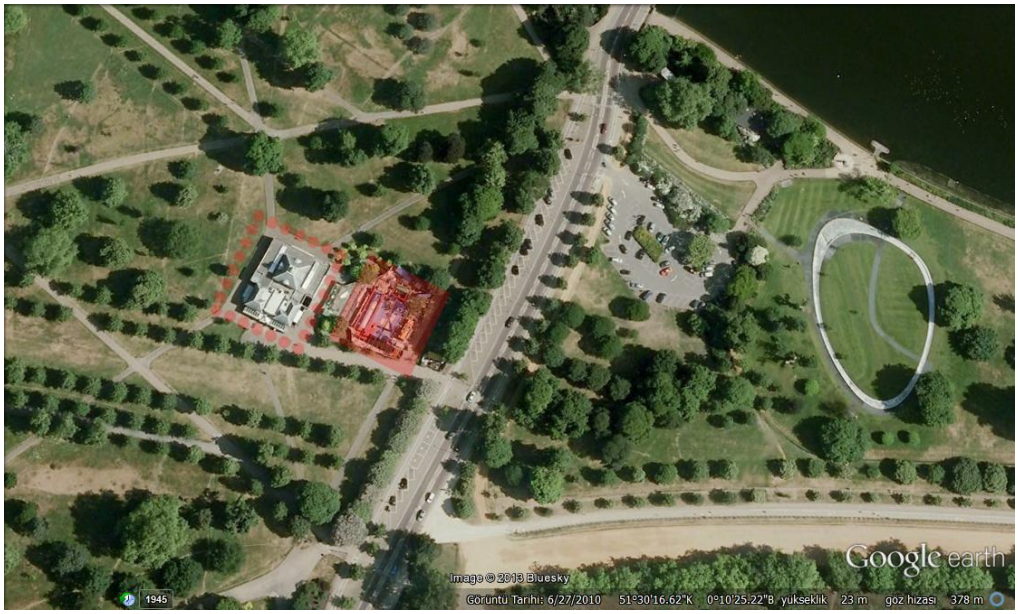

Figure 1 The Site of the Serpentine Gallery.
The photograph is taken from the Google Earth view.

In its first year, the public had only limited access to the gallery during the summer months. Julia Peyton Jones, a Londoner artist, painter and lecturer in fine art at Edinburgh College of Art, was appointed as director in 1991, and in 1997, the owner of The Serpentine Gallery, the Princess of Wales, organized a gala dinner to celebrate its renovation. The commission of the gallery wanted to build a structure that reflected the exhibition program, however the budget could stretch only to a ready-made tent. The commission invited Zaha Hadid to come

[11] Zeynep Çelik. Displaying the Orient: Architecture of Islam at Nineteenth-Century World's Fairs. Berkeley: University of California Press, 1992, pp. 1.

up with the solution, believing she would design for the future of architecture and be able to mirror what the Serpentine stood for.[12] Since then, the commission of the gallery has included not only artists, but also architects for the organization of the series of annual pavilions. The success of the first pavilion and exhibition led to the quest to repeat it, and while consolidating the originality of the phenomenon and keeping to the parameters of the first pavilion, the committee has reached out to reputable authorities in the field of architecture to accomplish the goals that could endure beyond the transitional existence of any chosen pavilion. [13] The curator, Hans Ulrich Obrist, is a contemporary art curator, critic and historian of art, and was appointed as co-director of exhibitions and programs, and the director of international projects in 2006.

Figure 2 Serpentine Gallery, London.
Photographed by the author, London: May 2011.

The pavilion committee is made up of people from every department. The project directors are Julia Peyton-Jones and Hans Ulrich Obrist who represent The Serpentine Gallery; Julie Burnell, a member of the Gallery, is the project leader of the pavilion programs; the organizer of the project is Rebecca Morrill, while Alexander Dietrich and Bernard Franklin, employees of Bovis, are the project managers. The project advisory committee is made up of representatives of different departments; Lord Palumbo, the chairman, is on the Serpentine Board of Trustees, as is Zaha Hadid, an architect; Peter Rogers, who works for Stanhope, is the director, while Cecil Balmond, who works for Arup Fellow, is the deputy chairman. Mark Camley, Colin Buttery, Tom Jarvis and Simon Betts, who all work for Royal Parks Agency, are respectively the Chief Executive, the director of parks, the estate manager and the park superintendent. The Westminster City Council Planning Office supports the projects, and Hassan Lashkariani, who works for the Westminster City Council District

[12] Jodido. op. cit., pp. 10.
[13] Jodido. op. cit., pp. 10.

Surveyor's Office, works in the field of building control; and Jenny Wilson, who works for Westminster City Council, is a Licensing Authority. The London Fire and Emergency Planning Authority contribute and support the project, while the London Region, English Heritage and Friends of Hyde Park and Kensington Gardens have an advisory role.

The committee has been organizing the program of temporary structures, which have been designed each year by internationally acclaimed architects and designers since 2000. The criterion of the choice of architect is related to the significance of his/her contribution to architecture by means of the uniqueness of his/her architectural style. This series of architectural fairs can be considered as a global 'architectural experimentation' site, showcasing the work of foreign architects and design teams for the first time in England upon the invitation of the Gallery. The annual exercise of creating a blueprint of the pavilion and the subsequent erection of the structure is not an open-ended affair, as there are pre-requisites that are to be strictly adhered under the observation of the curators. The pavilion is to serve as a much needed 'a café' for summer events and its existence is limited to a three-month. There is a maximum allotted period of six months, from invitation to completion, which is so temporary that it may cast doubt on the significant embodiment of such an edifice in the mind of the layman, and the budget is limited to approximately £750.000 (about 2 million TL). However, the allocated moderate funding does not in any manner play down or diminish the enduring reputation or impartation of the pavilions. Finally, the space allotted for the pavilion may be considered generous in comparison to contemporary structures, with an overall site minimum allocated area of 300m[214].

In 2000, Zaha Hadid designed a triangulated steel frame structure for the first of the Serpentine Gallery Summer Pavilions, and was the first display of her architectural creativity in London. A trustee of the gallery, the committee invited Hadid to design a temporary structure for the Gallery's 30th Anniversary Gala Dinner in 2000. The structure was intended to stand only for one day and would be opened to the public; however, in the end the pavilion remained open to the public from 19 June to 3 September, 2000. The next year was followed by a folded band aluminum structure named as 'Eighteen Turns,' designed by Daniel Libeskind and Cecil Balmond. The gallery committee chose Daniel Libeskind for the design of the second pavilion in 2001, with the structural engineering design carried out by Arup. The pavilion was open from 17 June to 9 September, and was designed to provide infinite accessibility between the gallery and the landscape.

The third pavilion was designed by Toyo Ito and Cecil Balmond in 2002, while Arup came up with the engineering and specialist design solutions. The pavilion was opened to visitors from 15 July to 1 September. Followed the next year by the design of Oscar Niemeyer and José Carlos Sussekind selected, and after initially declining the project, he was eventually persuaded to submit his design after Julia Peyton Jones, went to Rio to meet him. He designed the pavilion in collaboration with engineer José Carlos Sussekind, and Arup, Cecil Balmond's engineering team, did the structural analysis of the pavilion. The pavilion was opened to the public from 20 June to 14 September in 2003.

'Artificial Mountain' was designed by MVRDV in 2004, however technical and economical restrains prevented its construction. This pavilion was unique in that it incorporated the

[14] Rem Koolhaas and Cecil Balmond. Serpentine Gallery Pavilion 2006. London: Serpentine Gallery, 2008, pp. 5.

whole pavilion concepts since its inception. The design was never built, and remained only on paper; although MVRDV re-invented the concept of a pavilion with their radical scheme. The next year's pavilion was designed between11 April and 30 June 2005 by Alvaro Siza, Eduardo Souto de Moura and Cecil Balmond, with a structural analysis carried out by Arup that based on an animal skeleton form. The pavilion stood between 2 July and 2 October on the lawn of the Serpentine Gallery.

'Cosmic Egg' was designed by Rem Koolhaas and structural designer Cecil Balmond, while Arup carried out the structural engineering of the project. The pavilion was constructed between 8 May and 4 July and opened to the public between 13 July and 15 October, 2006. Since Norwegian architect Kjetil Thorsen and artists Olafur Eliasson were unable to their design to schedule, Zaha Hadid was invited to put forward a second design (having created the first pavilion in 2000), which she did in a collaboration with Patrik Schumacher, together coming up with 'Lilas'. The consultant in the structural project was Arup, and the pavilion stood on the lawn of the Gallery between 12 and 21 July, 2007.

Norwegian architect Kjetil Thorsen, founding partner of the Norwegian architectural practice Snohetta, worked in collaboration with Danish-Icelandic artist Olafur Eliasson to create the second 2007 pavilion that based on a spiral ramp. Arup again lent assistance to the engineering of the pavilion, which stood from 24 August to 5 November, 2007.

The 2008 Serpentine Pavilion, designed by Frank Gehry, was a timber structure that heralded the architect's first collaboration with son Samuel Gehry. The design of the pavilion was started in January and finished in May, construction took place between May 7 and July 11, and the pavilion was opened to the public between July 20 and October 19, 2008. Arup and Cecil Balmond carried out the engineering design and structural analysis of the pavilion.

Japanese architectural practice Sanaa was invited to design the 2009 summer pavilion; the pavilion was designed by architects Kazuyo Sejima and Ryue Nishizawa, who worked in close cooperation with engineers Cecil Balmond and Arup. The Pavilion stood on the lawn of the Serpentine Gallery's from12 July to 18 October, 2009. Followed the next year by French Architect Jean Nouvel, who designed 'Red Sun,' in 2010 based on Nouvel's use of red to complementary the green of the surrounding park. The pavilion opened on July 10, and was opened to the public until 17 October, 2010.

'Hortus Conclusus' was designed by Peter Zumthor in 2011 with the concept of creating a contemplative room, or a garden within a garden that was created by Dutch garden designer Piet Oudolf. Arup provided all the specialist technical services and engineering support for the structure, the construction of which was completed on 27 June, 2011. It was opened to the public from 1 July to 16 October, 2011.

The commission of the Serpentine Gallery asked to Pritzker laureates Herzog & de Meuron and Chinese artist Ai Weiwei to design the 2012 summer pavilion, who elaborated on the conceptual archaeological excavation of the ground and the remains left behind by the past structures. The collaboration was based on pre-recorded video messages, since Ai Weiwei was prohibited from travelling outside China. They considered the archaeology to evoke memories of the past, when designing a 12th pavilion of the Gallery. The pavilion was opened to the public between 1 June and 14 October, 2012.

Investigating the series of these temporary structures, they have a crucial role to understand the boundaries, relationships and definitions of temporary architecture. Each architect redefines and designs his/her own temporary architectural structures while dealing with the same program and context. Architect can ignore or change the necessities of program and rewrite his/her architectural program with the concept of temporality in terms of these architectural practices. The perception of the ephemeral structures can be varied such as enclosed/open space or architectural building/installation. The material, method and concept of the temporality can be changed based on the design of pavilions, but the architectural program is the same that design a summer pavilion for three months limited time. The production of architectural space is realized in terms of the transitory and can be varied based on the differences between the perceptions, the definition of temporary architecture, and the concept of temporality in architecture, and the material and method of the architect. These structures are claimed to be crucial for interpreting new and different consciousness of architectural practices.

This thesis has five chapters and discussions: first is the introduction part with the investigation of the permanent and temporary qualities of architecture including conceptual framework, sources and promises of the thesis; second is defining 'pavilion' as the production of experimental architecture in terms of its new materials and methods, representation of the future architecture and reinvention by each architects ; third is redefining the possibilities and boundaries of temporary/permanent architecture; forth is how these pavilions represent itself and the last one is generating a discursive environment both on pavilion design and temporality of architecture. This thesis concerns with these pavilions to re-question the boundaries of temporary architecture.

CHAPTER 2

EXPERIMENTAL ARCHITECTURE

Since the Great Exhibition was organized in London in 1851, the field of exhibition design has been made a noticeable impact on architectural discourse, research and practice. The domain of architectural design is related to practical issues as planning, conceptualization of structures, function and accessibility; but also the demands of users, including comfort, safety and adaptation. 'Experimental Architecture' has grown as a movement in architectural research, discourse and practice, as a subject that deals with the experimentation of new concepts, new methods and new materials. It operates outside the established rules and classifications of 'problem-solving architectural design activity', and is less concerned with the constraints of engineering than in searching, experiencing and opening new possibilities, and understanding what the future holds for space design.

2.1 Materials-Methods

Architectural practice and discourse are enriched by experimenting the new materials and new methods, and this thesis suggests that pavilion design can be considered as a new laboratory for experimentation in architecture. This suggested critical position of pavilion design can be considered as the conceptual base from which experimentation in architecture can be launched, in terms of both materials and methods. Also open to discussion is the role of the architect in changing the more familiar thinking of architecture, which is largely dependent on the architect's perception and how he/she applies it to the design process. An architect's choices of materials and methods can be a key to the creation of opportunities and the setting of limits in architecture.

Moreover, temporality is related mainly to both limitations and experimental opportunities. These relationships provide an architect with a fresh medium in which 'new' possibilities in architecture can be experienced and explored through new ways of building. This experimentation and exploration can change, depending on the interpretation of the architect. Zaha Hadid, a highly creative architect, was interested in temporality of semi-closed spaces, and defined her pavilion as a public space that could not be separated from the park, so there

were no rigid boundaries. The 2000 Serpentine Gallery Pavilion made use of the simple and rapidly demountable materials, mirroring its temporality. When the committee asked Hadid to design the pavilion, her first notion was to reinvent the idea of 'a tent or marquee' based on a triangulated planar and angular roof. The folded form of angular planes extended to the ground, creating an illusion of solidity, while at the same time providing a variety of internal spaces. The balance with solid and void provided, quite literally, a continuous space between the pavilion and the park. The solid element was created by using white textile material that made the pavilion significant on the lawn, and the lateral surfaces were covered with transparent PVC that invited visitors to experience the space, with the choice of transparent material aimed at evoking public space. Although the budget was limited to the design of an improved tent, Hadid's pavilion had a significant impact on architectural discourse[15] in London.

Zaha Hadid's experimentation recalls an earlier explanation of Le Corbusier. As the title 'Architecture: The Expression of the Materials and Methods of our Times' suggests, Le Corbusier's focus was on the question, 'Is architecture not determined by new materials and new methods?', dwelling on the change and development of materiality and methods.[16] Claiming that this was in the fact the case, Le Corbusier complained about the reproduction of past architectural styles and techniques. At any given time, architectural practice should be an expression of the present circumstances, not a belated incorporation of past architectural endeavors.

> 'We still permit our houses to lie close to a damp and unhealthy ground. We are still discussing whether or not our houses are to have roofs, while roof gardens bring health, joy, and an upheaval of plan replete with magnificent liberties. We are still building our houses of stone, with massive walls, while light and slender cars are speeding at sixty miles an hour through snows or under the tropical sun. We are still employing masons and carpenters on the job, to work in rain or snow, or fair weather, while factories could turn out to perfection that which we accept poorly executed. And so forth and so on.'[17]

In accordance with this statement, Le Corbusier asked how architects were to adapt so many innovations into their works today, how they were to select unknown forms of construction for their buildings and how they could arrange architectural phenomena to introduce something new and aesthetically innovative. As he stated above, it is time to think about the 'new' in architectural practice and discourse, being an undeviating advocate of temporality of forms, design, practices and discourse in the discipline. As such, architecture should be 'an endeavor innovative progressive rather than a dogmatic adherence to past prerequisites and set methodologies'[18], and in the judgment of Le Corbusier, the place of pavilions in this context would resonate positively. The architectural community can attach more serious and

[15] There are several acclaimed architectural magazines that have given space to these temporary pavilions, including Architectural Review, Architectural Design, A+U, Detail and Architectural Record.
[16] Le Corbusier, Edited by William Braham and Jonathan A. Hale. 'Architecture: The Expression the Materials Methods of our Times?'. Rethinking Technology. The United States of America and Canada: Routledge, 2007, pp. 39.
[17] Ibid., pp. 40.
[18] Ibid.

objective considerations to the relevance of temporality in architectural discourse, as exhibited in the case of pavilions, initially through the materiality and methods of architectural practice. Such experimentation can open up new fields and visions in architectural thinking.

As claimed by Le Corbusier, contemporary architecture should contain innovations and new forms of construction, as well as a aesthetical perception. Learning mostly from the similarity of the 1930s, Daniel Libeskind has explored new materials and methods of the present circumstances as an expression of experimentation in architecture. Libeskind delved into his interest in folding techniques, when designing the 2001 Serpentine Pavilion, being influenced by origami and adopting the same principles in his folded structures. He used bare aluminum panels as the main material, given its ability to be formed and folded, and also took advantage of reflected light creating light reflections through the design of the aluminum panel structure. The structural durability of the folded structure came from its own being, since each folding aluminum panel was supported by a structural load-bearing frame. The architect achieved strength through the use of such simple forms as triangles and rectangles, although the outcome of the complete design was complex and unorthodox. The pavilion was named 'Eighteen Turns' referring to the 18 folds in the structure. The use of angled metallic surfaces offered an exploration of both the inside and outside as an integrated space, blurring the boundaries between two spaces. There were no walls in the pavilion, allowing its true structure to be observed. Libeskind stated that although the pavilion would disappear, it would leave an unforgettable afterimage and a great resonance on a unique space.[19] He also claimed that the pavilion design provided an experimentation and exploration of the place for each situation: before the pavilion, at the present time of the pavilion and after the pavilion. Underlining a long lasting effect on the place where these temporary structures stood, they can incorporate the methods and materials of future architecture and create both a physical and aesthetic impact on a neighborhood or city with a new vision of architecture.

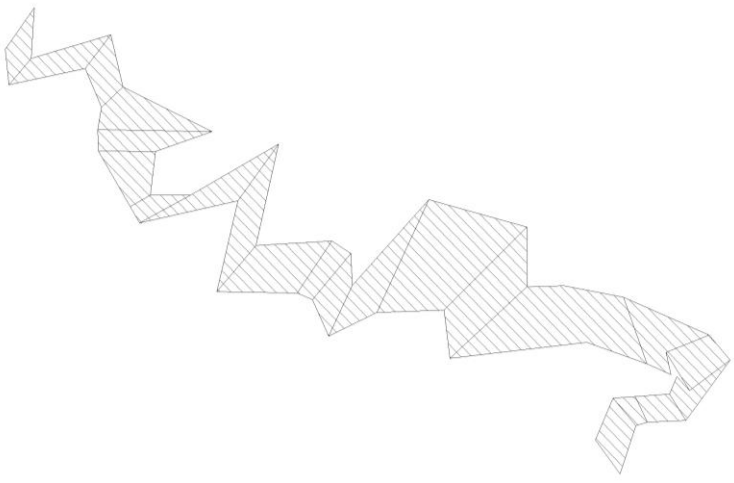

Figure 3 Illustration of a folding process.
Diagram of Daniel Libeskind, reproduced by the author.

[19] Jodido. op. cit., II.06.

> ‘Temporary structures like Eighteen Turns are great additions to our parks and cityscapes because they can be put up and taken down quickly while offering us adventurous, alternative and even radical impressions of what a new architecture might be. It still takes a degree of experience and imagination to read architectural drawings and to gauge from a model the physical and aesthetic impact that a new building might have on a town or city, no matter how accurate and dexterously realized the model.’[20]

According to architectural critic and writer Jonathan Glance, the Serpentine Pavilions form a fabulous relationship between the park and the city, and claims that the 2001 pavilion introduces a new architectural style. Many articles have been written about these pavilions, not only in books and magazines, but also in daily newspapers, and the temporary structures invite the public and architects to both experiment and explore new architectures.[21] This pavilion has not only impacts on its context, but also on the contemporary architecture and its discourse. Architectural historians and critics have written and argued about this structure, since its experimentation of method could be the key to new architectural practice and thinking. The pavilion also provided both on public and architect to explore and comment on these temporary architectural practices.

The architects of the Serpentine Pavilions explore the boundaries of experimental architecture and the interpretation of temporality through their designs. An investigation of these pavilions can help in understanding creativity in architecture, since the architect can re-experience new materials and methods through these temporary structures. Architect and critic Mark Robbins stated that the installations are distillations of experience in architecture.[22] The architect can gain experience in terms of new material, method and techniques on building performance because the period of use and construction are limited; moreover, a limited budget forces the architect to create a work of clear-cut expression.

The limited nature of these temporary structures can be transformed into a creation of opportunities. The pavilions are designed to explore ideas through a time-limited design process, while the limited budget forces the architect to find new approaches to the temporality. For instance, in 2002, Toyo Ito transformed a conventional grid system into an algorithmic grid, which was derived from the rotation of a square. Ito experienced the principals of the algorithm, while designing the structure of the Serpentine Pavilion. He defined the structure of the pavilion as ‘the structure as an episode or a specific moment in a serial process, the structure as a footprint or trace, the structure as the application of an algorithm and, in general, the structure linked to a mobile sense of geometry’.[23] The main intention with the pavilion was to create column-less architecture, which he described at the same time as both architecture, and non-architecture. Like more familiar architecture, the pavilion offers space, but without conventional architectural elements such as columns,

[20] Jonathan Glancey. “All the Angles”. 2001. http://www.guardian.co.uk/culture/2001/jun/18/artsfeatures.arts (Accessed 11 February 2013)
[21] Jodido. op. cit., pp. III.06.
[22] Bonnemaison and Eisenbach. op. cit., pp. 14.
[23] Toyo Ito. Mobile Sense of Geometry and Algorithmic Chance “Beyond Modernism, Beyond Sendai: Toyo Ito’s search for a new organic architecture”. Croquis, No. 123, 2004.

windows or doors. At first glance, the pavilion is perceived as a plain white cube consisting of random intersecting lines. Examining the design process reveals that the form of the pavilion was determined by an algorithmic rotation of a square, with the rotation style deformed into kind of square patterns, which were referred to as an irregular spider's web of lines. Ito's pavilion was produced from a deconstructed and rotated cube, with the multiple triangles and trapezoids, formed by intersecting lines, and clad in transparent and translucent panels, from which the pavilion emerged, out of the balance between solid and void.

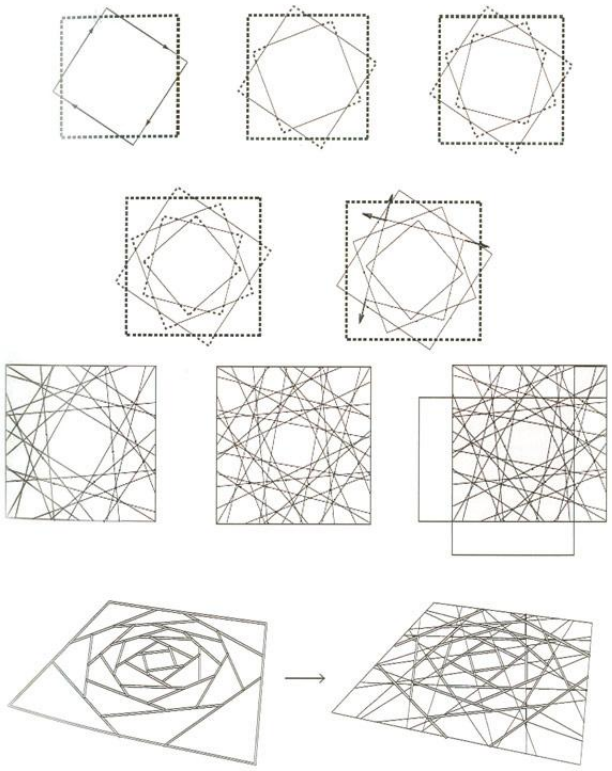

Figure 4 Illustration of the algorithm.
Source: Universidad de Sevilla 21 August 2013 <https://htca.us.es/blogs/perezdelama/>

Giles Arthington Worsley, English architectural historian and critic, asserted that Ito had been inspired by the solid white box ideal of Modernist structures, and almost de-materialized it.[24] He used the basic white cube, but dissected it with random straight lines, created by feeding algorithms into a computer. Approximately half of the spaces between the lines were filled with solid panels, while the others were left as glass-filled voids. Ito's cube contained a hint of a new vision for future architecture, making suggestion of what was to come.

[24]Giles Arthington Worsley. 'Opening up a box of delights'. 2002.
http://www.telegraph.co.uk/culture/art/3580220/Opening-up-a-box-of-delights.html (Accessed 11 February 2013)

Temporary structures may offer evidence of what is to come in future architecture, even if the architectural project is realized or not. The design process itself may have powerful impact on architectural practice and discourse, so the experimentation is not only related to the end product. MVRDV's design stands as a significant example of this statement in their reinvention of the definition of 'pavilion' for the Serpentine Pavilion in 2004, although it was never built, since it was extremely challenging in terms of budget, complexity of construction and disabled access. They designed an artificial sky within a galvanized steel structure under which to the entire Serpentine Gallery was to be buried, which was an inspiring departure from the idea of a more-or-less-pretty object standing on a lawn. The pavilion was to be over 23m high, resembling a giant three-dimensional lobby, and would have been the tallest of all Serpentine Pavilions if construction had been completed. MVRDV explored new methods for exhibiting the Gallery within the pavilion. In their design, MVRDV experimented with the materials and configuration not just of buildings, but also information systems and data, as a continuous exchange of space and material in contemporary architecture. To form a stronger relationship between the pavilion and the Gallery, they preferred not to design an extra structure, but rather to make an extension to the Gallery, according to which the pavilion could not be physically separated from the Gallery.

> 'MVRDV has shown a boldness to explore materials and configuration not just of buildings but of information systems and data, how one becomes the other, and in architecture the contemporary being a continuous exchange of space and material - a perfect answer to the Serpentine Pavilion in the park.'[25]

Figure 5 Section of the Serpentine Gallery Pavilion of MVRDV.
Source: ARKIV 21 August 2013 <www.arkitera.com>

[25] Cecil Balmond. 2004. http://www.architectenweb.nl/aweb/redactie/redactie_detail.asp?iNID=3544 (Accessed 11 February 2013)

Cecil Balmond, Deputy Chairman of Arup, said that MVRDV's project had been an exploration of new materials, forms and methods in architectural practice, and a research into information systems and data. Even though, the project was not realized, it raised many debates and had a major impact on architectural discourse. Julia Peyton-Jones stated that the unrealized project was no less valid than those that had been built, underlining the fact that there were financial realities to contend with in 2004 that prohibited the construction of MVRDV's design.[26] She emphasized the powerful role of the pavilion for experimental architecture, whether the project was realized or not. Still, this unrealized pavilion made a significant impact on both architectural discourse and practice.

The temporality not only relates to the impacts on the architectural discourse and practice, but also permits to comment on and critique new possibilities in the field of architecture. Temporary structures offer freedoms to experience the 'new' in architecture. As an example of this statement, Rem Koolhaas designed an inflatable structure for the 2006 Serpentine Gallery Pavilion, with the main architectural objective being to create a dome. Koolhaas named the pavilion as 'Cosmic Egg', since the curvilinear form of the pavilion could be altered to suit the required conditions. He aimed to achieve lightness by using new materials in an innovative way, and sought to redefine the term 'pavilion' through collaboration of materials and space that was based on air. He also explored the potentials of 'inflatable' structures. The balloon would rise in fine weather, allowing air to circulate in the interior, but would fit within the walls when the weather was colder. That pavilion was designed to accommodate a number of different activities and events, since the size of the internal space could be adjusted through its own inflatable structure. This design could be considered unique on the strength of its changeability of form depending on the activity and weather conditions. Assessing such inflatable structures, Sarah Bonnemaison and Ronit Eisenbach mentioned that they could be built and erected quickly, and that the curvatures of air-supported structures challenge the linearity that is the mainstream of Modernism.[27] This pavilion was distinguishable from the other Serpentine Pavilions due to the curvature of its roof. The architect was also interested in the temporary conditions of the pavilion, which was determined by the balloon, and which allowed an experiencing of the changeable borders of the space.

[26] Steve Rose. "The gas ceiling". 2006. http://www.guardian.co.uk/artanddesign/2006/jul/03/architecture (Accessed 11 February 2013)
[27] Bonnemaison and Eisenbach. op. cit., pp. 19.

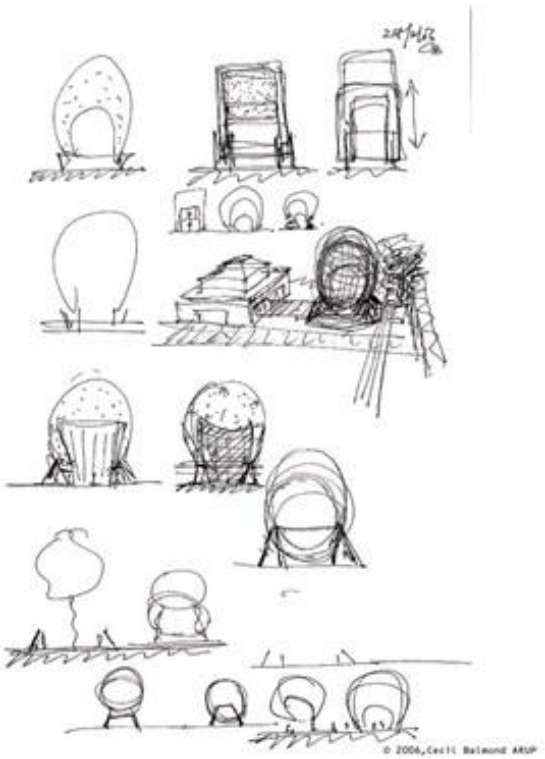

Figure 6 Sketch of the Serpentine Gallery Pavilion of Rem Koolhaas.
Source: OMA 21 August 2013 < www.oma.eu>

Architects can use temporary structures as laboratories for new approaches that have never been attempted or achieved in architectural practice. For instance, Frank Gehry sought lightness as something he had never attempted or achieved in his previous works, and he was further inspired by Leonardo Da Vinci's catapult design. The pavilion was a complex network of overlapping glass planes, creating a multi-dimensional space. The main challenge in this project was the creation of a structural system to support the nine canopies that formed the upper part of the pavilion, which were set at different heights and angles. The pavilion was made of uncovered timber, a material that referred to the Catapult of Leonardo Da Vinci. The use of timber in the pavilion allowed the architect to experiment with both the direction of the grain and its elasticity and strength, with the intention being to exhibit its great technological potential as a prime material for the future of architectural methods.

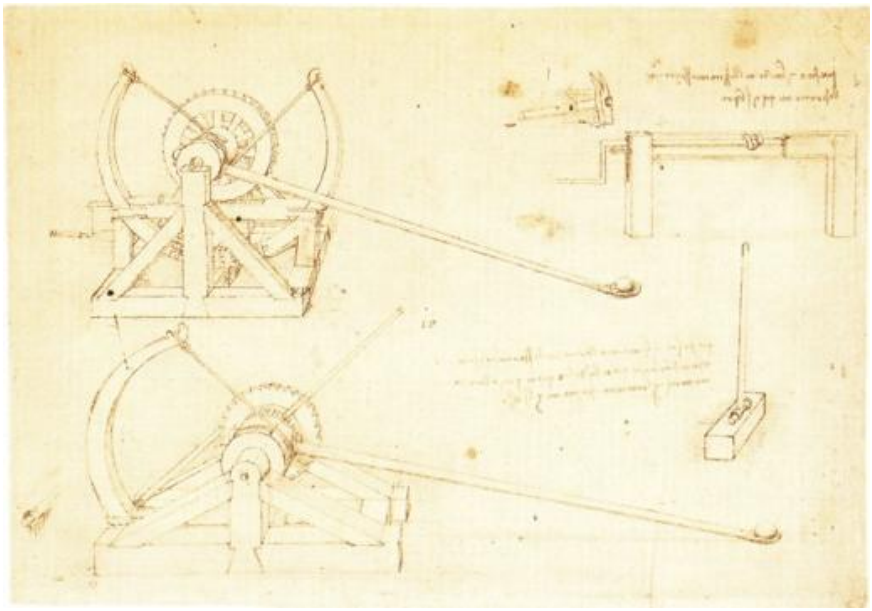

Figure 7 Sketch of the Leonardo Da Vinci's Catapult.
Source: Pathfinders 21 August 2013 < www.pathfindersdesign.net>

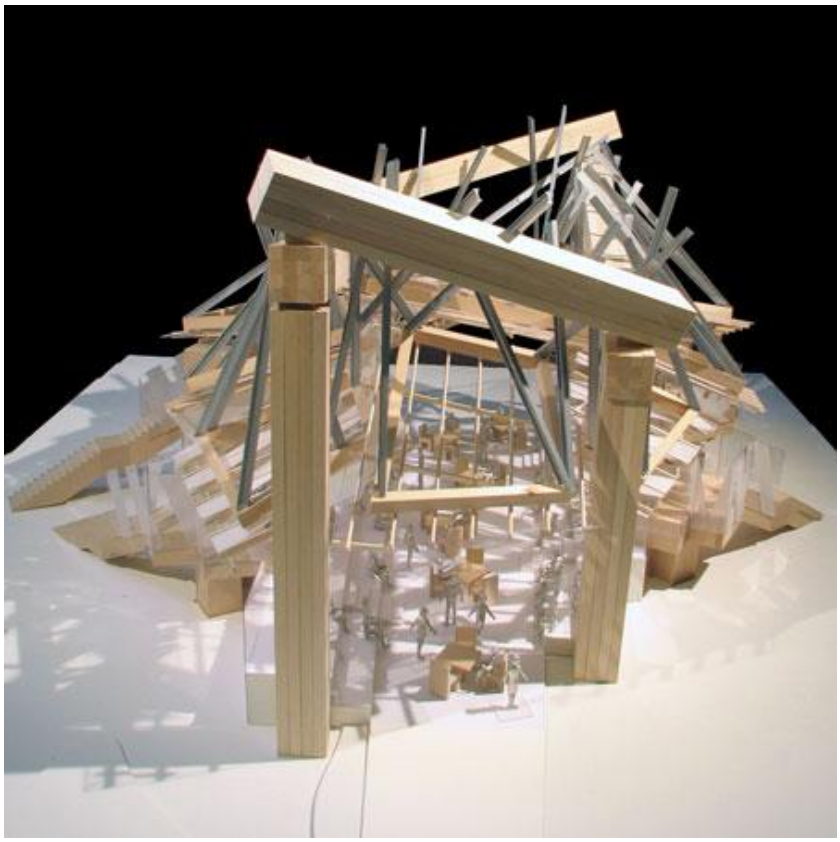

Figure 8 Model of the Serpentine Gallery Pavilion of Frank Gehry.
Source: DEZEEN 21 August 2013 <www.dezeen.com>

The materials used for the pavilions can also be a key to future architectural methods and innovations and new ways of architectural practice. Temporality can be reexamined and redefined in terms of durability, reusability and resistance. The materials of the 2010 Serpentine Pavilion can serve as an example of the interpretation of temporality. Jean Nouvel intended to highlight the temporality of the structure, and so chose using softer materials, such as red plastics and vast expanses of clothing in his structure. Jean Nouvel gave the name 'Red Sun'to his pavilion, based on his consideration of the color red as alive, provocative, forbidden and visible, and mirroring many things for which London is known, such as buses and telephone boxes. Nouvel claimed that his primary aim was to invite visitors to experience the complementary pavilion on the lawn with no obligation to interact with it. This pavilion was distinct from the other pavilions, in the architect's use of recycled materials, which was a unique example of environmental sensitivity. With this pavilion, Nouvel re-interpreted 'temporariness' as a material-based use and designed his pavilion with non-lasting materials that could not resist the effects of time. His approach was characterized by a conceptual rigor, rather than by an aesthetic. He focused on the generative process and also the end product, since both of them launched research, analysis and discussion in architecture.

Experimentation can be re-emphasized with research, analysis and discussion in architecture, and can be based on the relationships between architectural concepts, such as those of space and light. It is essential to go back to the1930s, when Le Corbusier claimed that masterly, correct and magnificent plays of masses were brought together in light. Eyes are made to see forms with respect to light, and light and shade reveal the forms of architectural practices.[28] Peter Zumthor, architect of the 2011 Serpentine Pavilion, sought to emphasize the spiritual and sensitive aspects of the architectural experience with his pavilion design, including the pure composition, the materials, the scale and the effect of light. The pavilion was constructed with a lightweight timber frame – a simple prefabricated system clad in sheets of plywood – and was covered in scrim, which was then coated with a black adhesive, since the architect wanted to experience the relationship between the black surfaces, the corridor and the light. Circulation through the pavilion was provided by way of a narrow corridor between the facade and the garden containing openings through the corridor that helped to control the light inside the pavilion. Visitors of the pavilion experienced a gradual progression from light to darkness and from darkness to light.

[28] Corbusier. op. cit., pp. 40.

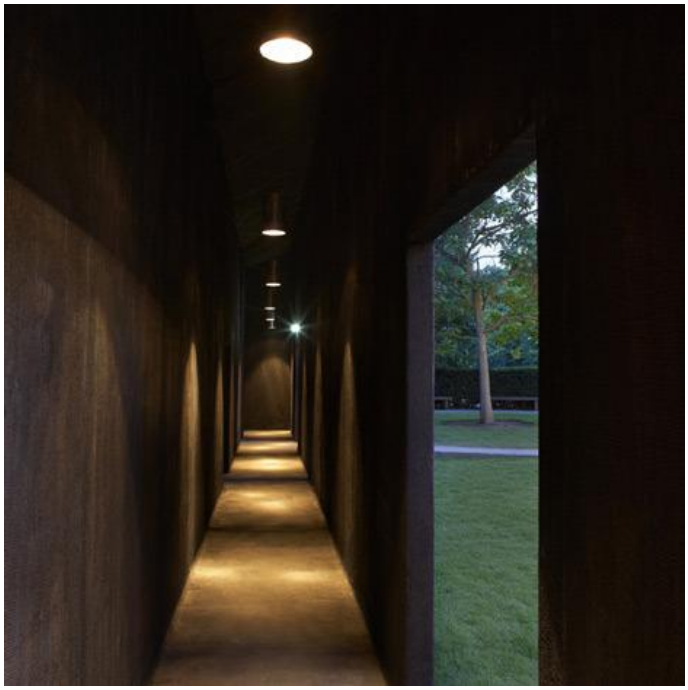

Figure 9 Interior of the Serpentine Gallery Pavilion with Artificial Lighting.
Source: Wordpress 21 August 2013 <intoform.wordpress.com>

Figure 10 Interior of the Serpentine Gallery Pavilion with Natural Lighting.
Source: DEZEEN 21 August 2013 <www.dezeen.com>

Herzog & de Meuron and Ai Weiwei gave a new direction to pavilion design with a new method. Stating that many different shapes and materials had been experienced and built on the Serpentine site, as an alternative approach they dug down to expose traces of the past pavilions as a way of underlining the memory and the past of the Serpentine Gallery Pavilions. The concept of their pavilion was an archaeological excavation of the ground that had hosted the past structures. Like archaeologists, they identified the remains of the former foundations or backfills of the 11 pavilions since 2000, and used their positions for elements of the new structure, and supports and walls as structural elements for the roof of their own pavilion. They extruded a new structure using the foundations of each of the earlier pavilions, which were designed as load bearing elements for the roof of the 2012 pavilion. The 11 columns used in their design represented the past structures, with the 12th representing the current structure. The form of the pavilion was created through the intersection and overlapping of the past foundations. It was not the primary intention with the design to create an object in the park, and so the final product had a very subdued presence. The structure went below ground by 1.5m, allowing the traces left by past pavilions to be observed, revealed and reconstructed. I had chance to experience the 2012 Serpentine Pavilion and I was able to observe the past layers of the pavilion. Cork was used as a covering material in the pavilion, which also referred to the temporality of the pavilion since it deformed some parts. The relationship with lighting was weak, since the structure went below ground resulting in a need for artificial lighting both in the morning and at night.

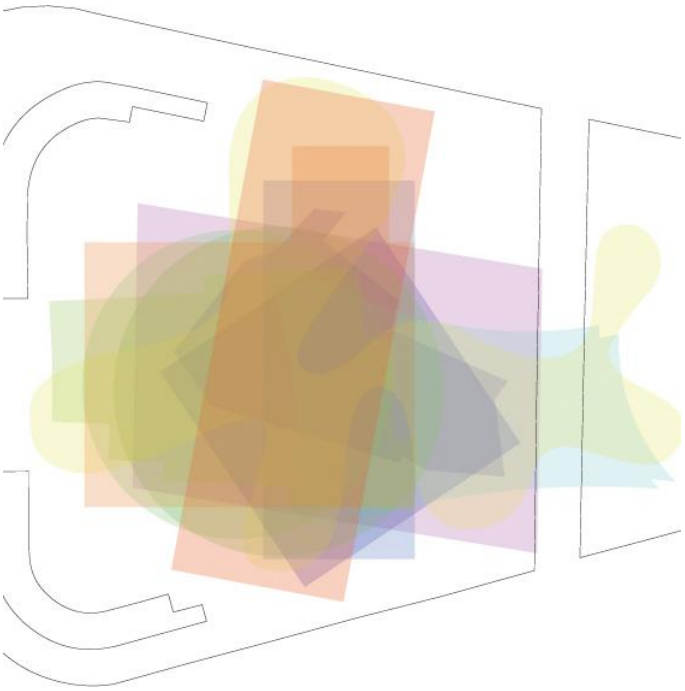

Figure 11 Layers of the Serpentine Gallery Pavilion of Herzog & de Meuron and Ai Weiwei.
Source: Serpentine Gallery 21 August 2013 <www.serpentinegallery.org >

2.2 Representation of the Future Architecture - New Vision

> 'The era of monumental expositions that make money is the past. Today we judge an exposition by what it accomplishes in the cultural field.
>
> Economic, technical and cultural conditions have changed radically. Both technology and industry face entirely new problems. It is very important for our culture and society, as well as for technology and industry to find good solutions. German industry, and indeed European industry as a whole, must understand and solve these specific tasks. The path must lead from quantity towards quality-from the extensive to intensive.
>
> Along this path industry and technology will join with the forces of thought and culture.
>
> We are in a period of transition- a transition that will change the world.
>
> To explain and help along this transition will be the responsibility of future expositions.'[29]

Mies van der Rohe, when opened the German Pavilion at the Barcelona Exhibition of 1929 with this statement, questioned the function of the exposition and suggested that the exposition making money could not be related to the current situation, but that it should be evaluated based on its accomplishments in the cultural field. Today, the exposition must be the laboratory for the identification of new solutions in both technology and industry, as these temporary structures have the ability to change the world, architecture and also the perception of architecture. In this way, future expositions will also be important for architecture, technology and industry in the forming of the future architectural styles and techniques.

While questioning what the future of architecture might be and how their experimentation can be represented, the architects of the temporary structures experience new ways of architecture. This small-scale and time-limited practice can be the key to the future of architectural practice. According to Toyo Ito, designer of the 2002 pavilion, the pavilion is clearly architecture, yet at the same time non-architecture. It offers the minimum function as a space for people, but without the usual architectural elements. The pavilion can be an indication of a new vision of architecture that is to come, serving as a key for thinking about what comes next in the field.[30] The definition and possibilities of architecture change according to the architect, time and context. Ito states that the design of a pavilion, when based on new opportunities and possibilities in architecture, can be a pioneer of a new architectural vision. Ito designed the Serpentine Pavilion based on this statement applying the algorithm formulation into the generator process of his architecture not only for this building, but also for his future architectural practices. The branching design of the Serpentine Gallery Pavilion was a significant stepping-stone, to Tod's Omotesando building

[29] Reyner Banham. Theory and Design in the First Machine Age. The United States of America: The MIT Press, 1980, pp. 321-322.
[30] Jodido. op. cit., III.06.

in Tokyo, Japan in 2004 and the Sumika Pavilion at Utsunomiya, Japan in 2007. Both were also designed based on the algorithm: the first was constructed of concrete and glass, and the second from timber and glass. While designing these three buildings, Ito followed the same methodology with three different materials. These examples offer proof that temporary architectural practices can serve to experience new methods and inspire the architect to design future works based on the same methods.

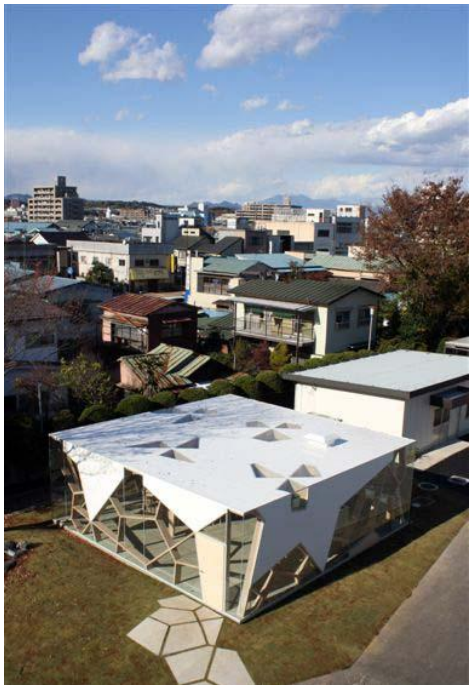

Figure 12 (left) TOD'S Omotesando Building, 2004.
Source: DEZEEN 21 August 2013 <www.dezeen.com>

Figure 13 (right) Sumika Pavilion, 2007.
Source: toyo-ito 21 August 2013 < www.toyo-ito.co.jp >

K. Michael Hays, another exponent of the inherent beneficial elements of temporality, underlines the questions of 'Desire' in his book 'Architecture's Desire,' which he raised under the notion of 'the boundaries of architecture' at the beginning of the first chapter. He criticizes the claim that architecture is fundamentally a research into the possibilities of what is, what might be, and what the references are passed on to future architectural practice and discourse. Architecture is a representation of the verb 'to be,' including not only the past and present, but also the future.[31] Architecture must transcend architectural dogmas, and inquire into the relevant application of the management and explorations of space, circumstance, context and time to meet architectural purposes, and the validity of pavilions would play a significant role in supporting his opinions in architectural discourse and practice.

[31] K. Michael Hays. Architecture's Desire. Cambridge: The MIT Press, 2010, pp. 2.

Pavilion design allows architects to explore new methods in terms of the small-scale temporary structures. These structures are encouraged to find new solutions and innovative ways for designing a 'new' in architecture. Architects can discover future architectural solutions while designing temporary structures. Pavilions, as an example of temporary structures, provide an opportunity for redefining and reinterpreting the boundaries and components of conventional architecture. The pavilion of Daniel Libeskind, Eighteen Turns, was an exploration and experiencing of new methods in the 'folded structure', in which space was generated based on the idea of a band of aluminum folded over and over to create different spaces. It contained no conventional architectural elements, such as windows, doors, walls, roof or floor. The walls, roofs and floors were all formed out of the pavilion's own structural principles and its folded form. The complex folding structure created a balance of both solids and voids that invited the public to explore and experience the new architecture, thus creating a public space through its form and method. Although the aluminum surfaces at first appeared to be enclosed, the folding structure allowed the interior of the pavilion to be explored. The plan and elevations of this pavilion illustrate how basic geometric forms were used for the structure, but generated in complex and irregular ways. Libeskind's pavilion would influence a number of his future architectural practices, including the 18.36.54 house in Connecticut, United States in 2010, and The Villa in 2009. The first one of these was also conceived as a continuously folding ribbon structure of 18 planes, like 'Eighteen Turns', and the sketch of this home was based on his design for the Serpentine Gallery. The building was made of reflective copper and glass planes. The Villa's exterior was clad in zinc and aluminum, with enclosure also provided via glass planes.

Figure 14 18.36.54 House, 2010.
Source: daniel-libeskind 21 August 2013 <www. daniel-libeskind.com >

Figure 15 The Villa, 2009.
Source: daniel-libeskind 21 August 2013 <www. daniel-libeskind.com >

The pavilion design can provide the clues of future architecture and also be a key to the future project of the architect that can regenerate the idea which he/she used for the design of the pavilion and used as a concept. Oscar Niemeyer designed the 2003 Serpentine Pavilion as a summary of his architectural design style in London. He described his pavilion, which was based on a cantilever, as a flavor of everything that characterized his work. At the very beginning of the design process, he imagined something floating above the ground. In exterior, the simple white-and-red formulation was set on the lawn, formed out white curves and red planar surfaces that Niemeyer stated that he was inspired by mountains and women's bodies. His design was based on an integration of the idea on temporality and permanence, working outside the limits usually required by permanent buildings. When choosing the materials, he decided that concrete was not an appropriate material for a temporary structure, but could not give up the idea. The pavilion so looked more like a permanent addition to the park than the previous structures, since it was made of concrete and steel. The red and white combination, and the use of concrete was became the signs of Niemeyer.

His design of the Ibirapuera Auditorium in Sao Paulo, Brazil, in 2005, two years after the Serpentine Pavilion, adopted the same curvilinear forms and white-red combination. Earlier in 1996, he had also designed the Museum of Contemporary Art in Niteroi, Rio de Janeiro, Brazil based on the same idea, incorporating a red ramp, a white mass and a curvilinear form. The 2003 Serpentine Pavilion served as a laboratory for Niemeyer, and would influence his future architectural practices.

Figure 16 Ibirapuera Auditorium, 2005.
Source: worldarchitecturemap 21 August 2013 < www.worldarchitecturemap.org >

Figure 17 Museum of Contemporary Art, 1996.
Source: architectsjournal 21 August 2013 < www.architectsjournal.co.uk >

Christina Lodder claims that the crucial point of these laboratory works is that they are not undertaken for the creation of an end product or for any immediate utilitarian purpose, rather are designed with the understanding that such experimentation may eventually contribute to the resolution of some utilitarian task'.[32] In designing temporary structures, the most crucial thing is the generation process in which the design is explored and experienced rather than the end product. The generator process of these temporary structures is the main part of the

[32] Christina Lodder. Russian Constructivism. CT; London: Yale UniversityPress, New Haven, 1993, pp. 7.

experimentation, while the function of these structures is to facilitate experimentation and exploration, generating solutions for utilitarian requirements. Peter Smithson defines these structures as 'real before the real'[33] acting as a mock-up of the permanent architectural practices and can be interpreted as grounds for the testing of new architectural expressions, constructions, methods, spatial figurations and materials.

Pavilion design can be considered as a laboratory work that is mainly related to the generation process of design, rather than the end product, and the primary aim of this laboratory is to research the temporality and the redefinition of the pavilion. As Smithson mentions above, a pavilion is 'a real before the real' and this process can be used as a reference for future architectural projects. MVRDV explored the boundaries of the steel structure. They sought to create a hill in Hyde Park, conceptualizing an artificial sky within a galvanized steel structure in which the Gallery could be found, like a hidden treasure. They proposed a grass-covered mountain that would encapsulate the gallery. At over 23m in height and covering an area of 2,475m^2, it was the tallest and largest pavilion ever designed for the site of the Serpentine Gallery, although it never came to fruition due to financial constraints and construction complexities. Among these, the pavilion would have required 200 tons of steel, 3-meter deep trusses and a means of growing grass on a 45-degree slope, while there were other restrictions related to fire regulations, access, health and safety. Finally, the cost would have been considerably higher than the previous pavilions. MVRDV's pavilion changed the perspective of what the pavilion could be and how it could be represented. The Serpentine Pavilions had provided perfect solutions to the complex problems of architecture; however, the 2004 Pavilion was unable to be constructed, but did serve as an exercise ahead of the grass-clad giant hill hotel of MVRDV in 2009.

Figure 18 Illustration of the Hotel of MVRDV, 2009.
Source: MVRDV 21 August 2013 < www.mvrdv.nl >

[33] Peter Smithson, Edited by Giancarlo Di Carlo. 'The Masque and the Exhibition: Stages Toward the Real', Language of Architecture: Lectures, Seminars, and Projects. International Laboratory of Architecture and Urban Design, Urbino, Florence: Sansoni, 1982, pp. 62.

In conclusion, experimental architectural design is valuable for the exploration of new creative architectural approaches that may form part of future architecture. It can be developed with researches into the possibilities of the verb 'to be' that represents the past, present and also the future. Experimental design is a key to future architecture, and can influence the world in a way that far exceeds the simple provision of temporary structure types. Temporary architectural practices can influence contemporary architecture and the perception of the architects, in that they make open-minded statements about the role, function and quality of new spaces and these statements may be used by architects in future projects, while also providing conceptual and practical backgrounds both architectural history and discourse.

2.3 Reinvention of the 'Pavilion' by Each Architect

There is no precious definition of what a pavilion is exactly, or how the limitation and the boundary of temporality are represented. As such architects redefine and set up their own rules while designing such temporary structures. Zeynep Çelik explains that expositions have served as laboratories for the experiencing of new architectural forms, compositions, materials, and methods, and indeed, no architectural examples of the late 19th century would exclude the Eiffel Tower or the Galerie des Machines, which embodied the new aesthetics of technology. The Serpentine Gallery Pavilions also reflect the changing tendencies in architecture,[34] and do so with remarkable innovations, leaving plenty of curative marks in the minds of admirers, architects and critics alike.

The pavilion is a way of exploring architectural ideas without the limitations of permanence, and opens new ways for the experiencing of new tendencies for the architects to use in their future architectural practices. The definition of the term 'pavilion' changes with respect to the architect's perception, since the term cannot be defined with any certainly. The architect can redefine temporality through the pavilion based on a re-exploration of space with new materials in an innovative way, and can also experience changing tendencies in architecture through these temporary structures. The goal of Rem Koolhaas, who believed in the power of the pavilion, was not to reinvent the tradition of the pavilion,[35] but to focus particularly on the space of the pavilion. His approach was to redefine the space within a temporary situation, stating that the pavilion can only be possible due to the events and the activities, and that the space is also temporary itself, being changeable according to the conditions. Koolhaas' main intention was to create a dome for the 2006 Serpentine Pavilion, stating that his aim was to achieve lightness in the structure through the use of new materials in an innovative way, and so designed changeable space based on temporary situations. He redefined the term 'pavilion' with the materials he used and the space that he created, and experienced the potentials of 'inflatable' structures, stating that the working principle of the structure was also related to be temporary. He defined his pavilion as being based on experiencing not only the temporary structure, but also the temporary situations of the structure.

[34] Çelik. op. cit., pp. 6.
[35] Jodido. op. cit., VII.06.

Steve Rose, a journalist at the Guardian newspaper, called Koolhaas' pavilion an 'in-between concept,' stating that it was more than an idea, while being less than a permanent structure. He claimed that there was no solid definition of the pavilion, but that its nature made pavilions perfect for experimentation.[36] The 2006 Serpentine Pavilion resulted in a rethinking of the potentials and definitions of the term 'pavilion,' and could be considered as a laboratory for experimental architecture. This pavilion was a unique example of a temporary space in which the structure allowed a changing of the boundaries, size and form.

The architects have redefined and redesigned temporality in architecture with these structures, and although their designs have been based on the same concept, their perception, interpretation and end product have been remarkably different. In 2000, Zaha Hadid reinvented the idea of a tent or marquee in her design of the Serpentine Pavilion. In Nikolaus Pevsner's Dictionary, 'tent' is defined as 'a portable shelter that is a tensile structure erected in place by a membrane stretched tightly and attached to the ground with ropes,'[37] which fits in with what Hadid created, being a fabric-clad triangulated tensile canvas membrane and triangulated steel frame structure. She redefined the idea of a portable shelter through the creation of an airy roof form. The main concept of Oscar Niemeyer's 2003 pavilion was also a reinvention of the 'tent', although his main intention was to design the pavilion without the limitations of permanent architecture. Niemeyer reinterpreted the idea of the tent to the extent that his design could no longer be related to the dictionary definition. Niemeyer's pavilion was based on a concrete structure, and he sought to challenge the permanence of the concrete structure by designing a temporary architecture. This serves to show that the definition of 'pavilion' can change based on an architect's perception, experimentation and approach, even if the concept of the pavilion is the same.

> 'There's the tradition of making pavilions, which in a sense are not real buildings. It's a display-oriented trajectory, from the large exhibitions of 19th century to modern ones like Frieze Art Fair. So, throughout the history of the relationship between the park and the city, between the Serpentine Gallery and the park, between the Serpentine Gallery and the pavilion, we see an ongoing negotiation of what constitutes reality. This determines the degree to which we allow people to understand the potential of this construction as a means to re-evaluate themselves in relation to the surroundings.'[38]

This quote from Olafur Eliasson reveals his thoughts related to the potentials of pavilion design. He clarifies that although the pavilion cannot be seen as a building; it creates a real relationship with its context, and relates to the surroundings. Its relationships can be redefined by each architect, as while each pavilion is located in the same context, each outing exposes itself with a different architectural perception, and the users of the pavilion

[36] Steve Rose. "The gas ceiling". 2006. http://www.guardian.co.uk/artanddesign/2006/jul/03/architecture (Accessed 11 February 2013)
[37] Honour and N. Pevsner. op. cit., pp. 567.
[38] Jodidio. op. cit., pp. VIII.06.

experience the different potentials of these temporary structures with different observations every year.

By redefining the pavilion, one regulates a new relationship between the public, architect, context and the pavilion itself. As Eliasson denoted, Daniel Libeskind was interested in the relationships of the pavilions and redefined the pavilion with its surrounding. Libeskind referred to the pavilion as a means of discovery, claiming that it has a powerful effect on the place on which it stands and leaves an afterimage. He goes on to suggest that the pavilion offers a clue as to what new architecture might be and what may come next in architectural practice and discourse. The pavilion has a physical and aesthetic impact on the space in which it is erected, as a new architecture might have on a town or a city. Designing a pavilion is a way to experiment and explore of new architecture and it offers a new relationship with its context. The 2001 Serpentine pavilion encouraged the public to come and experience it, and the lack of walls made it possible also to experience the pavilion's direct link with its surroundings, penetrating the relationship between the inside and outside of the pavilion, which also provided freedom of movement.

As stated by José Luis Sert in 'On Windows and Walls', the development of new methods of construction and new representational techniques opens the door for a rethinking of the ancient tradition of the relationship between the exterior and the interior through the openings.[39] As the potentials of openings have changed in parallel with technological developments, a new relationship between the interior and exterior components of a structure has been created, and openings in this way serve as a picture of nature from inside to outside or vice versa, the interior s as a picture of an architectural piece. New methods and new technologies represent a compelling force for the discovery of a new way of thinking in architectural discourse and practice. The 2009 pavilion was designed by SANAA as a continuum aluminum cloud over the lawn of the Serpentine Gallery, with the intention being to create a pavilion that provided a continuity of experienced space between the park and the Gallery building. The pavilion resembled a simple floating aluminum roof was drifting freely between the trees, like smoke, forming a continuum roof between the park and the Gallery itself. There was no boundary between the exterior and the interior, as SANAA had reinvented the pavilion based on the integration of these spaces.

Making a further redefinition of the pavilion, Alvaro Siza, highlighting that they are usually designed as an isolated building, desired his pavilion to serve as a link between the park and the Gallery itself. Focusing on the transition of the two spaces, he created a continuous space that, rather than being separated from its context, acted as a connector to the place on which it was erected. His pavilion was designed to blur the boundaries of the park and the pavilion, and regulated these two different spaces as an integration of one public space.

The pavilion can be redefined in terms of its regulation of relationships and also the generation process of the temporary structures. Sarah Bonnemaison underlines that the main goal of an architect is to come up with architectural innovations using new materials, and pavilions are a full-scale mock-up of such an exploration. Temporary architecture might not be an end product in itself, but rather an exercise into the absence of a real building.[40]

[39] Puente. op. cit., pp. 5.
[40] Bonnemaison and Eisenbach. op. cit., pp. 23.

Architects try new representational techniques, and so the pavilions become pioneers of future styles. Searching for a representational image in a pavilion enhances the development of styles and techniques, and due to their temporality, pavilions can be considered as a simple expression of space and materiality.

In this sense, the main emphasis of MVRDV was to explore the potentials of materials and to redefine the pavilion based on the idea that this might not be an end product, as the primary intention was related to generating a process of design. MVRDV conceptualized the creation of an artificial sky by way of a galvanized steel structure, in contrast to the former pavilions, which had all been located on the lawn of the Gallery building. Intending to design a pavilion in an unusual way, they sought to absorb the Gallery into the pavilion, designing it as an extension of the Gallery rather than as a separate structure. The experimentation of MVRDV with this temporary structure was an exploration of the new information systems and data for the generation process.

Julia Peyton-Jones asserts that the Serpentine Pavilion designs are all about exhibiting architecture, and are an experimentation of each architect. When she became the director of the Serpentine Gallery, there were many architects who had never before built in the UK, and whose architectural styles had not been experienced by the British public. This was her source of wonder.[41] The British public might have known Frank Gehry and his buildings, but they had not experienced them, and so the pavilions can be considered as a way of experiencing the architectural products of well-known architects. When Gehry was invited to design a pavilion, he focused on bringing lightness to the structure, which was something he had never before adopted or achieved in his other architectural practices. His pavilion was based on the idea of a hanging structural system, designing a frame that represented the Gallery itself, and achieved the lightest structure possible.

Toyo Ito also developed a concept that he had never before adopted or achieved in previous architectural practices. The main idea behind Ito's vision was to the creation of a columnless structure based on a basic cube. He defined his pavilion as both architecture and non-architecture, since it contained no columns and no conventional architectural elements, and was thus a re-examination of the elements of conventional architecture. His pavilion ignored the limitations of conventional architecture, and provided clues to the potentials of a new vision of architecture for the future.

While the previous pavilions had been designed based on a single level concept, the 2007 Serpentine Pavilion made an exploration of vertical circulation. Kjetil Thorsen and Olafur Eliasson give a new vertical direction to the pavilion concept. The pavilion was a re-conceptualization of the conventional single-level structure, incorporating experimentations with height -as the third dimension. The architects said that, with this exploration, people would able to experience the construction and reevaluate themselves in relation to the park and Gallery.

Many reinventions of the term 'pavilion,' have been manifested in the designs of the Serpentine Pavilions. The 2012 Serpentine Pavilion differed from its predecessors, since its concept was related to the effects of the past pavilions. Herzog & de Meuron and Ai Weiwei

[41] Jodidio. op. cit., pp. 12.

conceptualized the pavilion as an archaeological excavation of the ground to expose evidence of the previous pavilions. Using the plans of the previous pavilions, they intersected and overlapped these plans in their design for the 12th pavilion. They claimed that various typologies and materials were experienced in their design, having focused on the archaeology of the previous pavilions. This required them to excavate the area to reveal their traces, after which they re-identified the components of the past foundations, and designed a new structure that utilized the existing foundations.

In conclusion, the architects of the Serpentine Gallery Pavilions have set forth their redefinitions, when designing these temporary structures. These redefinitions play a role in showing and experiencing the new tendencies in architecture, leaving remarkable and curative marks in the minds of both the architect and the observer in terms of the generation process and the end product of the pavilion design. A redefinition of the pavilion can serve as a laboratory for understanding the limitations of temporary architecture. The architects have considered these structure as a way of researching, experiencing, exploring and achieving a 'new' that they have never before adopted in their previous architectural practices and also can be redefined as a regulator of the new relationship between the public, architect, context and the pavilion itself.

CHAPTER 3

THE POSSIBILITIES OF TEMPORARY/PERMANENT ARCHITECTURE

Buildings on the whole are reliant on the durability of the material and methods used in their construction for their resistance to the ravages of time. Vitrivius[42] mentions one particular type of permanency rather than its sources, and his message related to material durability remains irrelevant for contemporary studies, as can be seen in the interpretations of Ignasi de Sola Morales:

> 'The places of present-day architecture cannot repeat the permanence produced by the force of the Vitruvian firmitas. The effects of duration, stability and defiance of time's passing are now irrelevant. The idea of place as the cultivation and maintenance of the essential and the profound, of genius loci, is no longer credible in an age of agnosticism; it becomes reactionary. Yet the loss of these illusions need not necessarily result in a nihilistic architecture of negation. From a thousand different sites the production of place continues to be possible, not as the revelation of something existing in permanence, but as the production of an event. It is not a question of producing an ephemeral, instantaneous, fragile, fleeting architecture. What these lines seek to defend is the value of places produced out of the meeting of present energies, resulting from the force of projective mechanisms capable of promoting intense, productive shock.'[43]

As Morales states above, the contemporary situation rejects the state of permanency of the Vitruvian place and no longer resists time. The current idea of place cannot be considered the same as in the age of agnosticism, and so it can be accepted as a reactionary idea for current architecture, given the different approaches to the production of space that still exist.

[42] Vitrivius introduced the concept of permanency under the term of firmitas into architectural discourse with his Ten Books of Architecture. Firmitas means *produced to endure eternally*.
[43] Ignasi de Sola Morales. Differences: Typographies of Contemporary Architecture. The United States of America: MIT Press, 1999, pp. 102-103.

Instead, Morales introduces the term 'event' to define a new permanency for architecture, not only related to the permanence of material durability, but also introducing a new concept of temporality. He defines permanency with an acceptance of the existence of time and a fixed location, saying:

> 'The contemporary place must form a crossroads, and the contemporary architect must have the talent to apprehend it as such. Place is not a ground, keeping faith with certain images; nor is the strength of the topography or archeological memory. Place is, rather, a conjectural foundation, a ritual of and in time, capable of fixing a point of particular intensity in the universal chaos of our metropolitan civilization.'[44]

Morales focuses on the definition of permanency, claiming that it is related neither to the ground nor the topography, but rather to a hypothetical foundation by which permanence is released from the time in a particular place. He is not concerned with the physical aspects of permanence, but rather defines the ability of the structure to be permanent. He explores an alternative definition of permanency that is compatible with Vitruvian *firmitas*, according to which a dialectic relationship exists between temporality and permanency in architecture.

As in the case with permanent buildings, temporary structures also have long-lasting features, such as construction components that are designed to have a lifespan that is equal to, or even longer than, conventional buildings. The functions of these structures remain part of their continuing usage, and so both temporality and continuity can be experienced within temporary structures at the same time.

The territory of the structure will continue to exist long after all traces of the structure have disappeared, and so the difference between permanent and temporary architecture is related only to time. While permanent structures remain in the same location, they can lose their importance or relevance over time. The pavilion, on the other hand, can be considered as an event as a time-based architecture, whose actual existence is being produced continually.

[44] Morales. op. cit., pp. 103.

3.1 Are They Still Alive?

The pavilions of the Serpentine Gallery, having fulfilled their task, are sold to cover up to 40 percent of the budget. There is no budget for these temporary architectural structures, being conceived and designed in this way for reasons of legacy, and are paid for through sponsorship, in-kind donations and through the support of trusts, philanthropists and foundations. Officially, most of the pavilions are sold and collectors prefer to remain anonymous who use them as decorations in their private gardens, although several of the pavilions have been reconstructed in different locations.

3.1.1 The 2000 Serpentine Gallery Pavilion

Figure 19 The 2000 Serpentine Gallery Pavilion, relocated to the Stratford Globe in 2001.
Source: DOMUS 21 August 2013 < www.domusweb.it >

The 2000 Serpentine Pavilion was firstly sold on to the Royal Shakespeare Company at the end of the summer, and was reinstalled in the car park in front of the Stratford Globe in 2001, where it was used as a summerhouse for readings, hospitality events, performances and workshops until 2004. The reinstallation at the Stratford Globe saw no change to the material or the appearance of the pavilion with the architectural elements being protected, as designed. In addition, the function of the pavilion was not changed, since the pavilion was still used as a summerhouse. The space was designed for flexibility in use and the space organization was designed by the users, allowing the pavilion to be used for different events. After fulfilling its mission on the lawn of the company, it was dismantled in 2004.

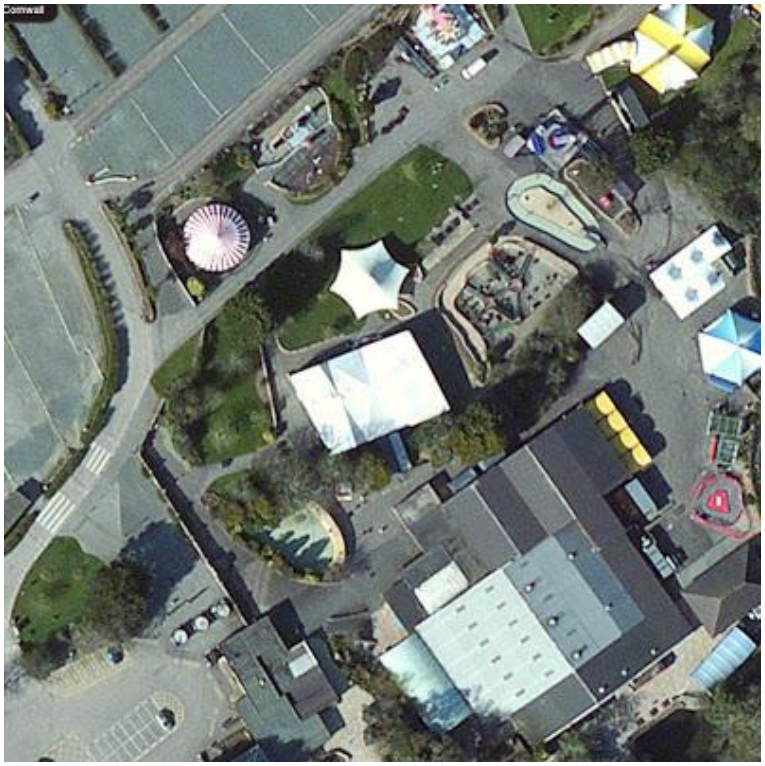

Figure 20 The Site of the relocated 2000 Serpentine Gallery Pavilion, at the Kingsford Venue, Helston, Cornwall, UK.
Source: BING 21 August 2013 < www.bing.com/maps >

The pavilion was then bought by Flambards Theme Park for use as an event venue in its park in Kingsford Venue, Helston, Cornwall, UK. The 2000 Serpentine Gallery Pavilion survived, but the covering material was changed into a non-transparent shiny grey PVC fabric. This totally changed the appearance of the pavilion at the cost of its visual strength, since the pavilion had been designed as a semi-open space that provided a visual relationship with its context while located on the lawn of the Serpentine Gallery. Heating, audiovisual and lighting equipment was added, since the pavilion was to be used all year round. It could be rented out on a daily basis for organizations such as weddings, concerts or parties, and thus the function of the pavilion was changed, although its usability was maintained. The architecture of the pavilion is still mentioned in architectural discourse, practice, publications and exhibitions, although the pavilion itself has been forgotten by its visitors, architect and also curators.

Figure 21 The 2000 Serpentine GalleryPavilion, relocated in Kingsford Venue, Helston, Cornwall, UK.
Source: DOMUS 21 August 2013 < www.domusweb.it >

Once covered with an opaque material, the pavilion lost the balance between solid and void that Zaha Hadid had achieved with its transparent façade. The primary intention of the architect had been to provide a strong relationship with the site on which it was built, but the change of material caused the impoverishment of this relationship. The pavilion was lost its architectural quality. The new pavilion became an example of kitsch architectural practice.

Figure 22 The 2000 Serpentine Gallery Pavilion interior organization.
Source: Serpentine Gallery 21 August 2013 < www.serpentinegallery.org>

Figure 23 The 2000 Serpentine Gallery Pavilion interior organization, after relocation to Kingsford.
Source: DOMUS 21 August 2013 < www.domusweb.it >

In addition, the spatial organization of the pavilion was changed. Hadid had also designed the black, grey and white seating units for the 2000 pavilion, which were set out based on a grid system. These seating units were also changed, when the pavilion was relocating to Kingsford. The interior organization was totally altered with kitsch chairs and tables set out in an arbitrary way.

3.1.2 The 2001 Serpentine Gallery Pavilion, Cork, Ireland

Figure 24 The 2001 Serpentine Gallery Pavilion 'Eighteen Turns', relocated to Cork, Ireland.
Source: DOMUS 21 August 2013 < www.domusweb.it >

The 2001 Serpentine Pavilion was bought by an anonymous buyer and relocated to Fota House in Cork, Ireland four years later in 2005 as part of the European City of Culture program in Cork. It was used to represent contemporary architecture to planner, architects, real estate developers and also politicians, and to express the possibilities of creative architectural practice for the future, especially in the Cork's port district, which was earmarked for imminent urban development. After this organization, the pavilion disappeared back into anonymity.

The architectural strength of the pavilion did not change with its relocation to the lawn of Fota House, as the material of the pavilion was still the same as had been designed by the architect. The pavilion was not designed strictly to the brief of the Serpentine Gallery, and so it could be adapted according to the necessities of different activities. Daniel Libeskind's design served as a new mediator between the park, the Gallery and the pavilion itself, and with its relocation, the relationship between the park and the pavilion was maintained, which was the key to continuation of its architectural intention.

3.1.3 The 2002 Serpentine Gallery Pavilion

Figure 25 The Site of the 2002 Serpentine Gallery Pavilion, relocated to Hotel Le Beauvallon, Saint Tropez, France.
Source: BING 21 August 2013 < www.bing.com/maps >

The 2002 Serpentine Gallery Pavilion was bought by Victor Hwang and was relocated to the beachside St. Tropez club, where it was reassembled under the guidance of Cecil Balmond as a beach club restaurant at Hotel Le Beauvallon. The same materials were used for the pavilion as in the original design, and there were no additions or changes to the architectural quality. The pavilion had served as a café while located on the lawn of the Serpentine Gallery, and this function was maintained following its relocation to the hotel.

Figure 26 The 2002 Serpentine GalleryPavilion, relocated to Hotel Le Beauvallon, Saint Tropez in France.
Source: habitat-durable 21 August 2013 < www.blog-habitat-durable.com >

After fulfilling its function at the Hotel Le Beauvallon, the pavilion moved to Battersea Power Station, in London, which is also owned by Victor Hwang. The pavilion is utilized as a visitor's center, and is the flagship for one the many proposals for regenerating Battersea Power Station. Toyo Ito had designed his pavilion for multifunctional use, and at the very beginning of the generation process he interpreted the pavilion as a white box that attracted the visitors and created awareness in the park. He used both opaque and the transparent materials to establish a strong and continuous relationship between the interior and exterior of the pavilion, and this relationship has been maintained with its relocation on the lawn of Battersea Power Station.

Figure 27 The 2002 Serpentine GalleryPavilion, relocated to Battersea Power Station, London.
Source: DOMUS 21 August 2013 < www.domusweb.it >

3.1.4 The 2008 Serpentine Gallery Pavilion, Château La Coste

Figure 28 The 2008 Serpentine Gallery, relocated to the Château La Coste winery, Aix-en-Provence, France.
Source: nytimes 21 August 2013 < http://www.nytimes.com >

The 2008 pavilion designed by Frank Gehry was relocated to Beauvallon after it was dismantled from the Serpentine Gallery lawn. The new owner of the pavilion, Irish developer Patrick McKillen, reconstructed the pavilion at the Château La Coste winery near Aix-en-Provence, France, where it was used to host musical events in its original architectural form. Gehry's Music Pavilion is one of McKillen's outdoor sculptures of in Château La Coste, in which he has been collecting several art and architectural works since 2003, opening to the public as a theme park in 2011. His collection boasts works by many acclaimed architects, and includes also Jean Nouvel's aluminum 'The Winery', and Tadao Ando's chapel.

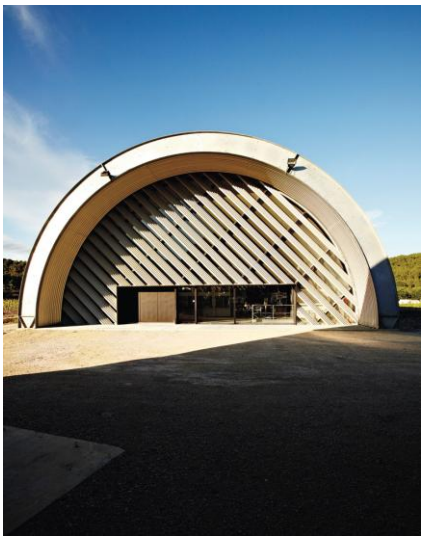

Figure 29 The Winery by Jean Nouvel.
Source: nytimes 21 August 2013 < http://www.nytimes.com >

Figure 30 Chapel by Tadao Ando.
Source: nytimes 21 August 2013 < http://www.nytimes.com >

3.2 Examination of Temporality vs. Permanence with Each Pavilions

Permanency in architectural practice is usually afforded by the conditions and the characteristics of the architecture that allow it to endure throughout the years, decades and centuries. The permanence of building is related to its ability to endure for eternity based on the strength of its materials and soundness of the construction, resisting the effects of both time and nature. The purpose of this chapter is to examine the materials and constructions methods of the Serpentine Gallery Pavilions, which are the most important factors defining the permanency or temporality of these structures, as the materials and the construction methods used in the pavilions can reveal their capacity or potential for reusability and durability over time. In architecture, while some materials have the capacity to be reused over and over, such as steel, others are unsuitable for repeated assembly and dismantling, such as timber. For instance, a steel structure can be assembled and dismantled many times when the connection between two elements is provided by bolts, as these do not alter or damage the nature of the steel elements. In contrast, timber structures cannot be reused several times, since the nature of the timber is that it can be damaged by partial compressive loads through local concentrated stresses. Concrete, on the other hand, usually denote permanence in architecture due to its anchorage to the ground in a more static way, and the nature of the material allows it to resist the effects of time. The Serpentine Pavilions are examined hereafter in an examination of the materials and construction methods, so as to define their temporary or permanent position in architecture.

3.2.1 The 2003 Serpentine Pavilion

Figure 31 Excavation Site of the 2003 Pavilion.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

The pavilion of Oscar Niemeyer was formed out of concrete, steel and glass, covering an area of 300m^2. The pavilion was built on concrete raft foundation that could be considered as a reference to a permanent architectural work. The concrete of the structure, as a non-reusable material that is designed to be disposable and is expected to endure eternally, was in contrast to the steel frame structure, which implied the temporality of the pavilion, given its ability to be assembled and demounted several times without deformation.

Figure 32 Construction of Concrete Basement.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

Figure 33 Steel Connection Detail.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

Niemeyer regularly used concrete in his architectural projects, and when designing the Serpentine Pavilion, he sought to summarize his architectural perception and style. It was immobile, fixed to the ground by way of its concrete foundation, which represents an additional key to the permanence of the structure. This pavilion was as a unique example of an architectural practice with all the 'appearances' of permanence based on its materials, and yet it was designed to stand only for a limited time.

Figure 34 Concrete Pavement.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

The pavilion was built on two levels, the lower part being constructed as a concrete box, mirroring Niemeyer's usual use of concrete as a main material in his architectural works. The ground floor level was designed around a steel frame structure, with four steel columns that supported the steel frame cantilevered floor and the asymmetrical aluminum roof. The floor comprised a steel frame structure with concrete filler and precast architectural elements that were prefabricated and assembled on the construction site. The structural steel elements were welded together as an additional reference to permanence, since it could not be dismantled easily. The structural units were transported to the site, where they were bolted together, with the details of the site bolted joints ensuring tolerances could be accommodated without compromising the architectural intent that the permanent architectural works usually have fewer tolerances than the temporary architecture had.

Figure 35 Steel Connection Detail.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

3.2.2 The 2005 Serpentine Pavilion

The 2005 Serpentine Pavilion was constructed out of steel, timber and polycarbonate, and measured 22m x 17m (374m^2), standing 5.4m at its highest point. In the initial phase of the construction, the boundaries of the structure were determined, after which the construction site was excavated to allow the steel lintels to be set into the ground. The use of steel lintels hinted at the temporality of the pavilion, as steel could not be used in this fashion in permanent architectural works due to the treat of corrosion. The lifespan of the architectural steel element's was calculated to endure conferred on them an impress of durability related to its period of use. In contrast, the temporary nature of the structure could be inferred from the timber columns that were bolted to the steel elements, using heavy bolts.

Figure 36 Construction of Steel Connection Elements.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

The pavilion was designed based on a 'lamella' (thin grid) system and was the first Serpentine Pavilion to be built on an irregular grid. Traditional lamellas were built out of identical elements, but in contrast, each element in this pavilion was unique in terms of length and inclination. A timber beam was used for the pavilion, being a lightweight material with the strength, consistency and dimensional stability to span great distances. The structure was held together using traditional mortise and tenon joints, with no fixed connections used within the interlocking system of the timber grid structure, allowing the temporary structure to be assembled and demounted easily and quickly. The use of timber emphasized the organic feel of this pavilion and indicated its relationship with temporality. Although this was a temporary structure, the end-grain of the stanchion bases was kept well above the paving to prevent water ingress.

Figure 37 Steel Connection Details.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

Figure 38 Connection Details between Wood and Steel.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

The pavilion was clad externally with transparent polycarbonate panels, each of which contained an autonomous solar-powered light, mirroring the temporary nature of the structure alleviating the need for electrical infrastructure. The transparent polycarbonate could also be connoted with temporality, as the use of glass would have related more to a permanent architectural work.

Figure 39 Polycarbonate Panel Details.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

3.2.3 The 2006 Serpentine Pavilion

Figure 40 Excavation of Lintel.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

While the overall site measured 650m^2 the footprint of the 2006 pavilion covered an area of 346m^2. The 'Cosmic Egg', could be inflated with 6,000m^3 of helium and a further 2000m^3 of pressurized air, which allowed it to float 10m above the ground the pavilion stood five meters above the ground, with a maximum height of 24m when inflated and 20mwhen closed. It was constructed out of steel, PVC and polycarbonate, and contained more than one ton of PVC coated polyester cloth, designed to provide a combination of transparency and strength, and thus showcasing the use of new materials in an innovative way.

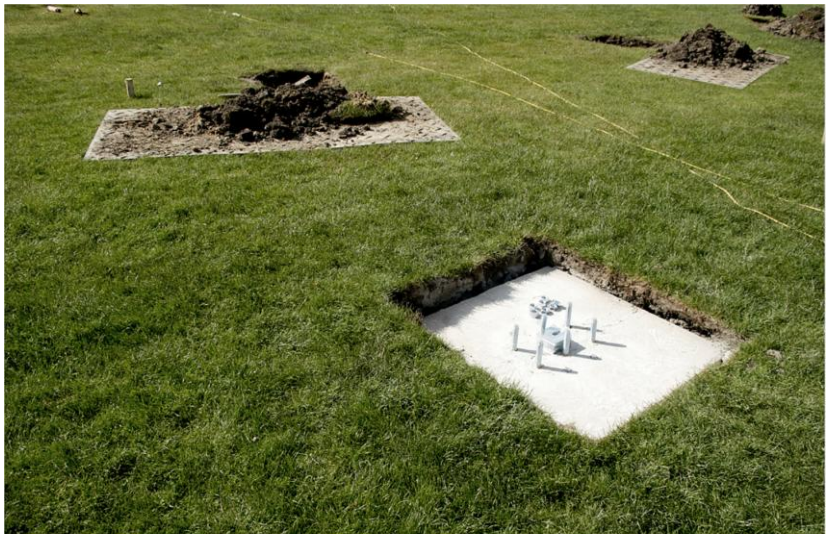

Figure 41 Concrete Footings Detail.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

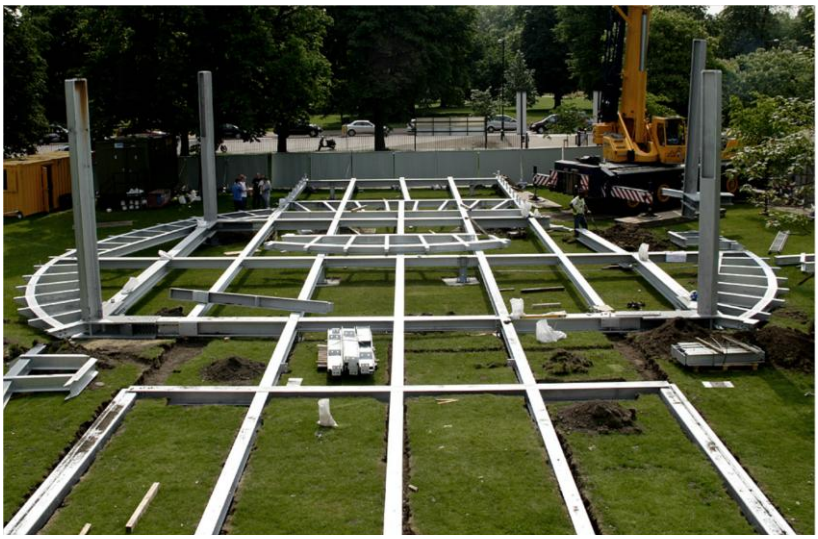

Figure 42 Construction of Steel Lintel.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

The construction site was excavated for setting up the steel lintel and the columns were supported by individual concrete footings, to which they were fixed with steel bolts. The steel lintel could be considered as a representation of the temporality of the architectural work, since steel is not usually used as a lintel for permanent architectural work due to its susceptibility to moisture. On the other hand, the steel columns, supported by concrete footings indicated a level of permanence. The pavilion, in summary, implied both temporality and permanence through its construction. The structure made from lightweight steel beams, creating a frame that supported a perforated metal sheet floor surface. The steel elements were galvanized to protect them from the ravages of time, even though the structure was to have only a short lifespan.

Figure 43 Welded Details of Steel Column.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

Figure 44 Details of Balloon.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

The balloon would be inflated in fine weather, allowing air to circulate within the interior, but would fit within the walls in colder weather. That pavilion was designed to suit a number of different activities and events, since the size of the internal space could be adjusted through its own inflatable structure. The variability of shapes permitted by the construction made the pavilion unique. The balloon supported by four steel columns that were interconnected by a ring beam at a height of five meters. The steel columns were welded to the frame of the perforated metal sheet floor surface, which implied permanence in the structure. Steel bolts secured the connections between the horizontal elements, while the vertical elements were welded in place. The floor was formed from a galvanized steel frame, covered a with non–slip galvanized floor.

The pavilion was enclosed by fixing a series of 5m-high translucent polycarbonate wall panels. The use of translucent polycarbonate for the walls was also related to the pavilion's temporality, given its short lifespan. The walls were made in two layers 1.6 m apart, with the inner circular wall constructed using the same material fixed in a position with tensioned steel cables. The balloon, on the other hand, was anchored to the ground using four steel cables, tensioned using electrical winches, and ten guy ropes. The roof was made out of a semi-transparent PVC air-filled membrane. The materials and principles of construction could be considered an example of temporary architecture.

3.2.4 The 2007/1 Serpentine Pavilion

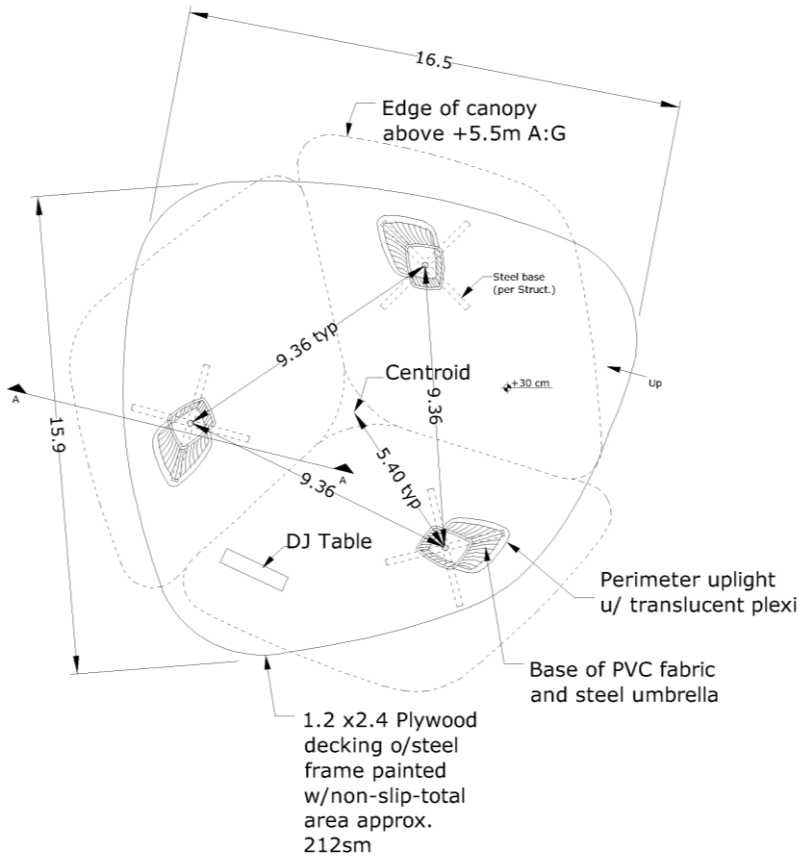

Figure 45 Detail Plan of the 2007 Serpentine Pavilion.
Source: Plan scheme is produced by the author.

The structure of the first 2007Serpentine Gallery Pavilion covered an area of 310m^2, and measured 5.5m in height. The pavilion, which measured 22.5m by 22.5m, was accessible from all sides and was formed out of three identical fabric parasol structures. Each parasol was drawn out of a cantilevered diamond shape, providing an open area and generating a flowing, continuous space. Additionally, each parasol structure featured its own continuous internal lighting system that illuminated the architectural form of the pavilion. While the structures of the pavilions overlapped, nowhere in their pattern of complex symmetry did they touch.

The pavilion was built out of steel, PVC fabric and plywood, with the use of PVC fabric implying the temporality of the structure, as a material that could be assembled and dismantled over and over, and resistant to the effects of time. The structure was produced in a factory and assembled on the construction site, with both the production and the application of the material able to be carried out quickly and easily.

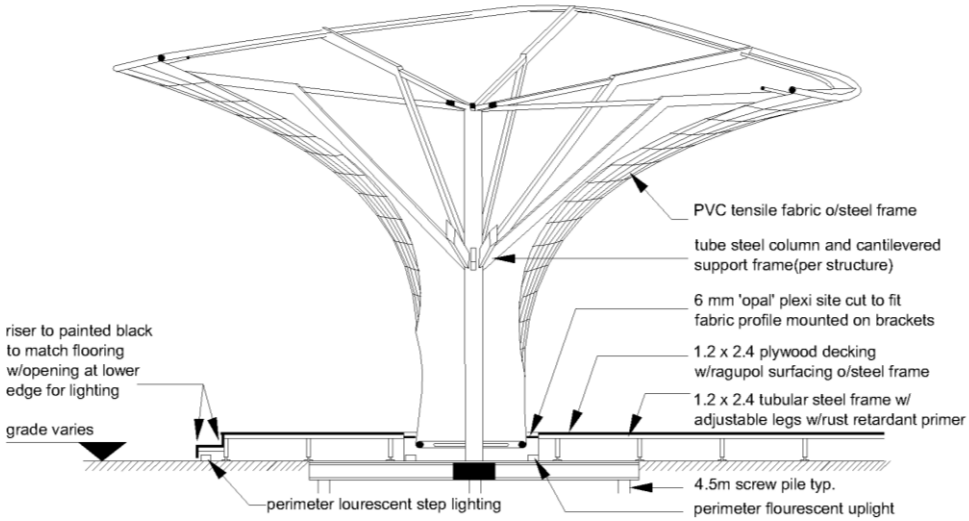

Figure 46 Detail Section of the 2007 Serpentine Pavilion.
Source: Section scheme is produced by the author.

The base of the structure was steel and covered with a plywood decking that was fixed in such a way that dismantling and reconstruction was impossible owing to the damage that would be incurred by the plywood. The steel lintel sat on the ground, and provided stability to the columns. There was no concrete footing or base ensuring the temporality of the pavilion. The floor sat on steel connection details and each element had a timber footing to distribute the load evenly. The floor and the column were constructed as separated elements in the pavilion, and the columns were arrayed with tensile PVC fabric. The design was more temporary than all former and following pavilions, given its weak connection to the ground. This pavilion was perched to the construction site. In short, the first 2007 pavilion can be said to have been designed as an installation rather than as an architectural building.

Figure 47 Construction of Wooden Pavement.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

3.2.5 The 2007/2 Serpentine Pavilion

Figure 48 Excavation Site of the 2007 Serpentine Pavilion.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

The second 2007 steel-structured pavilion covered an area of 450m^2, and took the form of an inclined cone that was encircled by a spiral ramp. The structure rose out of the lawn, serving as a mediator between the interior of the pavilion and its surroundings for its visitors. The artist and the architect used the concept of permanence in their pavilion design, relating to the permanence of the Serpentine Gallery itself. With the inclusion of the spiral ramp, visitors were able to experience vertical movement within a single space and could move within the space through the spiraling form. The pavilion constructed out of steel and timber.

Figure 49 Concrete Lintel.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

Figure 50 Construction of Circle Steel Structure.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

The whole construction area below the steel frame was excavated and filled with concrete, while the circular form was created out of welded steel, and it was this use of concrete and steel that implied the permanence in the structure. In contrast, the separate elements of the main steel structure were fixed together with bolts, hinting at temporary architecture.

Figure 51 Plywood Panels.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

Figure 52 Detail of Wooden Panels Connection.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

The steel structure was clad in precisely-cut dark-stained geometric plywood panels, which were fixed with timber nails, relating the temporality of the pavilion. The interior of the pavilion was clad with the same timber pattern, articulated both as the wall surface and as the seating units.

Lighting was provided from both natural and artificial resources. During the day, the natural lighting was provided via the oculus in the roof, which hinted at the temporality of the structure, while at nights, electric lighting offered evidence of the installed electrical infrastructure, indicating a more permanent architecture.

Figure 53 Artificial Lighting.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

3.2.6 The 2008 Serpentine Pavilion

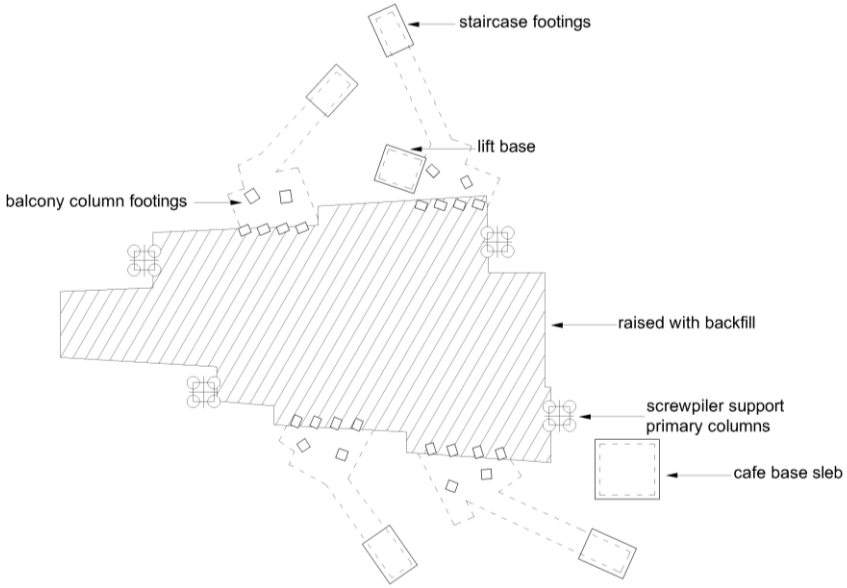

Figure 54 Detail Plan of the 2008 Serpentine Pavilion.
Source: Plan scheme is produced by the author.

The 418m^2 2008 pavilion was inspired by Leonardo Da Vinci's catapult, and served to create a connection between the park and the permanent Serpentine Gallery. The pavilion was a complex network of overlapping glass planes that created a multi-dimensional space, in which the main challenge was to create a structural system that could support the nine canopies that formed the upper part of the pavilion, which were set at different heights and angles. Each canopy was made up of laminated glass panels, supported by timber joists.

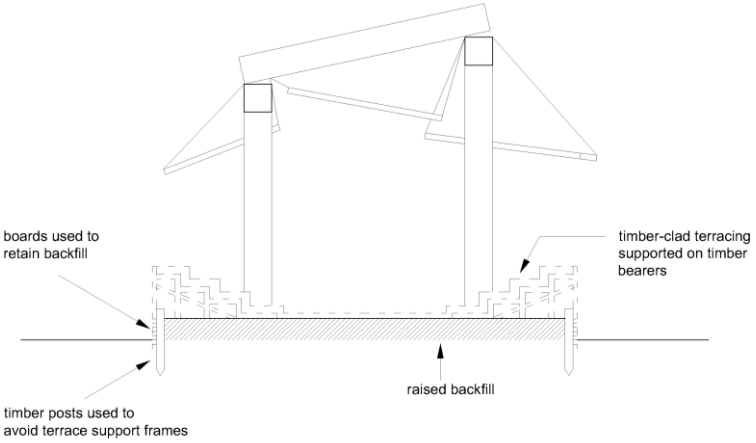

Figure 55 Detail Section of the 2008 Serpentine Pavilion.
Source: Section scheme is produced by the author.

Figure 56 Connection Details.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

The temporary structure was supported by four steel columns, which were clad with timber planks and glass planes to provide shade and protection from the rain. Each column had its own concrete footing that was covered with shingle, which pointed towards a permanence of the pavilion, as indicated before concrete is a material that usually denotes permanency in architecture. While the covering of each steel column with timber panels indicated the temporary nature of the architecture, the steel columns referred to something more permanent in the structure. Four steel platforms supported the four columns, anchored to the ground with bolts. The bolt connection indicated to the ability of construction several times; on the other hand, welding connection was for only being once. The use of steel added to both the permanent and temporary nature of the architecture, since it could be assembled and dismantled again and again, and if insulated, could resist the effects of time. The use of timber hinted strongly at temporary architecture, given the destructive nature of the timber connection details.

Figure 57 Connection Details.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

Figure 58 Connection Details.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

The materials used in the pavilion, which included steel, glass and timber, hinted at a permanent architectural work, while the use of bolts in the connection details pointed to temporary architecture owing to the potential for reuse. This pavilion was built as a permanent architectural project; however the details of the pavilion harbored temporary aspects.

Figure 59 Construction Site.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

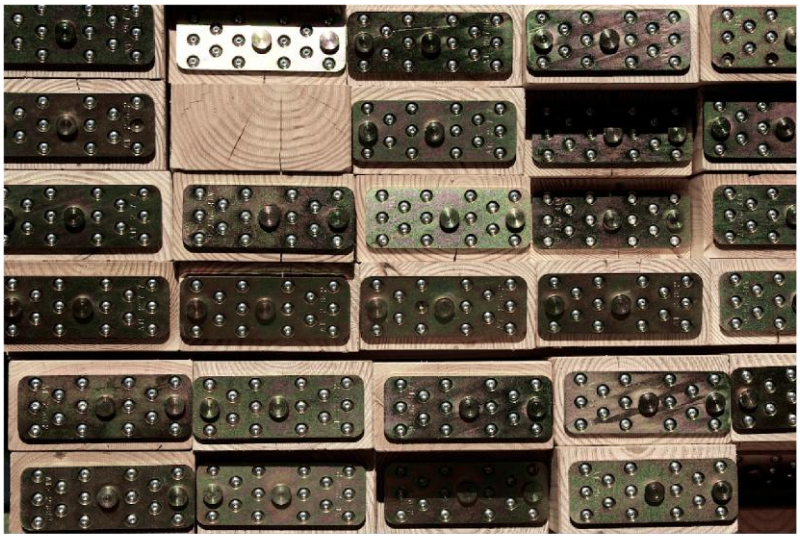

Figure 60 Connection Details.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

The above detail shows the steel connections for the timber elements, which allowed the timber to be reused many times, due to their non-destructive nature.

The ground was covered with shingle, and several steel plates were laid under the terraced seating area to distribute the stress evenly. These plates were merely perched on the ground, with no connection to ensure immobilization indicating the temporary nature of the structure.

Figure 61 Wooden Beams.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

3.2.7 The 2009 Serpentine Pavilion

Figure 62 Construction Site.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

The overall site area of the 2009 pavilion was 580m^2, with a footprint of 557m^2. The metal roof varied in height from 1-3.5m, point to point, and was clad in 26mm thick aluminum panels, supported by random 50mm-diameter steel columns spaced two to three meters apart. The roof structure offered a space in which visitors could take in a different perspective of the park, where a translucent acrylic material of varying thickness sited in some areas served as a windbreak. The floor covering was light grey concrete and followed freely the outline of the roof structure, while wrapping around the trees and leading in and out of the open and semi enclose spaces.

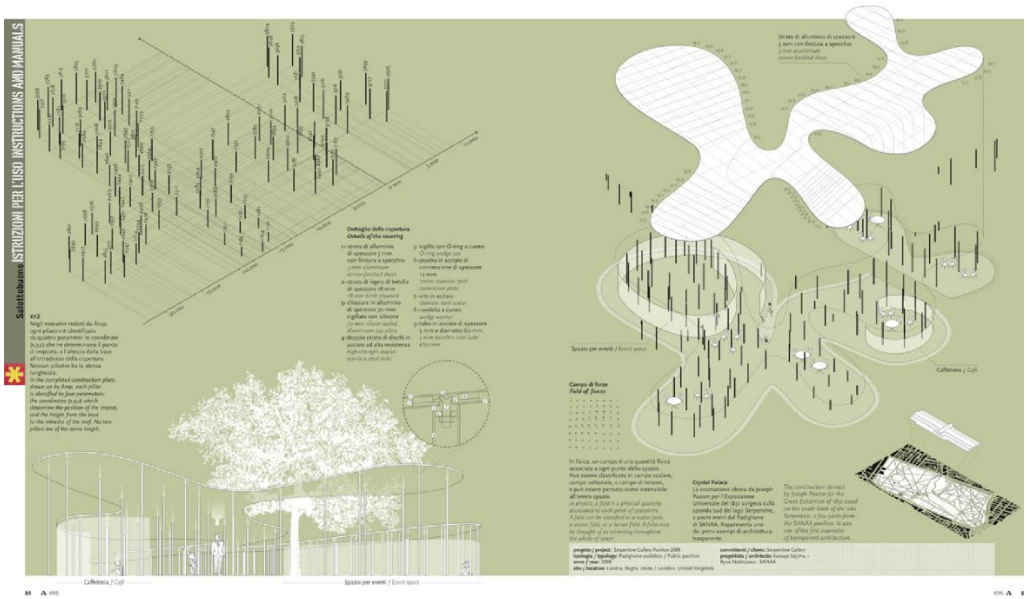

Figure 63 Proposal of the Pavilion.
Source: WORDPRESS 21 August 2013 < http://publicuseofprivatespace.wordpress.com >

Figure 64 Composite Panel.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

The smoke-like roof was made up 3x2m skins of composite mirror-polished aluminum over eight interlocking sections of plywood, made out of 3mm aluminum top and bottom sheets bonded to an 18mm ply core. The 3x1.5 meter panel dimension was dictated by the largest available size of plywood sheeting. The edges of all outer sheets were finished with an aluminum box-section fascia, giving the illusion of an all-metal construction. This unique sandwich panel technique was developed specially for this project by the engineers of Arup, and the result was an aluminum and plywood composite roof, supported on an array of slender steel columns. The ceiling of the pavilion was clad with mirror-polished stainless steel, creating a series of reflections of the activities below and the surrounding park.

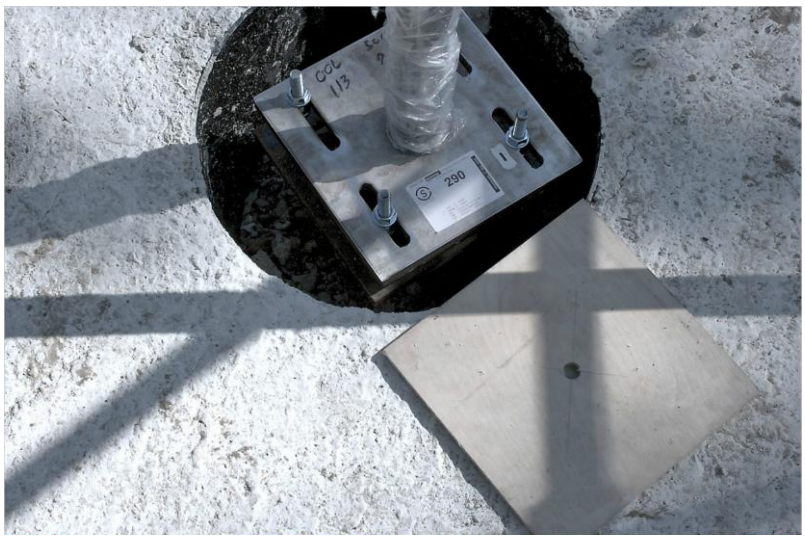

Figure 65 Connection Details.
Source: 0lll architecture gallery 21 August 2013 < http://www.0lll.com/archgallery/ >

The smoke-like roof appeared to drift through the trees, supported on 112 shining 40-60mm-diameter stainless steel columns. The columns rose out of a concrete deck that was bordered by pebbles and grass, and at the top of each column milled to a set angle to follow the warp of the roof. A stainless steel plate was bonded into the panel to spread the point load imposed by the column. The roof was bolted to the column head and plugged with a flush-fitting polished aluminum disc, as the architect's main intention had been to create a seamless roof that appeared at first glance to be arbitrary, but when viewed from the closer, allowed its logic to be understood.

To summarize, even the pavilion is designed to exhibit for only being once, the actual existence can reveal in different locations. On one hand, this repositioning provides to examine its temporary/permanent potentials. On the other hand, the materials and construction methods can reveal its capacity or potential for reusability and durability over time. While some materials have the potentials to be reused, others are unsuitable for repeated assembly and dismantling. The examination of the materials and constructions methods of the Serpentine Gallery Pavilions can provide an infrastructure to define their temporary/permanent nature.

CHAPTER 4

HOW AN EXPOSITION EXPOSES ITSELF?*

'Exposition' is the French word for exhibition, and has now become synonymous with large-scale exhibition events. The contemporary nature of expositions has been experienced in various ways, being opportunities for the demonstration of new materials, new media and new methods, while also presenting an opportunity for the showcasing of innovations in architecture, design and art. The exposition or pavilion cannot be confined to the gallery or museum space, nor cannot it have to be part of an exhibition. The only fundamental assumption for designing this temporary structure is that this structure can be installed within an existing space or edifice of the permanent architectural practice, and furthermore generates new relationship with this existing space and also transforms it through its existence. This space can be either an enclosed space or open space, yet defined a space. The architecture of the exposition or pavilion represents the public image, defines the gallery's relationship with its setting and contributes to the experience of visitors. The exhibition space has a multiplicity of functions and complicated complexities, and must integrate a flexible interior with a meaningful exterior. Site, scale, space, place-making and context are integral parts of the design process. The exhibition space is the cultivation of both experience and memory, while also relating to its location and community.

The temporary architecture such as expositions and pavilions are used to give symbolic meaning, and the utilitarian function of these structures are so minimized in comparison to their meaning, which aims to discover other types of communication. Expositions and pavilions are territories for representation, and are more inclined to exhibiting themselves as an object, displaying not only what is inside, but also their own forms. In certain cases, they are empty stage that contains what they are.[45] A temporary structure is the main object of an exhibition, exposing itself with new methods and new materials rather than the object which is housed inside.

*Umberto Eco, Edited by Neil Leach. "How An Exposition Exposes Itself?". Rethinking Architecture. The United States of America and Canada: Routledge, 1997, pp. 202.

[45] Puente. op. cit., pp. 9.

Umberto Eco underlines that the purpose of such structures is not only utilitarian, as their semantic apparatuses create other types of communication.[46] Temporary architecture is a tool for communication and passing on a message rather than serving only a practical function. Pavilions are designed out of scale for passing through, exploring or experiencing, and as media of communication and suggestion. The paradox of such structures is that they seem to expose themselves for centuries, although in the real world they exist for only a few months. Eco criticizes the fact that expositions communicate with the context and the public, rather than utility. The main intention of this architecture is to define its meaning first, rather than its function.

> 'Functionalism in architecture, as noted already, has traditionally been concerned with the instrumental or task activities to be housed by a building, the technological mechanisms for holding it up structurally and operating it, and, although not generally admitted, what a functional building looks like. A functional building, in Modernists' terms, was one that carried out the first two of these purposes with efficiency and the third without decoration.'[47]

In architecture, the building has traditionally been designed as a space for integrated activities that can be seen as the keys to form of the spaces. Architects design with the understanding that the buildings should be designed efficiently to house the necessary activities. There is an interrelationship between architecture and activities that form the spaces. In addition to this, the function of the space should generate form of the architectural object, and vice versa, this function should also fit form of the space. Moreover, the structural mechanisms of these structures are the representation of the technological improvements. Modern architecture suggests that two of these purposes must be designed without any decoration.

Eco suggests another type of communication that is more related to the symbolic meaning of the pavilion rather than its utilitarian function. Since the pavilion is also the primary object of the exhibition, how the pavilion represents itself is the primary concern in the exhibition design. The pavilion has no function other than to represent communication, exhibit new materials and methods, and be a laboratory for the architect for the testing of new approaches. Eco claims that the definition of conventional architecture, based on the relationship between form and function, needs to be re-evaluated, as pavilion design cannot be analyzed or explained according to function-based design, as it is designed to exhibit its own symbolic meanings. It is a means of providing communication between the observer, the architect and the architecture of the pavilion, and so the concepts of the functions will be analyzed with a view to re-locating temporary structures within architectural practice and discourse.

Nikolaus Pevsner in defining functionalism in architecture, claim that 'an architect's primary aim should be to ensure a building function well, and that nothing should interfere with its

[46] Eco. op. cit., pp. 204.

[47] Jon Lang and Walter Moleski. Functionalism Revisited Architectural Theory and Practice and the Behavioral Sciences. England: Ashgate, 2010, pp. 32.

fitness to fulfill its purpose.'[48] They explained that response to function should be the primary aim in architecture, and should be integrated with its purpose. The idea of buildings requires a function has not lost its meaning, but the definition and the boundary of functions have changed. According to Vitruvian views as mentioned in De Architectura well-defined building has three conditions: *'utilitas, firmitas and venustas'*, translated as function, structure and beauty, respectively. From the eighteenth to the twentieth century, the function of the buildings is considered to have had a utilitarian purpose.

The function of architecture has not changed, although the concept of what equates to function has varied over time. The so called 'Functionalism' can be traced back to Plato says Pevsner, and deals with usage, manufacture and representation.[49] Plato for Pevsner does not merely focus on functionality as a perspective of utility, as he also emphasizes the necessities of the relationships between manufacture and representation. Architects and architectural theorists consider the first of these as of primary importance, while representation is not taken too seriously. This thesis is a consideration of 'functionalism' as a representational tool rather than utilitarian key. Firstly, the discourse is developed around functionalism has to be re-visited in order to be able to understand functional aspects of pavilions. Function is here directly related to the architectural requirement problem, but with the representational qualities of these temporary structures. How the definition of function has changed in architecture and how functionality can be reinterpreted with these temporary structures are the main concerns of this chapter. This chapter will be analyzed in terms of a functional and non-functional pavilion. On one hand, Functional pavilion is determined by the brief of the Gallery that the organization of the pavilion is set by the necessity activities; on the other hand non-functional pavilion is only designed to exhibit itself and it has no utilitarian function.

4.1 Functional Pavilion

The Modern interpretation of function in architecture is related to the use of the buildings and their utilization, which is one element in the Vitruvian trilogy. *Utilitas* can be explained as the usefulness of the building. The function of the buildings is related to how the architect designs, what kind of activities are accommodated and how the users can benefit from. The building is supposed to be designed according to the expected activities, and the space has to provide the spatial organization of these activities. Early Twentieth-century architectural discourse integrates function with form, considering them to be inseparable, and the design of the building should be based on this integration.

David Watkin states that the 'the frequency of statements by modern architects regarding functionalism indicates that functionalism is neither a clear and unchallenged law of architecture, nor a spent force, but a vital concept requiring clarification'.[50] There are several approaches to functionality in the modern movement, but it is important for understanding the boundaries and the definitions of functionalism to examine its concepts and roots. Since clarification is required, different approaches will be examined and interpreted in terms of pavilion design.

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[48] Fleming, Honour and Pevsner. op cit., pp.210.
[49] Lang and Moleski. op. cit., pp. 33.
[50] David Watkin. Morality and Architecture. Oxford: Clarendon, 1977, pp.40.

Modernist functionalism points out the necessity of the relationship between form and function. Louis Sullivan asserts 'form follows function' to indicate the inseparable relationship between form and function in his essay 'The Tall Office Building, Artistically Considered' in 1896. [51] The essay is an examination of five decades of change in Chicago, in which Sullivan claims, there is a dialectic relationship between form and function and this dialectic relationship is a key to the process of form generation. A building should be designed for the necessary activities, and its constructional/structural methods should be used efficiently. The function and form of the building should fulfill each other, and form should serve for the activities that are to take place within. The phrase 'form follows function' has become the slogan of many designers, referring not only to architecture, but also to the entire design process.

The architectural practices are supposed to be designed according to the necessity activities, and the spatial organization should be integrated with them. In that context, it makes sense that the fourth Serpentine Gallery Pavilion was designed with an integration of form and function. Oscar Niemeyer examined the necessity of the activities and organized the spaces based on these activities. The pavilion was designed as an enclosed space and redefined the new spatial relationships within the park. The pavilion was designed on two levels; the main level functioned as a café that had fixed solutions. Tables and chairs were organized as a fixed use, meaning that the interior organization could not be redefined by the user. The lower level was designed as an observation room with a screen and couches. This was the first example of fixed use pavilion and the relationship between 'form and function' came from the dictum of Sullivan. Niemeyer interpreted this dictum and generated to final form of the pavilion.

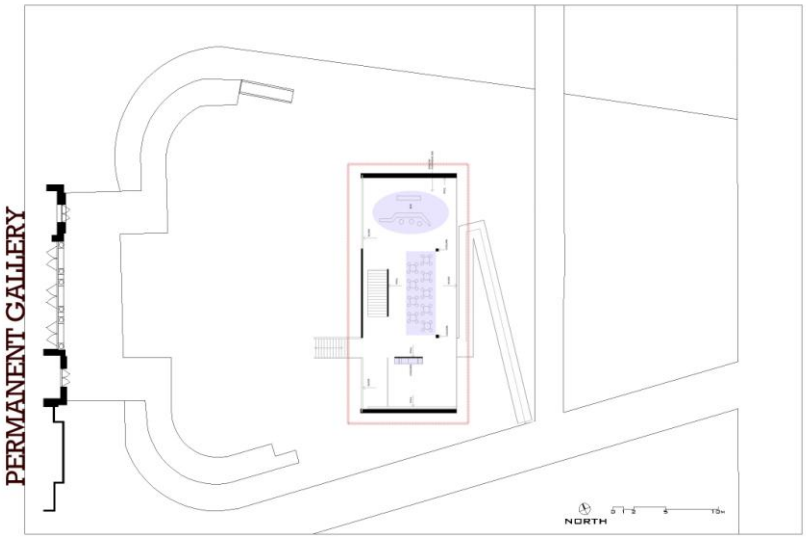

Figure 66 Function and Open/Enclosed diagrams of the 2003 Serpentine Pavilion's main level.
Plan scheme and illustrations produced by the author.

[51] Louis Sullivan, Edited by Tim Benton and Charlotte Benton. "The Tall Office Building Artistically Considered", *Architecture and design,* 1890-1939: An international anthology of original articles. New York: Watson-Guptill Publications, 1975, pp. 113.

The basic function of the building may provide shelter for the activities of life. The architect must aware of the set of activities, interrelationships and behavior, and designs the building based on the necessities of these relations. The function of the building should fulfill with its form. The 'form' is used to refer to the visual appearance of a building, such as its shape and configuration. Form and function of the building are inseparable and generate a mutual relationship. This relationship is nourished by the necessities of activities, organization and program.

Sanaa used the basic function of the building as a shelter, while interpreting the brief of the 2009 Serpentine Gallery Pavilion. They designed a simple floating canopy that brought to mind a metal cloud floating over the lawn, and seemingly the lightest structure that could be imagined. The complete lack of walls and the extreme thinness of the supports indicated that the pavilion was an open space. It was created nearly nonexistent distinction between the inside and outside of the pavilion, and established a new relationship with its surrounding. The pavilion flowed across the lawn, providing the required space for the summer activities, and although this ephemeral structure tended to be a purely sculptural expression, the architects had not forgotten that providing a shelter for the summer events was the most important requirement of the pavilion. A plan showing the form of the pavilion indicated locations for concerts, gathering spaces and a café.

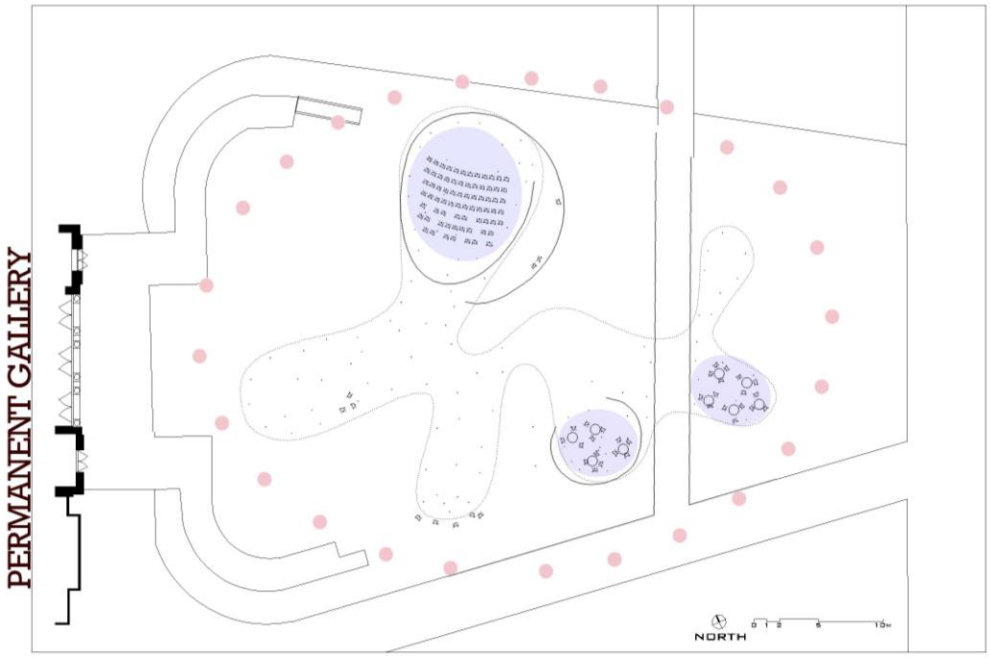

Figure 67 Function and Open/Enclosed diagrams of the 2009 Serpentine Pavilion.
Plan scheme and illustrations produced by the author.

In parallel with the argument of 'form fits the function', Rem Koolhaas designed the 'Cosmic Egg' as an enclosed space, encircled by a plain ring of polycarbonate façade panels.

The enclosed space was used as a café and a forum for the showing of televised and recorded public programs, including film screenings and talks at nights. There were two main entrances leading to the Serpentine Gallery, as well as, two bars with the seating units placed in a fixed location, meaning that the organization of the space could not be redesigned by the users of the pavilion. In addition, this pavilion was a unique space, since the height of the pavilion could be adjusted to suit different activities and events by way of its own inflatable structure.

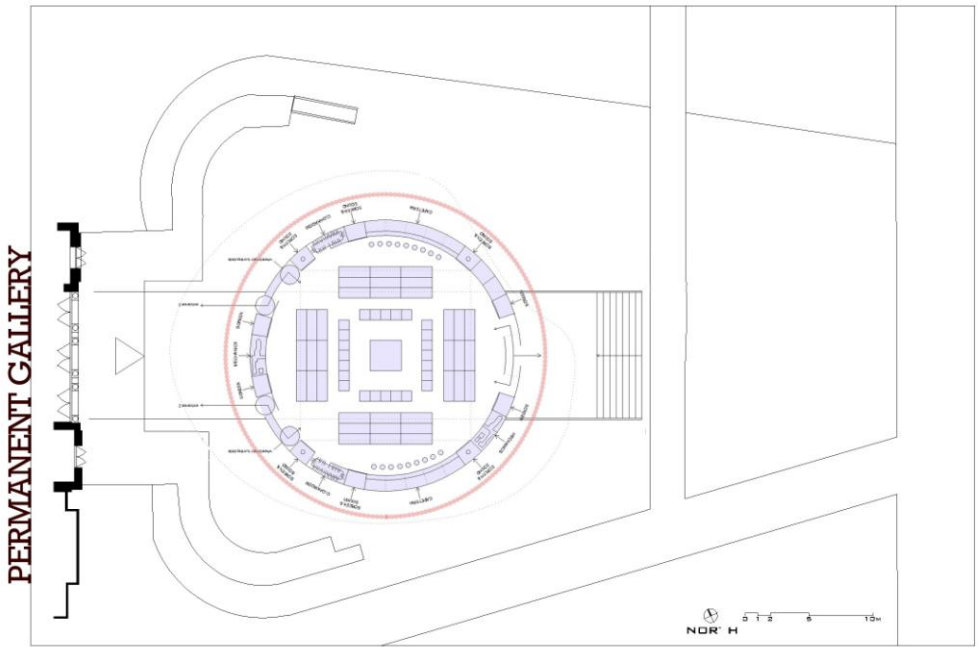

Figure 68 Function and Open/Enclosed diagrams of the 2006 Serpentine Pavilion.
Plan scheme and illustrations produced by the author.

The phrase 'There is a dialectic relationship between function and form' voices one of the main concerns of Modern Architecture, and many architecture critics claim that function is the only determinant of architectural form. This chapter puts forward the idea that although function cannot be the only determinant of architectural form, it is one of the elements that the architect can use to satisfy in the design process. Frank Gehry designed the 2008 Serpentine Summer Pavilion based on the idea that function can only be one of the elements which architect benefited, while designing a pavilion. Gehry designed the pavilion as an open space with a capacity of approximately 275 and covered with glass planes, the pavilion also served to frame the Gallery along its entrance axis. When designing the pavilion, the intention of Frank Gehry was to create an opening performance space that clarified the relationship of the project with music, and so the pavilion was less enclosed than many of its predecessors. His interpretation of the design brief saw the creation of a concert platform in the Serpentine Pavilion that he said could also serve as a space for lectures and other events in the program. When Gehry designed the music pavilion, he did not reckon without the

aesthetic strength of the architectural buildings. This pavilion took the form of an amphitheater that was both sculptural and yet functionalized.

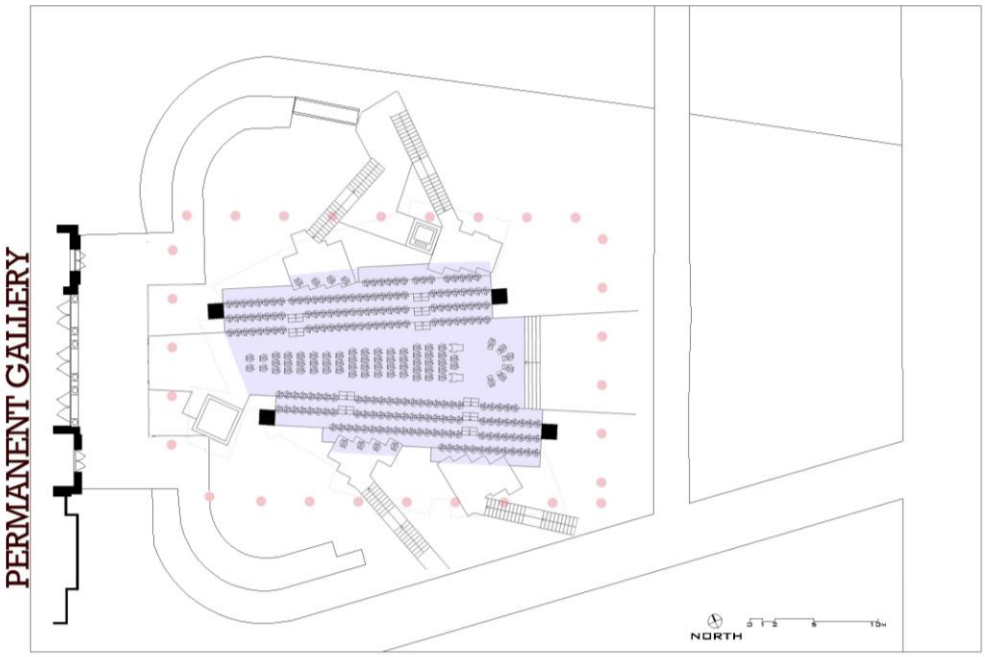

Figure 69 Function and Open/Enclosed diagrams of the 2008 Serpentine Pavilion.
Plan scheme and illustrations produced by the author.

> 'Some modernist critics and groups of architects, both in Europe and in America deny that the aesthetic element in architecture is important, or event that it exists. All aesthetic principles of styles are, to them, meaningless and unreal. This new conception, that building is science and not art, developed as an exaggeration of the idea of functionalism.
>
> In its most generally accepted form, the idea of function is sufficiently elastic. It derives its sanctions from both Greek and Gothic architecture, for in the temple as well as in the cathedral the aesthetic expression is based on structure and function'.[52]

Henry-Russell Hitchcock and Philip Johnson rejected the anti-aesthetic functionalism that is based on the idea of economic architecture. They did not totally ignore the functionalist idea, but they suggested that aesthetic approach is important for architectural design. Contemporary architecture cannot be considered merely as an aesthetic expression of structural and functional formula, as architectural buildings are an integration of both science

[52] Henry-Russell Hitchcock and Philip Johnson. The International Style: Architecture since 1922. Norton, New York, pp.35.

and art. As such, they require criteria as an object of architecture, such as function, structure and aesthetics, but neither of them is more important or necessary than the others.

> 'Now all this is not say that the doctrine that form follows function was a misleading one. What was false and meretricious were the narrow applications of that were made of this formula. Actually, functionalism is subject to two main modifications. The first is that we must not take functionalism solely in a mechanical sense, as applying only to the physical functions of the building. Certainly new technical facilities and mechanical functions required new forms; but so, likewise, did new social purpose and new psychological insights.'[53]

Lewis Mumford claims that applications of functionalism are related to the dogmatic approach, and criticizes the applications become false and meaningless according to this narrow point of view. He complains that functionalism can be obfuscated and mystified if the rigid utilitarian approach becomes the main principle of design. He examines the mechanical functions that can be developed with the new technical facilities, requires an investigation of new forms, but also new social and psychological structures. The misunderstanding of functionalism comes from its narrowed definition, being based only on the practical design response to a specific architectural practice, without an examination of environmental, social or economic factors. This narrow approach results in near meaningless architecture.

The dialectic relationship between form and function in architecture is a powerful element of architectural expression. Contemporary architecture has redefined the relationships between form and function, and contemporary architects firstly generate forms, after which they justify them with function. In architecture, forms can be generated with the function either as an acceptance of the mutual relationship, or in contradiction with it. The contemporary approach seeks out new relationships, forms, methods and materials, and so deals initially with form generation process, after which the function can be established if required.

The inverted phrase is 'function follows form' follows the understanding that form of the building does not necessarily have to represent its use. Firstly, form is to be designed, and then the use can be defined. The phrase gains validity in case of the adaptive re-use of buildings, which is not to necessarily a denial of the function, but is more related to the assumption that form does not have to rely on function. Bruno Taut voiced his own thoughts on the relationship between function and form, 'If everything is founded on sound efficiency, this efficiency itself, or rather its utility, will form its own aesthetic laws'.[54] Taut claimed that form of the building is defined by its own being, and that this definition must be autonomous. The form of the building occurs under its own being, and according to its own aesthetic rules rather than its utilitarian function, and this relationship can be explored in depth in the field of pavilion or exposition design. The main purpose behind such designs is to create a perception of form and the existence of the pavilion. There can be no well-defined

[53] Lewis Mumford. 'Function and Expression in Architecture,' *Architectural Record 110.*1951, pp. 106-12.
[54] David Watkin. Morality and Architecture. Clarendon, Oxford, 1977, pp. 40.

activity in the building, as such buildings are designed to explore experience and perceive what architecture is, or what it may be.

In that context, it makes sense that the design of pavilion sets up rules of its own being. They are designed to create a significant effect on its own existence and form. Julia Peyton Jones claims that the program of the pavilion is based on the way it used, and embraces how people use the pavilion, and reorder the space and even the location of the furniture to make it their own.[55] She criticizes that the idea of architect which is based on designing a container for fixed object to exhibit, and wants to show the freedom of architects in their redefinition of pavilion design and its function. The brief is clear and simple: the pavilion should be an example of the architect's architectural perception and language.

The pavilion of Zaha Hadid could be related to the statement of Julia Peyton Jones, since there is no strict function in the 2000 Serpentine Gallery Pavilion. Hadid designed as a flexible space in which the locations of the seating elements are not fixed in a permanent situation. Accordingly, the architect designed a pavilion that comprised a single large gathering space, with no division for other activities. The function of the pavilion could be adjusted by the users of the pavilion based on the activity. The façade of the pavilion was covered with transparent polyurethane, providing a visual relationship between the pavilion and the park, and determined the boundary of the pavilion. The use of transparency can be interpreted that the space was defined as a public space that transformed the relationship between the pavilion, park, Gallery and the users through its existence.

Figure 70 Function and Open/Enclosed diagrams of the 2000 Serpentine Pavilion.
Plan scheme and illustrations produced by the author.

[55] Jodido. op. cit., pp. 15.

Jean Baudrillard states that functionality cannot be differentiated from other systems of interpretation. It fixes the meaning of the object and its use in an arbitrary way; however, it seems that it is designed with a rational attempt.[56] Baudrillard says that the existence of building is fixed according to its use, but in an irrational way, and claims that there is something unreal when an object is considered to be meaningful based only on its function. If the building has a function, its activities can make it meaningful. It is necessary to limit its irrational emerge to recognize the real boundaries and definitions of the functionality principle.[57] He goes on to suggest that functionalism is a pretended application of the use-based form, but on the other hand, it establishes an unreal and distanced connection between the object and functionalism.[58] He claims that the boundary and the meaning of functionalism have to be redefined, since it has lost its main roots and its relationships.

4.2 Non-functional Pavilion

According to Sullivan, functionalism is a design tool in the process of form generation. A final form of the architectural practice can only be designed based on its utilitarian function. The boundaries of the function are determined by the design of architects, the necessities of activities and the users of the space. Function is the key to regulate all of the relationships between the main elements of architecture, such as the plan, section and elevation. On the other hand, the Modernists that adopted this dictum in the 20th century define function as a narrowed definition that is related to use or utility of the architectural space. In fact, this dictum has become inaccurate, being an exchangeable slogan of Modernism that is used by both Modernists and Postmodernists as assumed shorthand.

Jean Nouvel reinterpreted Sullivan's motto and designed the 2010 Serpentine Gallery Pavilion. Nouvel focuses on the event that the pavilion defined, rather than form. The structure reminded Bernard Tschumi's Follies at the Parc de la Villete in Paris; however Nouvel chose to use softer materials, such as red plastics and vast expanses of cloth, to express the temporality of the structure. Tschumi claims that there is no space without event and no architecture without program.[59] This pavilion was defined through different activities and designed in terms of Tschumi's architectural interpretation. Nouvel did not only create a space for the brief of the pavilion, but also offered different spaces for outdoor activities, bringing the tradition of French civic parks to London that he placed red table-tennis platforms, draughts, chess, Frisbees, hammock and kites to encourage play. Nouvel's pavilion was designed with a maximum amount of flexibility and provided both for open and enclosed space in the park. Nouvel designed the pavilion to create a new relationship between public, Gallery and pavilion. He claimed that his primary aim was to invite visitors to experience the complementary pavilion on the lawn without any obligatory to interact with it.

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[56] Jean Baudrillard, trans. Charles Levin. For a Critique of the Political Economy of the Sign. Telos Press, St. Louis, 1981(first published in 1972), pp. 196–197.
[57] Ibid., pp. 192-193.
[58] Ibid., pp. 193.
[59] Bernard Tschumi. "Space and Events", Architecture and Disjunction. Mass: MIT Press, Cambridge, 1996, pp.139.

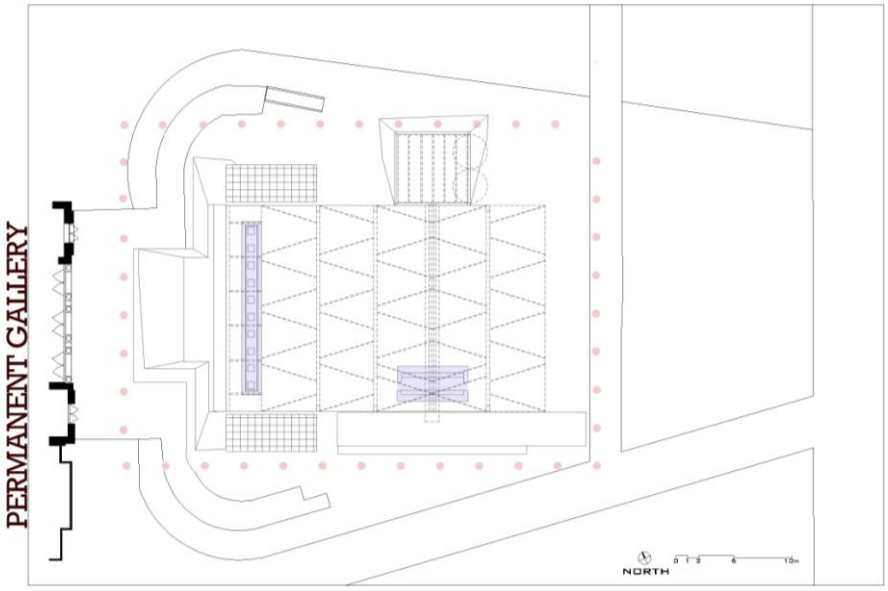

Figure 71 Function and Open/Enclosed diagrams of the 2010 Serpentine Pavilion.
Plan scheme and illustrations produced by the author.

Eco stresses that architecture is concerned mainly with designing to function, although most of the architectural objects do not communicate, and indeed are not designed to communicate. He explains his idea that the basic purpose of a roof is to provide shelter, and nobody can doubt that fact.[60] Architectural design can be an interpretation of the function as a communicative way according to its new forms, methods and materials, but can also bring about the discovery of other types of functionality. One type of functionality is related to how the exposition communicates its context and also itself. The communication of the building hints in the form of a symbolic expression. Eco underlines that the initial point of designing architecture is to see how it communicates, how it defines its relationships and how it represents these relationships through its appearance.

In this regard, 'Eighteen Turns' could be the example of the communicative architecture rather than utilitarian form. The 2001 pavilion was designed as a transition space between the Gallery and the park, generated new relationship with this existing space and also transformed its context through its existence. Using sharply angled surfaces, the architect challenged the idea that there was no strict boundary between the interior and exterior of the pavilion, allowing for a continuity of spaces, with one flowing into the other. The pavilion was an extension of both the gallery and the park. Daniel Libeskind examined the relationships between the pavilion, the park and the gallery, and reinterpreted the boundaries of them. The main intention of the architect was to blur the boundaries and as such, he designed the pavilion as an open space. Daniel Libeskind rewrote the brief of the pavilion and claimed that the structure of the pavilion gave hints to its function through its form, appearing more like a sculpture. The initial point of the pavilion was to exhibit itself with its

[60] Eco. op cit., pp. 174.

new appearance, methods and materials in the park. The primary aim of the pavilion was put forth to how it was communicated with the visitors in terms of the exhibition of itself.

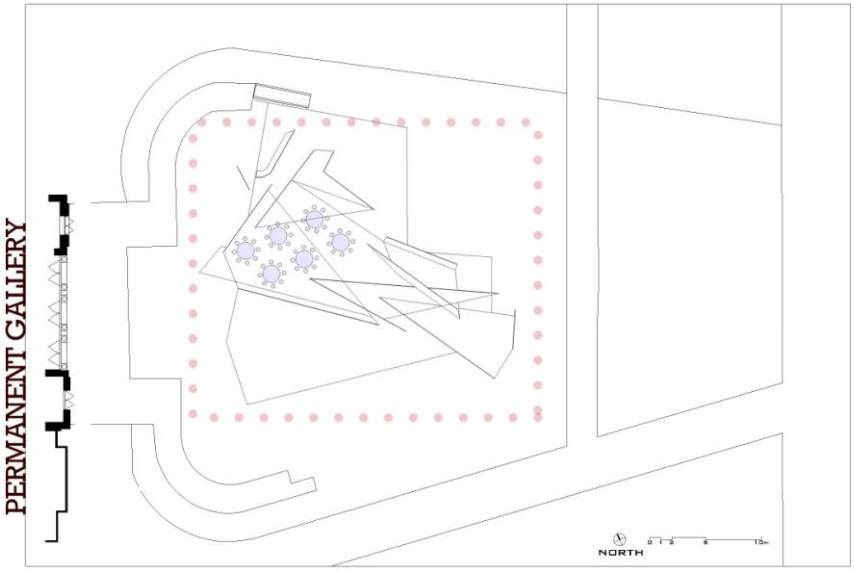

Figure 72 Function and Open/Enclosed diagrams of the 2001 Serpentine Pavilion.
Plan scheme and illustrations produced by the author.

Eco observes that the primary function in the case of pavilions is minimized, while the secondary function is exaggerated. Pavilions are less functional as buildings than as the values of the exposition itself.[61] The definition of function can be redefined as all uses of an object, and with respect to this redefinition, the symbolic capacities of an object cannot be evaluated as less useful than their functional ones. It is clear that the symbolic function of an exposition is more important than its utilitarian function. A relationship exists between an architectural object and the architect that holds the key as to how we experience architecture as a communication, whether or not they have other functions. The main idea behind pavilion design is a representation of the building, and as it is designed based on a short lifespan, it has to be both attractive and communicative.

Similar to observation of Eco, K. Michael Hays claims that a pavilion has its own rarefied spatial order that presents itself as a priori mental structure rather than a palpable worldly object.[62] 'Lilas' the first pavilion of the 2007, was designed as a sculpture next to the Gallery, and just as Hays states, had no function other than exhibiting itself. Zaha Hadid defined this structure as an architectural installation rather than pavilion. This pavilion was unique example of the installation for the Serpentine Gallery Pavilion. The installation did not define a space; just exhibit itself such as a sculpture. The structure of the installation acted as a canopy with three treelike supports, and was accessible from all sides. Hadid explained that the installation took inspiration from complex natural geometries and that the main conceptual features were a complex interwoven symmetry, all the while without

[61] Eco. op cit., pp. 173.
[62] K. Micheal Hays. 'Critical Architecture Between Culture and Form'. Perspecta. Vol. 21, 1984, pp.22.

touching, allowing air, light, and sound to pass through the gaps, being both open, but tending toward closure.[63] The installation generated a flowing and continuous space between the park and the Gallery and was used to give its own symbolic meaning, rather than utilitarian function.

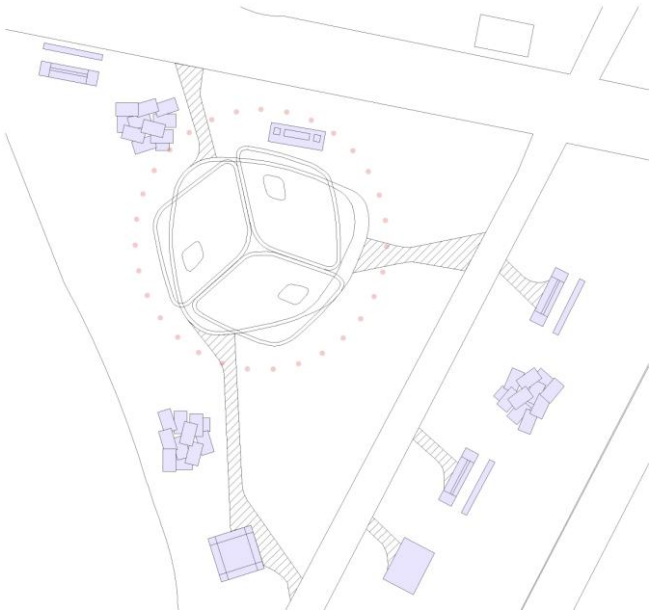

Figure 73 Function and Open/Enclosed diagrams of the 2007/1 Serpentine Pavilion.
Plan scheme and illustrations produced by the author.

In architectural history, the concept of function has always existed, being based on the relationship between the building and the life within that is also designed by architects. How this relationship is designed is something that changed throughout architectural history, and current problem appears to be how to develop a sufficient concept and an appropriate definition to replace or redefine the boundaries of function. Functionalism is a weak concept for the current situation, and cannot be used for the analysis of any architecture. Functionalism, as a principle of modern architecture, has blurred our perception of architectural practice and discourse. Stanford Anderson, in his an essay, 'The Fiction of Function', which analyses the functionalism of modern architecture, claims that current architecture cannot be based on only a functionalist approach.

> 'My argument will be that "functionalism" is a weak concept inadequate for the characterization or analysis of any architecture. In its recurrent use as the purportedly defining principle of modern architecture, functionalism has dulled our understanding of both the theories and practice of modern architecture. Further if one then wishes, as many now proposes, to reject modern architecture, this is done without the adequate knowledge of what is

[63] Jodido. op. cit., pp. I.13.

> rejected or what the rejection entails. Thus I wish first to argue that, within modern architecture, functionalism is a fiction – fiction in the sense of error. Later, I wish to incorporate function within a richer notion of fiction – that of storytelling.'[64]

Anderson underlines that function cannot be the concept for the characterization or analysis of architecture. In modern architecture, function is used as the main element when designing a building, which often results in function-based form without meaning. Despite the fact that many architects reject modern architecture, the main idea behind this rejection or what it is rejected is not well known. Anderson claims that modern architecture fails to define the relations and borders of function, and so it cannot finalize form of the building. From this perspective, architecture cannot be a bearer of meaning, as postmodernists suggest.

While underlining the questions rising from the phrase of 'The Fiction of Function', Peter Zumthor chose to use the phrase 'the function cannot form the architecture' for the 2011 Serpentine Gallery Pavilion. Zumthor designed an enclosed black painted box with a courtyard that was filled with flowers; the idea behind the design was to frame a garden. Zumthor explained his design that he was not interested in events, but rather than event spaces were excluded from the pavilion. He designed a dark narrow corridor that encircled the perimeter of the building between the outer walls that oriented visitors towards the inner courtyard. The exterior and interior wall was designed with many doorways that offered different pathways to visitors, but guiding them to a central inner courtyard that contained long benches, tables and chairs provided seating, although there was no café and auditorium in this pavilion. Zumthor rejected the brief of the pavilion and he did not design the pavilion according to function-based design. He represented the pavilion as a black-box to exhibit its own symbolic meanings.

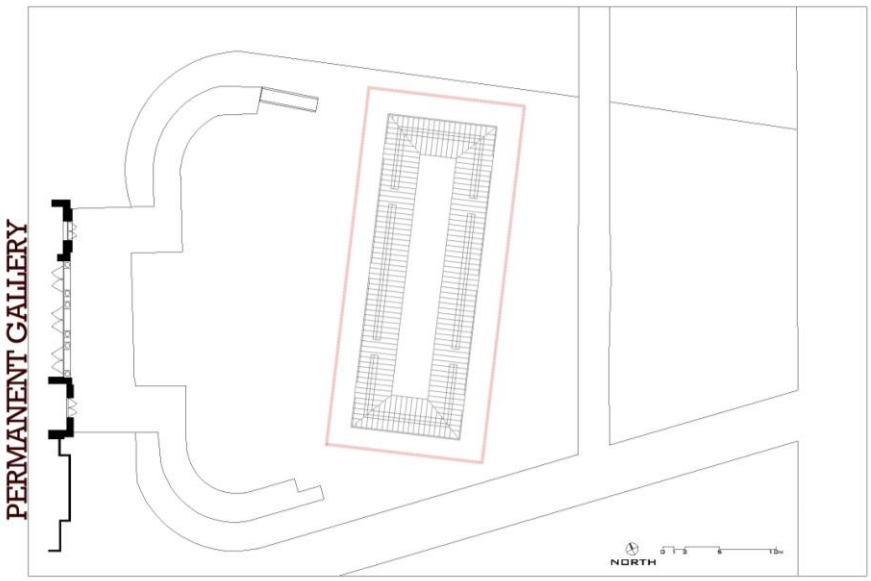

Figure 74 Function and Open/Enclosed diagrams of the 2011 Serpentine Pavilion.
Plan scheme and illustrations produced by the author.

[64] Stanford Anderson. "The Fiction of Function". Assemblage, No.2. February 1987. pp. 19-20.

Henri Lefebvre claims that the science of space should be integrated with the science of use. It would be inaccurate to define use merely in terms of function, as recommended in functionalism, as functionalism is related mainly to function, since each space is assigned with a function within a dominated space and the possibility of multi-functionality is abandoned.[65] Lefebvre claims that the function is related mainly to representation and it can only be experienced in a representational space. Form is a tool for communication, and is also an aspect of use, and at the same time, structure. For Lefebvre, fixed use impoverishes functionalism.[66]. Lefebvre rejects the idea of 'form follows function' and claims that this dictum weakens the possibilities and the strength of the architecture. The space can be defined by the users based on the activity that creates new possibilities and relations within the space.

Alvaro Siza underlined the fact that the main goal of Lefebvre had been stated as to design the 2005 Serpentine Gallery Pavilion based on possibility of multi-functional and representational space. Siza designed the pavilion as a semi-opened space, with six generous openings and inward-leaning supports, thus the boundaries of the pavilion was blurred. Siza established a new integrated relationship between the pavilion and its surrounding. The pavilion was a single space that could be functionalized according to the activity. A curved bar located on the corner of the pavilion, furnished with 20 tables, 80 chairs and 3 chaise lounges, which were also designed by the architect. The architect also designed 200 moveable chairs that could be brought in for the lectures and films, satisfying the requirements of the different stated function that the pavilion was to be used for talks, films, lectures and nighttime sound events. The use of this pavilion was assigned by the users according to the necessities of activities.

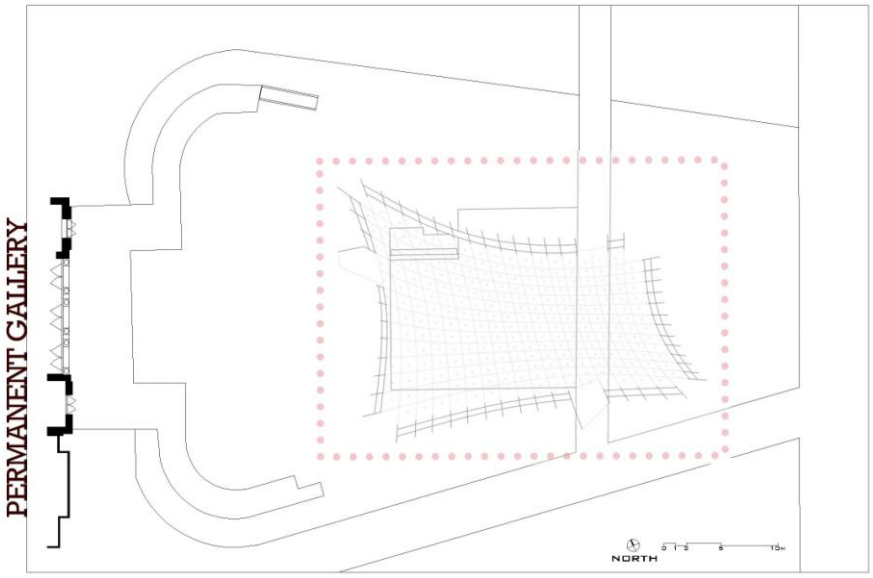

Figure 75 Function and Open/Enclosed diagrams of the 2005 Serpentine Pavilion.
Plan scheme and illustrations produced by the author.

[65] Henri Lefebvre, trans. D. Nicholson-Smith. The Production of Space. Oxford: Blackwell, 1991(first published in 1974), pp. 369.
[66] Adrian Forty, Edited by Korydon Smith. "Function". Introducing Architectural Theory. New York: Routledge, 2012(first published in 2010), pp.173.

Today, architects are aware of the limitations of both functionalism and formalism and so, they are more to be concerned with the meaning, without which, there is no structure. It is important to define the boundaries and relationships between the meaning and the architecture. Alberto Pérez-Gómez underlines the fact that architecture cannot be a combination of formal language and technological structures with arbitrary historical quotations nor can the semantic dimensions of meaning be disregarded.[67] Architecture is not only related to function, form and structure, as it must also have meaning as a communicative tool for the user.

Contemporary architecture seeks to redefine and relocate meaning in the architectural design process. MVRDV experienced the meaning of the temporary structure considering the communication between the observer, the park, the Gallery and the pavilion itself. The 2004 Serpentine Gallery Pavilion offered a new way of exploring about the exhibition. MVRDV defined the pavilion as a device to serve not only the Gallery, but also the park. They designed an artificial mountain which had four stated functions: to absorb the Gallery; to be device for providing new views from different levels; to experience the Gallery in new visual relationships via the openings in the mountain; and to be a device for experiencing the new interior. The interior of the pavilion was a giant three-dimensional lobby in which visitors could sit and experienced the exhibition of the Gallery. Pathways lining the mountain led to the summit of the structure. The pavilion towered high over the roof of Serpentine Gallery and MVRDV reinterpreted the function. As Eco stated before, they designed a pavilion for exhibition and they exhibit both the Gallery and the pavilion itself, so this pavilion was a unique example for the exhibition of the Gallery.

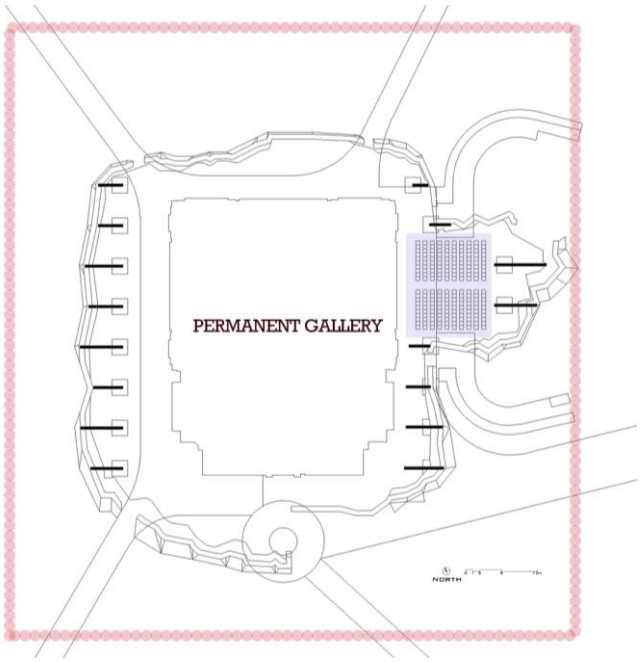

Figure 76 Function and Open/Enclosed diagrams of the 2004 Serpentine Pavilion.
Plan scheme and illustrations produced by the author.

[67] Alberto Pérez-Gómez, Edited by Michael Hays. "Introduction to Architecture and the Crisis of Modern Science". Architectural Theory since 1968. Cambridge: The MIT Press, 1998, pp. 473.

According to Karl Friedrich Schinkel, in architecture there are two elements must be distinguished: the intentional practical necessity of the work and the direct expression of the pure idea.[68] Schinkel asserts that, especially in architecture, there must be two main elements: firstly the function of the building; and secondly the representation of this functionality in its form.

Supported with the claims of Schinkel, the second pavilion of the 2007 was designed to exhibit the representational strength of the pavilion. The pavilion was defined by a geometric pattern that was both articulated as the wall surface. The movement and interaction of the visitors will thus be defining components of the pavilion. Olafur Eliason said that there was the tradition for designing the pavilion as they were not real buildings. It was a display-oriented project, intended to form a strong bond between the park, the Gallery and the pavilion itself. The designers of the pavilion re-conceptualized the traditional single-level structure by adding a third dimension-height. With the inclusion of a spiral ramp, visitors were able to experience vertical movement within a single space and could move within the space through the spiraling form. The interior of the pavilion was formed integrated with the spiral rise of the exterior ramp.

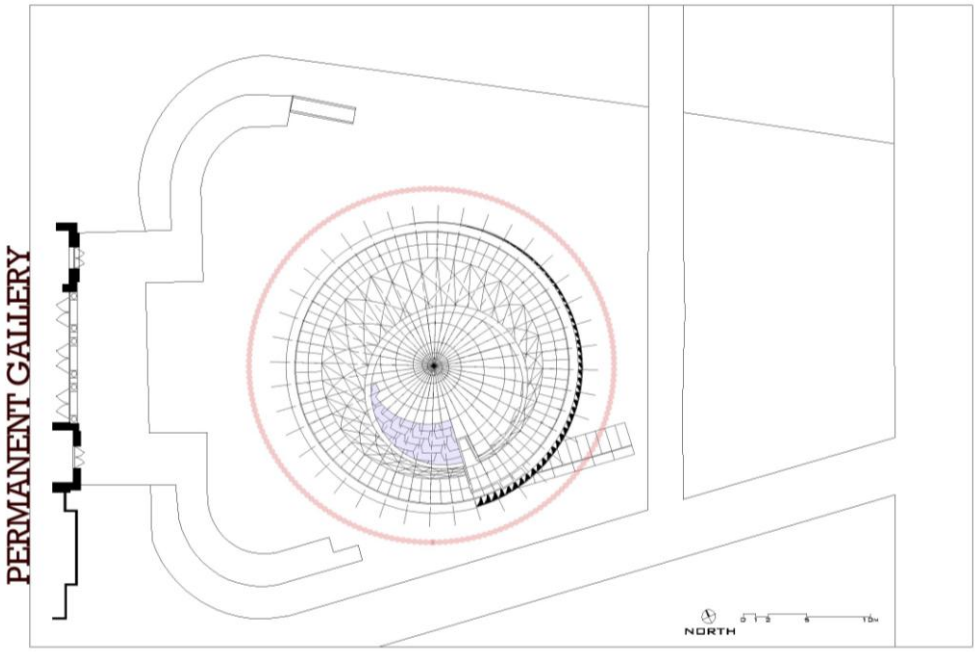

Figure 77 Function and Open/Enclosed diagrams of the 2007/2 Serpentine Pavilion.
Plan scheme and illustrations produced by the author.

The architects of the latest Serpentine Gallery Pavilion were more to concern with the meaning rather than the functional requirements. The architects were aware of the significance of these pavilions and explored new communicative ways while designing these

[68] Adolf Behne. The Modern Functional Building. United States of America: The Getty Research Institute for the History of Art and the Humanities, 1996, pp. 88.

temporary structures. These structures became the combination of formal language, indicator of the new technological developments and the key to semantic dimensions of meaning. Another interpretation of meaning was the exhibition of 2012 pavilion. Herzog & de Meuron and Ai Weiwei designed based on a concept of archeological excavation. They interpreted the meaning of the pavilion in terms of the historical background of the Serpentine Pavilion since 2000.The function of this pavilion was to exhibit the past traces of the previous pavilions, and so the base of the pavilion was 1.5m below ground, allowing visitors to observe the traces left behind by the past pavilions. The designed layout traced the intersections of the past pavilions, generating different seating areas. The rooftop reflecting pool could be drained into the seating space, and could be used as a dance floor or an elevated viewing platform for special events. The architects also designed cork-covered stools shaped like mushrooms, providing seat for visitors below the canopy. The pavilion was operated as a public space and as a venue for park nights, public talks and events. The brief of the pavilion was not considered, since it was not so strict. There was no café and auditorium in the pavilion that were requirement of the pavilion. The café was excluded from the pavilion, being housed instead in a container next to the pavilion.

Figure 78 Function and Open/Enclosed diagrams of the 2012 Serpentine Pavilion
Plan scheme and illustrations produced by the author.

The interpretation of the meaning was varied to base on the perception of the architect. The temporary structures gave an opportunity for exploring and experiencing the meaning of the pavilion and also its representation. Toyo Ito was the architect of the 2002 Serpentine Gallery Pavilion, designed based on the idea that there was no boundary between the pavilion and its surrounding. At first glance the pavilion was perceived as a close box and it had no connections with its context. In fact, the pavilion had great openings, some of which

were covered glass, acted as a mediator between the interior and the exterior of the pavilion. The main intention was to blur the boundaries of the inside and outside, so it was created nearly nonexistent distinction between them. The pavilion was designed as a single space and the organization of the pavilion could be redesigned considering the activity of the users. Ito stated that the pavilion was a space to be used during the summer period as a café with required event space. The position of furniture could be reassigned by the users of the pavilion considering the space that was the key to flexible design approach. The café stand was located on the corner of the pavilion with the seating units sited based on a grid system inside the pavilion. This pavilion was also designed to exhibit itself with its new method. The primary aim of the architect was to attract the observer in terms of the packing of the pavilion rather than its utilitarian function. Therefore the architect ignored the requirement of the auditorium and only designed a space within the park.

Figure 79 Function and Open/Enclosed diagrams of the 2002 Serpentine Pavilion
Plan scheme and illustrations produced by the author.

To conclude, expositions and pavilions serve to present not only objects, but also expose their own existence. The main ideology behind an exposition is to demonstrate that the packaging is more important than the function and form. The architecture of these temporary structures is used to give symbolic meaning, and the utilitarian function is minimized in comparison to its meaning. These temporary buildings should be a key to discover other types of communication such as the value of culture and the image of a civilization, and architects must be aware that the representation of these buildings is more important than its functional requirements. The main function of these buildings is the provocation of awareness of its representation. Expositions and pavilions are territories for representation that is related mainly to exhibit their own forms, new technologies, materials and methods.

CHAPTER 5

CONCLUSION:

LASTING DEBATES VERSUS TEMPORARY ARCHITECTURE

This study has investigated the term ‘temporary’ as a creative tool in the production of architecture, with an overview of contemporary practices in pavilion design realized through a reinterpretation of ‘temporality’ as a means of producing exhibition architecture and as a mode of its representation. To this end, the yearly tradition of the Serpentine Gallery Pavilions provides an ideal platform for an examination of the concept of temporality for this thesis, launching a discussion on the dialectic relationship between temporary exhibition architecture and its different modes of representation. These serial annual pavilions provided a continual discursive environment on the boundaries of temporary architecture. The Serpentine Gallery Pavilions have played a leading role in this study, and have given form to the theoretical framework, by serving as a bibliographical index in the direction of this study.

With respect to the one of the objectives of the pavilion design as a production of temporary architecture, which have a potential to create a long-lasting impact and memory on architectural discourse, although they lack the durability for the passage of years. Pavilions have been positioned for analyzing the relationships, boundaries and definitions of temporary architecture, and have made a noticeable impact, witnessing a rise in interest in recent years. Pavilion design differs from more conventional architectural practices, since it lacks the limitations of established functions and economics. It is usually inexpensive, small-scaled and easily demountable, and moreover, its period of existence is determined at the very beginning of the generation process. Even though it is designed for only one specific task, it has several advantages, such as its ability to have a long-lasting impact on contemporary architecture and its discourse, its creation of a ‘new’ memory in architectural practice, and its generation of a power of perception.

In the domain of architectural discipline, this thesis focuses primarily on the pavilion as an object of experimental architecture. Temporary architecture has been argued to establish new relationships that differ from those found in more permanent structures by expanding the boundaries of the spatiality of permanent architecture. Therefore, this study has argued that the way of designing temporary architecture can serve as a foundation for experimentation,

owing to its small scale and transitional nature, and can thus be considered as a 'laboratory' in architectural practice in terms of its use of new materials and methods. Hence its very nature challenges the permanence of architecture, and gives the architect the power to experience new tools and concepts in the field. The second chapter has introduced the possibilities and potentials of temporary structures, as in the case of the Serpentine Gallery Pavilions, allowing the boundaries of experimentation to be interpreted. The architects of the Serpentine Pavilions have reinterpreted this temporality through their designs and so an investigation of the series of pavilions can provide an understanding of creativity in experimental architecture. This experimentation has formed part of future architecture, and developed through researches into the potentials of influencing contemporary architecture, and part of this experimentation demands a redefinition of the pavilion, in that there is no exact definition of what a pavilion is. Pavilion design has been regarded to make a great connection to future architecture as pioneering examples of what will become wider construction.

While referring to the future architecture, the representation of both temporality and permanence has been set out in terms of material, methods and concepts of the architectural product. The designed ability of a permanent architectural product to endure eternally has been related to the material resistance and the durability of the construction against the effects of time and nature. The materials and construction methods used in the Serpentine Gallery Pavilions has been investigated to explore permanence and temporality nature, since the details of the pavilions reveal their potential for reuse and durability throughout time. Although the pavilions were constructed to carry out only one short-term task, and were designed as temporary structures, a number of them have been reconstructed in different locations and times, and this reconstruction of the pavilions has been questioned to put forth their temporality.

An examination has promoted how these temporary structures expose themselves in the fourth chapter. The symbolic meaning of the pavilion, which aims to discover new types of communication, takes precedence over its utilitarian function. Pavilion design is dealt with a territory for new representation, in which the end product exhibits itself as an object and exists to demonstrate its own forms. The primary intention in designing such temporary structures has been construed as an extension of the permanent architectural practice. Thus, temporary structures can establish a new relationship with their surroundings, and transform the existing space through their own beings, and this relationship introduces a new type of interaction with the public and passes on a message in terms of its representation. The pavilion is the major object of the exhibition, and so the intention in this part is to reveal how the pavilion exhibits its own symbolic meaning, and its departure from function-based design. The aim here is to exhibit the packing of the pavilion rather than to define a utilitarian function. Hence temporary structures have been used to give symbolic meaning that is a discovery for providing a communication between the observer, the architect and the pavilion itself, and this communication has served as a tool for raising awareness of its representation. The pavilion is interpreted as a territory for the representation of 'new' architectural practices, related mainly to the exhibition of its own forms, but also new technologies, materials and methods.

It is claimed in this thesis that pavilions have a great impact on architectural discourse and have the potential to play a leading role in the development of architectural practice.

Therefore, they have potential to raise awareness among the press and wider architectural society by defining the space in which they are located. Several of the most acclaimed architectural magazines have given space within their pages to these temporary structures, including Architectural Review, Architectural Design, A+U, Detail and Architectural Record.

> 'In terms of analysis, the exhibition system marks a crucial intersection of discourses, practices, and sites which define the institution of art within a definitive social formation. Moreover, it is exactly here, within this inter-textural, inter-discursive network that the work of art is produced as text.'[69]

So says American artist Mary Kelly sharing her thoughts on exhibition systems and their ability to provide an interrelationship between architectural discourse, practice and social formation. There are many disciplines that are taking on critical mass related to this issue, such as those dealing with museum studies, museology, curatorial studies, the cultures and organization of display, architecture, and architectural history, particularly exhibition history. Exhibition, exposition and pavilion design in architectural discourse all deal with the same structures.

The temporary architectural practices have power to generate a discursive environment, while defining a space where they are located. These temporary structures may be the reference for the permanent architectural practices that can be constructed more extensively in the future. They can be a key to establishing an effective relationship with the environment and space, and to have an effective suggestion about the future architecture that would not be possible with more complex contemporary buildings. Temporary architectural practices have influenced contemporary architecture and the architect's perception, making open-minded statements on architecture that can be taken up by architects in future projects. This interaction constitutes a practical and conceptual background of the architectural domain.

In this study, pavilions has been argued to stimulate lasting debates in architectural discourse, related not only temporality itself, but also in the redefinition of pavilion by architects. Cecil Balmond states that pavilions have developed around architectural debates on various structural typologies and materials; however, it is not only the typology and materials that are worthy of note, as the definition of the pavilion is also worth mentioning.[70] All effort is spent to create a structure that may be dismantled quickly, leaving nothing behind, and so the exercise retains freshness and seems to make a contribution of a very different kind. Pavilions have the potential to interpret 'other' types of architecture, which is related to temporality and raises consciousness in architectural practices.

These temporary structures have provoked many debates in the domains of architectural research, discourse and practice such as those dealing with pavilion architecture, temporary architecture, museology, curatorial studies and exhibition design; whether the pavilion was built or not. They have potential to set up new techniques in the production of architecture,

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[69] Iwona Blazwick, Edited by Paula Marincola. "Temple / White Cube / Laboratory". What Makes A Great Exhibition?. Pennsauken: Philadelphia Exhibitions Initiative Philadelphia Center for Arts and Heritage, 2006, pp. 118.

[70] Jodido. op. cit., pp. VII.06.

pioneering of new architectural generation processes, and directing the exploration and experiencing of new concepts, method and materials. The interpretations, debates and investigations of pavilions transcended its temporary nature, and these structures raise awareness, criticism and reflection, which are seen as the primary function in temporary architectural practices.

Pavilions, expositions and exhibition spaces invite not only the architect, but also the public to comment on and think about architecture. Thus, both the architect and observer of the pavilion are driven to open debate on these structures, which plays a role in the research, practice and opening of various possibilities in architectural space design. In this regard, pavilions can be reinterpreted as an agent to redefine and reformation of the borders of architectural discipline.

The aim of the thesis is to put emphasis on the importance of the pavilion as a temporary architectural production and to reveal the dialogue it inspires between architecture, architectural discourse, the architect and the observer as profession for the redefinition and interpretation of the pavilion design. Drawing upon the example of the Serpentine Gallery Pavilions, emphasis has been on the pavilion as a public space of experimentation in architecture. In this thesis, the intention has been to motivate deeper and more critically concerned architectural studies in the design of temporary architecture, with the purpose of influencing architecture in the future. As such, it can be claimed that a particular merit of this thesis is its presentation of how acclaimed architects deal with the issue of temporality, when given the same context, and how they define their own pavilion with a ‘new’ vision in architecture. Temporary architecture has a profound on architectural discourse and practice, and allows new opportunities in the field of architecture to be remarked upon and analyzed. In short, temporary structures offer the architect with a broad variety of freedoms to experience the ‘new’ in architecture.

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APPENDIX A

TABLE: LIST OF THE SERPENTINE PAVILIONS

TABLE: LIST OF THE SERPENTINE PAVILIONS

	Architect	Material	Overall Site Area (m^2)	Height (m)	Footprint of Pavilion (m^2)	Duration	Engineering Design
2000	Zaha Hadid	Steel, Textile, PVC	600	6 (max.)	600	19 June – 3 September	Arup
2001	Daniel Libeskind, Cecil Balmond	Steel, Aluminum	300	6 (max.)	300	17 June – 9 September	Arup
2002	Toyo Ito, Cecil Balmond	Steel, Aluminum, Glass	310	5.3	310	15 July – 1 September	Arup
2003	Oscar Niemeyer, José Carlos Sussekind	Steel, Aluminum, Concrete, Glass	300	7 (max.)	300	20 June – 14 September	Arup
2004	MVRDV	Galvanized Steel	2475	23	2475	unrealised	
2005	Alvaro Siza, Eduardo Souto de Moura, Cecil Balmond	Steel, Timber, Polycarbonate	380	5.4	374	2 July – 2 October	Arup
2006	Rem Koolhaas, Cecil Balmond	Steel, PVC, Polycarbonate	650	24 (max.)	346	13 July – 15 October	Arup
2007	Zaha Hadid	Steel, PVC, Plywood	310	5.5	310	12 July – 21 July	Arup
2007	Olafur Eliasson, Kjetil Thorsen	Steel, Timber	450	15	450	24 August – 5 November	Arup
2008	Frank Gehry	Steel, Timber, Glass	526	16	418	20 July – 19 October	Arup, Cecil Balmond
2009	Sanaa	Steel, Aluminum, Acrylic, Concrete	580	1-3.5	557	12 July – 18 October	Arup, Cecil Balmond
2010	Jean Nouvel	Steel, Polycarbonate, Glass, Fabric	500	12	500	10 July – 17 October	Arup, Cecil Balmond
2011	Peter Zumthor	Timber	396	5.3	396	1 July – 16 October	Arup
2012	Herzog & de Meuron, Ai Weiwei	Steel, Cork	660	1.1-1.4	435	1 June – 1 October	Arup

APPENDIX B

THE PRESS RELEASE OF THE SERPENTINE GALLERY PAVILIONS 2005-2013

Serpentine Gallery Pavilions 2012 – 2000

Serpentine Gallery Pavilion 2012
Designed by Herzog & de Meuron and Ai Weiwei

'The annual Serpentine Pavilion commission in London's Kensington Gardens is such a moment – a measure of the condition of contemporary architecture'
Financial Times

Serpentine Gallery Pavilion 2011
Designed by Peter Zumthor

'The idea of the Pavilion is a beautiful conceit, that of this quiet, tranquil, cloistered space, in a public garden, in the centre of London'
The Guardian

Serpentine Gallery Pavilion 2010
Designed by Jean Nouvel

'Transient glory: 10 years of the Serpentine's star pavilions.'
The Observer

Serpentine Gallery Pavilion 2009
Designed by Kazuyo Sejima and Ryue Nishizawa of SANAA

'mesmerizing, and fun... once again, the Serpentine succeeds, big time.'
The Times

Serpentine Gallery Pavilion 2008
Designed by Frank Gehry

'Gehry's name completes a straight flush of the most feted international architects of the day.'
Daily Telegraph

Serpentine Gallery Pavilion 2007
Designed by Olafur Eliasson and Kjetil Thorsen

'A delightful and beautifully thought-out game.' The Guardian

Serpentine Gallery Pavilion 2006
Rem Koolhaas with Cecil Balmond – Arup

'A helium roof that rises and falls with the weather? Rem Koolhaas's Serpentine Pavilion is a joyous extravagance.'
The Guardian

Serpentine Gallery Pavilion 2005
Álvaro Siza and Eduardo Souto de Moura with Cecil Balmond – Arup
'The temporary pavilion has become unmissable, a rare opportunity to view the work of the finest international architects at first hand. This is how architecture should be exhibited and remembered.
Financial Times

Serpentine Gallery Pavilion 2003
Designed by Oscar Niemeyer

'Imagine Garbo or Sinatra in their prime, and performing now. With this week's opening of the 2003 Serpentine Gallery Pavilion, just such a time-warping miracle is taking place.'
Evening Standard

Serpentine Gallery Pavilion 2002
Designed by Toyo Ito with Arup

'Why can't all new buildings be this good? Toyo Ito's magical summer pavilion at the Serpentine Gallery is a lesson in imagination.'
Evening Standard

Serpentine Gallery Pavilion 2001
Designed by Daniel Libeskind with Arup

'Temporary structures like Eighteen Turns *are great additions to our parks and cityscapes they can offer us adventurous, alternative and even radical impressions of what a new architecture might be.'*
The Guardian

Serpentine Gallery Pavilion 2000
Designed by Zaha Hadid

'Briefly brilliant...'
The Guardian

June, 2005

The Serpentine Gallery Pavilion 2005 has been designed by the celebrated Portuguese Pritzker Prize-winning architect Álvaro Siza and the distinguished architect Eduardo Souto de Moura. As in past years Cecil Balmond, Deputy Chairman of Arup, together with his team, has worked closely with Siza and Souto de Moura to develop the scheme.

In designing the Pavilion, Siza sought to 'guarantee that the new building – while presenting a totally different architecture – establishes a "dialogue" with the Neo-classical house'. The result is a structure that mirrors the domestic scale of the Serpentine and articulates the landscape between the two buildings.

The Pavilion is based on a simple rectangular grid, which has been distorted to create a dynamic curvaceous form. It comprises interlocking timber beams, a material that accentuates the relationship between the Pavilion and surrounding Park.

A translucent polycarbonate covering allows light to penetrate the Pavilion. This impermeable shell stops 1.3m from the ground so that the structure appears to hover above the lawn, poised like an animal with an arched back and taut skin, ready to pounce.

Each panel of translucent cladding has at its centre a solar-powered electrical lamp creating small pinpricks of light that provide a circular contrast to the overall grid of the Pavilion. The interior of the Pavilion serves as a café by day and a forum for learning, debate and entertainment at night and will feature furniture specially designed by Siza.

Siza is the greatest living Portuguese architect. He has been the recipient of numerous international awards for his architectural achievements and was named Laureate of The Pritzker Architecture Prize in 1992. Critics have praised his experimentation and freshness of approach. Born in 1933, he completed his first building in 1954. Siza's award-winning projects range from mass housing developments to swimming pools, private houses, banks, office buildings, restaurants, shops and art galleries, but he is best known for the Serralves Museum in Oporto.

Having worked with Siza for several years, Souto de Moura established his own practice in 1980. His work is characterized by a respect for vernacular architecture and abstract Modern forms. Among his many public projects, he is best known for the Municipal Market in Braga, the Portuguese Pavilion at the Hanover Expo 2000 built with Siza, and the Braga Stadium for the European Football Championships in 2004. The 30,000 seat Stadium serves as an anchor point for future development in the area north of Braga city centre.

For the second year running, the Serpentine Gallery Pavilion will be supported by Eurex, the world's largest futures and options exchange. Rudolf Ferscha, Chief Executive Officer of Eurex, said: "We are delighted to be associated with one of London's finest and most accessible modern and contemporary art galleries and the Serpentine Gallery Pavilion offers us a fantastic opportunity to interact with our London-based customers and the community at large. Eurex stands for open and equal access to financial markets. We connect people across borders and, in this spirit, we support this exciting project."

Finnforest Merk is Europe's leading supplier in engineered timber products and construction solutions. With a strong commitment to the environment and sustainability the engineered timber, Kerto (LVL), used in this year's Pavilion will have been sourced from their own fully certified sustainable managed forests. Warren Dudding, UK Marketing Manager, Finnforest Merk said: "Finnforest Merk is proud to be able to contribute towards this year's project and play its part in delivering yet another landmark Pavilion for the Serpentine."

The Pavilion café, run by the award-winning Rivington Grill, Bar and Deli, will be open daily 10am to 6pm, sponsored by Lavazza.

Time Out Park Nights: Summer at the Serpentine Gallery will include two open-air films on a 50 foot screen in Kensington Gardens, Friday late-night architecture talks, film screenings and sound events until 10pm.

For more information please contact Erica Bolton,
Bolton & Quinn 020 7221 5000
Or Rose Dempsey, Serpentine Gallery 020 7298 1520/28
rosed@serpentinegallery.org

The Pavilion has also been generously supported by

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July, 2006

OMA

Serpentine Gallery Pavilion

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Date: 13 July – 15 October 2006
Construction period: 8 May 2006 – 4 July 2006
Overall Site area: 650 sqm
Footprint of Pavilion: 346 sqm
Maximum height of inflated membrane: 24m
Floor platform: Galvanised steel frame with non–slip galvanised floor; Roof canopy: Semitransparent PVC air filled membrane; Walls: Clear twin walled polycarbonate sheet.
Pavilion Programme: Time Out Park Nights programme of talks, films, lectures, throughout the Pavilion period (18.00 – 23.00). By special arrangement, and with permission from the Royal Parks, two 24-hour interview events were held, over two separate weekends, within the Pavilion.

Architectural Design: Partner in Charge: Rem Koolhaas
Project Architect: Clement Blanchet
Team: Adam Furman, Karel Wuytack, Karen Crequer

Integrated Design: Arup
Principal in Charge: Cecil Balmond
Team: Chris Carroll, Carolina Bartram, Tristan Simmonds, Steve Walker, Andrew Grant, Anthony Ferguson, Phil Greenup
Project Advisors: Lord Palumbo, Serpentine Board of Trustees; Zaha Hadid, Serpentine Board of Trustees; Peter Rogers, Stanhope Plc; Mark Camley, Royal Parks Agency
Project Directors: Julia Peyton-Jones, Director, Serpentine Gallery and Co-Director, Exhibitions and Programmes; Hans Ulrich Obrist, Co-Director, Exhibitions and Programmes and Director of International Priojects
Project Manager: Mark Robinson
Project Organiser: Kathryn Rattee, Serpentine Gallery
Planning and Building Control: City of Westminster Planning and Transportation Department
Quantity Surveyors: Davis Langdon Management; Town Planning Consultants DP9
Construction Management: Bovis Lend Lease
Planning Supervisor: Bovis Lend Lease
Sale: Knight Frank
Ground Works and Site Facilities: John Doyle Group; GTL Partnership Ltd; SES Ltd
Flooring System: FH Brundle; Sheetfabs; 13
Polycarbonate Wall System: Bay Plastics Ltd; Sheetfabs
Inflatable Structure: Hightex with Tensys
Structural Steel: William Hare
Lighting Installation: T Clarke
Lighting Supply: Siteco
AV Consultant: Mark Johnson Consultants Ltd
Security: Clipfine
Dismantling and Refurbishment: Keltbray

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OMA

The Serpentine Pavilion 2006 is co-designed by Pritzker Prize-winning architect Rem Koolhaas and structural designer Cecil Balmond. The centrepiece of the design is a spectacular ovoid-shaped inflatable canopy that floats above the Serpentine's lawn. Made from translucent material, the structure is illuminated from within at night. The canopy will be raised into the air or lowered to cover the amphitheatre below according to the weather.

The walled enclosure below the canopy functions both as a café and forum for daily televised and recorded public programmes including live talks and film screenings in the Time Out Park Nights at the Serpentine Gallery programme. Highlights include two 24-hour interview marathons (convened by Koolhaas and Hans Ulrich Obrist) with leading politicians, architects, philosophers, writers, artists, film-makers and economists exposing the hidden and invisible layers of London.

A major exhibition of works by the German artist, Thomas Demand, will be on show at the Serpentine during this period. Demand is developing work to be included in the Serpentine Gallery Pavilion 2006.

Rem Koolhaas said: "The 2006 Serpentine Pavilion will be defined by events and activities. We are proposing a space that facilitates the inclusion of individuals in communal dialogue and shared experience."

Cecil Balmond said: "These Pavilions have evolved with various structural typologies and materials, provoking a debate on architecture; this year the exploration continues not only with typology and material but with the very definition of Pavilion."

Each Summer, the Serpentine commissions an internationally acclaimed architect to design a temporary Pavilion for its lawn. The programme is unique worldwide. Conceived by Julia Peyton-Jones, Director, Serpentine Gallery, the project represents a rare opportunity for architects to create a more experimental structure in the United Kingdom, where none of those invited has ever built before. Those selected previously are Zaha Hadid, 2000, Daniel Libeskind with Arup, 2001, Toyo Ito with Arup, 2002, Oscar Niemeyer, 2003, MVRDV, 2004 (unrealised) and Álvaro Siza and Eduardo Souto de Moura with Cecil Balmond – Arup, 2005.

August, 2007

Serpentine Gallery Pavilion 2007
by Olafur Eliasson and Kjetil Thorsen
24 August – 5 November 2007

The Serpentine Pavilion 2007 is a spectacular and dynamic building. The timber-clad structure resembles a spinning top and brings a dramatic vertical dimension to the more usual single-level pavilion. A wide spiralling ramp makes two complete turns, ascending from the Gallery's lawn to the seating area and continuing upwards, culminating at the highest point in a view across Kensington Gardens and down into the chamber below.

The Pavilion will act as a 'laboratory' every Friday night with artists, architects, academics and scientists leading a series of public experiments. The programme, conceived by Eliasson and Thorsen with the Serpentine, will begin on 31 August and culminates in two extraordinary **24-hour Serpentine Gallery Experiment Marathons**, first in the Pavilion in London during Frieze Art Fair, then in Berlin in November.

The Serpentine Gallery Pavilion commission, now entering its eighth year, is an ongoing programme of temporary structures by internationally acclaimed architects and individuals. It is unique worldwide and presents the work of an international architect or design team who, at the time of the Serpentine Gallery's invitation, has not completed a building in the UK. The Pavilion architects to date are Rem Koolhaas and Cecil Balmond, with Arup, 2006; Álvaro Siza and Eduardo Souto de Moura with Cecil Balmond, Arup, 2005; MVRDV with Arup, 2004- (un-realised); Oscar Niemeyer, 2003; Toyo Ito with Arup, 2002; Daniel Libeskind with Arup, 2001; and Zaha Hadid, 2000.

As part of the expansion of the Serpentine Gallery's programme, the architecture strand this year also included *Lilas*, an installation commissioned from Zaha Hadid Architects and designed by Pritzker Prize-winning architect Zaha Hadid and Patrik Schumacher on the occasion of the Gallery's world-renowned fundraiser, The Summer Party, which took place on 11 July.

Based on the principle of a winding ramp, the 2007 Serpentine Gallery Pavilion explores the idea of vertical circulation within a single space. The aim is to reconsider the traditional, single-level pavilion structure by adding a third dimension: height. The vertical movement of visitors in the Pavilion will complement the horizontal circulation in the exhibition spaces at the adjacent Serpentine Gallery.

Visitors are invited to ascend from the lawn to the roof via the ramp, which functions as a mediator between the Pavilion interior and its surroundings. Whilst journeying upwards, they will first encounter the interior space, which is followed by an enclosed stretch of the ramp with the surroundings only glimpsed through the louvered facade. As they proceed, visitors will complete the spiralling movement, the ramp becomes integrated into the roof of the Pavilion, and they experience a full, unhindered view of the park.

The interior will be lit by daylight, emitted through the oculus in the roof. The space itself is defined by a geometric pattern that is both articulated as the wall surface and as places in which one can sit. The movement and interaction of the visitors will thus be a defining component of the Pavilion.

Olafur Eliasson and Kjetil Thorsen, 2007

Serpentine Gallery Pavilion 2007
by Olafur Eliasson and Kjetil Thorsen

Selected Press Quotes

As an exercise in architectural play, the Serpentine Gallery Pavilion has established its own unique tradition, one that hothouses an idea over a few months to arrive at something the public rarely gets to see – an architectural show with a real building at its heart. *The Times*

The Serpentine Pavilions are eagerly looked forward to each year and serve as a reminder of how temporary buildings enliven a city centre....
The Guardian

Temporary structures like *Eighteen Turns* [Daniel Libeskind with Arup, 2001] are great additions to our parks and cityscapes. They can offer us adventurous, alternative and even radical impressions of what a new architecture might be.
The Guardian

No doubt about it: the best way to exhibit contemporary architecture is not to put it on the wall, but to build it. *New York Times*

Olafur Eliasson and Kjetil Thorsen in Conversation with Julia Peyton-Jones and Hans Ulrich Obrist, May 2007

To be published in the catalogue produced to accompany the *Serpentine Gallery Pavilion 2007 by Olafur Eliasson and Kjetil Thorsen*

JP-J Can we start by talking a little bit about your working processes in collaborating on this project?

KT One of the things we've been discussing when it comes to our working processes is the difference between the analogue and the digital process. On an old-fashioned typewriter, for instance, you have to know the full sentence before you can start typing it because it would be too much work to start all over again each time you changed your mind. So you sketch the whole piece of writing out before you commit it to print. The digital process means that you don't have to know the end result: you can change things during the process. Then it's just a matter of creating the environment for that process, which at that point has an uncertain goal within an uncertain time frame. Using digital tools, you can change positions: departing from point A with an uncertain result at point B. This is what the process has been about so far.

HUO This relationship between analogue and digital is very interesting. Some years ago, the artist Gustav Metzger raised the question of the disappearance of analogue drawing because of digital tools.

OE To me, the important thing is that Kjetil and I have the same approach in terms of content. When I say 'content', I don't mean a programmatic sense of content; I mean intentionality, and a kind of free trajectory: not knowing exactly where it's heading. We wouldn't start out by drawing a curved line, for example, and then talk about what that could be used for. Normally we'd approach it the other way around, by saying, 'We have a desire, we have a dream, we have intentions and we want to execute them', and for that we need to have a form – we need some degree of containment in order to sustain the values we believe in. Then we would ask, 'What does the line look like?'

It was after building that sense of a common trajectory through discussion that we started talking about drawing. This is how the idea of the spiral came about: using temporality as a very instrumental part of the Pavilion, looking at the previous Pavilions and trying to leave what has already been done behind and to add new layers of meaning to it. In the beginning we'd normally use analogue tools – drawing with pens – but I don't think it's very interesting to ask whether one draws with analogue or digital means. There's a tendency to romanticize 'Meister' drawings – and I guess in some cases it's justified – but if you're good at both types of drawings, there's no clear difference between analogue and digital. For me, it's about practicalities and about speed. Digital drawing is extremely slow, but it does save time at the other end, when you have to calculate how many square metres you need. Analogue drawing is very fast in the beginning but slow at the end. So you start with analogue drawing and use the digital tools later. It's as pragmatic as that.

KT Drawing is a way of thinking. It's a conceptual rather than a diagrammatic way of explaining, of clarifying. To me, the relationship between drawing and thinking is not limited to the specific tool of communication. The drawing is worth more than

its value as artistic expression, although diagrams can be fantastically beautiful, and to transform that drawing into a digital production is just a different part of the process. The pencil and the computer are only tools; they're not as important as the people behind them, but in any case they're similar; they're just different parts of the process.

HUO Did you do the drawings together or did one of you make them and the other one edit them? Does it work a little bit like a palimpsest?

KT When you're talking about your ideas in a workshop situation, analogue drawing is an essential tool. You could call it *Mischkunst* – the mixing of arts. It's like a game where you make one drawing, then the next person takes that drawing and copies it, almost, but adds a different angle, and thus it develops into a consensual understanding of what you're trying to achieve.

JP-J Could you talk about how you conceived the project in relation to London, and not only London, but the park in which we sit, which is both part of the city and separate from the city. Was that factored into your ideas at all?

OE Yes. A city, with all its history, reflects the value systems at the time when its neighbourhoods were developed, and urban planning reveals the dominant ideologies. And the same goes for the park: it's a wonderful recreational area within the city, and it's also a construction of nature, an exhibition of a certain idea of life. And here we have a teahouse, the Serpentine, which has since become a gallery. When the teahouse was built, the aristocratic, oriental fashion of having tea while enjoying nature was at its peak. It was a highly constructed situation and therefore not about reality; it was about the construction of reality. Nowadays, the teahouse is used for exhibitions that are also not reality, but pictures of reality, which then, as a consequence, become reality. On top of that, there's the tradition of making Pavilions, which in a sense are not real buildings. It's a display-oriented trajectory, from the large exhibitions in the 19th century to modern ones like the Frieze Art Fair. So, throughout the history of the relationship between the park and the city, between the Serpentine and the park and between the Serpentine and the Pavilion, we see an ongoing negotiation of what constitutes reality. This determines the degree to which we allow people to understand the potential of this construction as a means to re-evaluate themselves in relation to their surroundings.

The Pavilion is different from an urban house: it has a distinct relationship with a constructed natural setting, like follies in French and English gardens. Also like the folly, it aims to be unpredictable. So here we have a set of rules, or a tradition at least, where the idea is to be unpredictable; the Pavilion must perform something different from an urban house in a street in the city of London. The reflexive potential of such a structure, the question of what type of performativity is built into this complex event, is what we had to sit down and talk about before we could actually get to the point of designing and drawing. This is why every aspect of the Pavilion also makes reference to the other parts of it. There's no vanishing point; there's no ending – well, there is an ending, but it's …

KT A re-routing.

OE It's not a goal in itself; it's just a construction – and you have to go back down the ramp to leave the building.

KT The contemporary understanding of what generates urbanism tends to overrate certain factors, like, for instance, a critical mass of people, or defined

spaces enclosed with walls that generate the outdoor coordinates of a structure. The Pavilion is sited in an urban-park context, so it's defined by the urban setting – not by being within a typology or outside a typology; it's born in that real situation. With an urban building like a church, you have a freestanding structure within a very tight urban situation. Of course, there's a more important side and a less important side to a church, but there isn't a back side as there is with a house. And this is also true of the Pavilion. So to me, that means that it can't be expanded, it can't grow, it can't be higher or lower; it is what it is. Its form is not related directly to symmetry, nor to the typology of the structure, but to our early investigations into geometric sequences and to the setting in which the object is born. Having been born in Norway, for example, I can't claim that I'm not Norwegian just because I have a different passport, but I might not be typical as a result of that. So you create realities that are defined by the realities around you.

HUO Olafur mentioned the folly, which Cedric Price defined as a distortion of space and time. There's also the tradition of the grotto in the 18th-century English garden. This links to last year's programme, when we had Thomas Demand's work *Grotto* in the Gallery. Lately, architecture has become obsessed with icons like Frank Gehry's Guggenheim Museum in Bilbao that concentrate on exterior complexity, as opposed to forms such as the 18th-century grotto that opt for interior complexity. Can you talk a little bit about this idea of interior complexity? The Pavilion becomes pretty dense inside, in terms of the way the seating works in an almost organic way.

OE The Bilbao effect was very much a phenomenon of the 1990s. I think we're now moving out of the Bilbao era, but maybe Dubai, by simply duplicating the world Las Vegas-style, will create another such effect. Instead, we're witnessing the trends of experience economy and event management that often separate form from content. I think I can say for both of us that we don't reject form, since it is of course still very productive, but today we find so many icons that all take away the performative aspect of objects. In general a lot of icons are being built all over the world that don't actually achieve anything; they don't perform, except as desirable objects in marketing terms. With our Pavilion we're attempting to re-establish a degree of performativity.

KT Actually, I think the iconic started with Jørn Utzon's Opera House in Sydney.

OE You could even say it goes back to the Eiffel Tower.

KT These iconic works represent an undefined need in society: they're just snapshots of certain conditions that are generated by a lack of something else. Very often, architecture is formalised by the lack of something. That's why they'll cease to be built: they're not fulfilling anything.

A grotto, on the other hand, has a sheltering aspect; it romanticises the idea of shelter and intimacy. The space is defined by the human physical condition – standing, sitting, lying, whatever the body's condition might be in that sheltering situation. In the dwellings of the Lepenski Vir, built between 6400 and 4600 BC in what is now Serbia, you move sideways when entering, because the intention is that you can't look into the space before you enter it. To some extent, the romantic experience of the cave is related to its missing front wall, which generates the space behind; it's like a tunnel. There's the sense that you're penetrating the surface. And if you generate an artificial cave, you generate more air space on earth than you had before because you're expanding the surface of the earth in square metres. You've taken away a mass of earth and put it somewhere else, or thrown it into the ocean. The intimacy of the space is connected to the fact that you're capturing air space

that's common property and putting it into a defined area so that the air you breathe inside there belongs to you. And all the senses you use in these interior spaces are related to why you feel safe in a cave, even though there might not be enough light, and there might be something hiding round the next corner, so there's also a dangerous feeling related to it. That's the challenging aspect of the grotto.

OE One of the things that have interested me on the few occasions I've explored Icelandic grottos was the difference between that particular experience and the negotiation of a perpendicularly organised environment such as a cube-shaped house. In a grotto, because you have to climb and crawl and slide through tiny holes and work your way in through the innards, there's no information telling you what's up and what's down. Going into a grotto makes you feel very heavy because you're going closer to the centre of the earth, and you have the kind of feeling of suspense that you experience in an empty swimming pool where there's no water but you can still almost feel it. On the other hand, due to constantly having to organise what's up and what's down and what's far and what's near, you lose track of gravity and you start to feel as if you're floating. It's not that you lose yourself, but the need for recomposing yourself becomes obvious.

KT If you go to the cave dwellings at Petra in Jordan, where there's a certain amount of getting under the skin of the surfaces, it's like being born again. As you move in and out of the caves, it's as if you're being continuously reborn. I think there is this rebirth issue with the cave, like being in the womb, which also has to do with the weightlessness that Olafur was describing.

OE The border of yourself is no longer your skin, but the space in which you are; you start to attach and define yourself based on the skin of the space. The Pavilion did have, earlier in the design process, a grotto period. There was a time when the cone of the roof was extremely animated.

KT And we did have that discussion about turning things upside down, but I'm happy it became more about the simplified function of the space rather than a complex relationship to a grotto kind of condition.

OE I agree.

JP-J Why did you choose wood for the skin of the Pavilion, and why that particular colour?

OE It had to do both with practicalities and our desire to create a sensitive relationship between our vision and accessible materials. There's something very liberating about wood, in that it can easily change form. The tendency has been to imply a certain degree of built-in, essentialist qualities in wood, which I'm very sceptical about, and this is why we've stressed the rather industrial feeling of the wood in the Pavilion – to avoid ascribing fixed, universal qualities to it. I think the reason for this tendency is that wood has been ascribed a kind of aura, which has resulted in many designers choosing to use something less stigmatised such as plastic materials. It was our intention to show that wood can in fact be very organic and pleasant and productive to have around; it has a great sense of performativity.

KT I think the reason why wood has been stigmatised is because within the development of Scandinavian architecture, and of modern architecture in general, it has been seen as private, while brick is related to the public sphere. Because of this, and because of its organic nature, until the late 1980s one wouldn't have believed it possible to build public buildings using wood.

July, 2008

Serpentine Gallery

Press Release

Serpentine Gallery Pavilion 2008 designed by Frank Gehry 20 July – 19 October

Sponsorship NETJETS

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The Serpentine Gallery Pavilion 2008, which gives England the first built project by legendary architect Frank Gehry, **opens on 20 July**. The spectacular structure – designed and engineered in collaboration with Arup – is anchored by four massive steel columns and is comprised of large timber planks and a complex network of overlapping glass planes that create a dramatic, multi-dimensional space. Gehry and his team took inspiration for this year's Pavilion from a fascinating variety of sources including the elaborate wooden catapults designed by Leonardo da Vinci as well as the striped walls of summer beach huts. Part-amphitheatre, part-promenade, these seemingly random elements will make a transformative place for reflection and relaxation by day, and discussion and performance by night.

The Serpentine Gallery Pavilion series, now entering its ninth year, is the world's first and most ambitious architectural programme of its kind, and is one of the most anticipated events in the international design calendar.

Frank Gehry said: "The Pavilion is designed as a wooden timber structure that acts as an urban street running from the park to the existing Gallery. Inside the Pavilion, glass canopies are hung from the wooden structure to protect the interior from wind and rain and provide shade during sunny days. The Pavilion is much like an amphitheatre, designed to serve as a place for live events, music, performance, discussion and debate. As the visitor walks through the Pavilion they have access to terraced seating on both sides of the urban street. In addition to terraced seating there are five elevated seating pods, which are accessed around the perimeter of the Pavilion. These pods serve as visual markers enclosing the street and can be used as stages, private viewing platforms and dining areas."

...Cont.

Julia Peyton-Jones, Director, and Hans Ulrich Obrist, Co-Director said: "It is an exciting moment for London. Frank Gehry's visionary Pavilion is remarkable and will be a landmark for the city this summer."

The Pavilion will be the architect's first built structure in England. He is collaborating for the first time with his son Samuel Gehry. Since 2001, Peter Rogers, Director of Stanhope, has donated his expertise to all aspects of the Serpentine Gallery Pavilions and he continues to play a major role. The Pavilion is a fully accessible public space in the Royal Park of Kensington Gardens it attracts up to 250,000 visitors every summer and is accompanied by an ambitious programme of public talks and events.

Notes to Editors:

Frank Gehry

Raised in Toronto, Canada, Frank Gehry moved to Los Angeles in 1947. He received his Bachelor of Architecture degree from the University of Southern California in 1954, and studied City Planning at the Harvard University Graduate School of Design. In subsequent years, Gehry has built an architectural career that has spanned four decades and produced public and private buildings in America, Europe and Asia. His work has earned him several of the most significant awards in the architectural field, including the Arnold W. Brunner Memorial Prize in Architecture, the Pritzker Architecture Prize, the Wolf Prize in Art (Architecture), the Praemium Imperiale Award, the Dorothy and Lillian Gish Award, the National Medal of Arts, the Friedrich Kiesler Prize, the American Institute of Architects Gold Medal and the Royal Institute of British Architects Gold Medal. Recent projects include the Guggenheim Museum Bilbao in Bilbao, Spain; Maggie's Centre, a cancer patient care centre in Dundee, Scotland; and the Walt Disney Concert Hall in Los Angeles, California. Some current projects include the Lou Ruvo Alzheimer Center in Las Vegas, Nevada; the Princeton Science Library in Princeton, New Jersey; the Hall Winery in Napa Valley, California; and the Puente de Vida Museo in Panama City, Panama.

Arup

Arup has worked on many of the Pavilions commissioned by the Serpentine Gallery. Arup collaborated with Gehry Partners LLP to help evaluate the design strategies, choice of materials and structural typology of the 2008 Pavilion. Arup is also providing the engineering and specialist design on the project. The Arup team includes David Glover and Ed Clark with Cecil Balmond.

Serpentine Gallery Pavilion Commission

The Serpentine Gallery Pavilion commission was conceived by Serpentine Gallery Director, Julia Peyton-Jones, in 2000. It is an ongoing programme of temporary structures by internationally acclaimed architects and individuals. It is unique worldwide and presents the work of an international architect or design team who, at the time of the Serpentine Gallery's invitation, has not completed a building in England. The Pavilion architects to date are: Olafur Eliasson and Kjetil Thorsen, 2007; Rem Koolhaas and Cecil Balmond, with Arup, 2006; Álvaro Siza and Eduardo Souto de Moura with Cecil Balmond, Arup, 2005; MVRDV with Arup, 2004 (un-realised); Oscar Niemeyer, 2003; Toyo Ito with Arup, 2002; Daniel

Libeskind with Arup, 2001; and Zaha Hadid, 2000. Each Pavilion is sited on the Gallery's lawn for three months and the immediacy of the process - a maximum of six months from invitation to completion - provides a peerless model for commissioning architecture.

This year the project management of the Pavilion is being provided for the Serpentine Gallery by Jonathan Harper, Joanna Streeten and Tim Morse at Savant.

Serpentine Gallery Park Nights

Park Nights is a programme of events that runs between July and October 2008 in and around the Serpentine Gallery Pavilion designed by Frank Gehry. Park Nights includes Friday and Saturday night talks, performances and music, plus film screenings both in the Pavilion and on a 50-foot open-air screen. The programme will culminate in October with ***Manifesto Marathon*** the latest in the Gallery's acclaimed series of marathon events, conceived by Hans Ulrich Obrist, Serpentine Gallery Co-Director of Exhibitions and Programmes and Director of International Projects.

View previous Serpentine Gallery Pavilions at:
www.serpentinegallery.org/architecture

Images available at www.serpentinegallery.org/press

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July, 2009

Serpentine Gallery

Press Release

Serpentine Gallery Pavilion 2009 designed by Kazuyo Sejima and Ryue Nishizawa of SANAA

12 July – 18 October 2009

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The Serpentine Gallery Pavilion 2009 is designed by Kazuyo Sejima and Ryue Nishizawa of leading Japanese architecture practice SANAA. The Pavilion, which is sponsored by NetJets Europe, opens on 12 July on the Serpentine Gallery's lawn where it will remain until 18 October.

Describing their structure the architects said: 'The Pavilion is floating aluminium, drifting freely between the trees like smoke. The reflective canopy undulates across the site, expanding the park and sky. Its appearance changes according to the weather, allowing it to melt into the surroundings. It works as a field of activity with no walls, allowing uninterrupted view across the park and encouraging access from all sides. It is a sheltered extension of the park where people can read, relax and enjoy lovely summer days.'

Sejima and Nishizawa have created a stunning Pavilion that resembles a reflective cloud or a floating pool of water, sitting atop a series of delicate columns. The metal roof structure varies in height, wrapping itself around the trees in the park, reaching up towards the sky and sweeping down almost to the ground in various places. Open and ephemeral in structure, its reflective materials make it sit seamlessly within the natural environment, reflecting both the park and sky around it.

The Pavilion will be the architects' first built structure in the UK and the ninth commission in the Gallery's annual series of Pavilions, the world's first and most ambitious architectural programme of its kind that annually gives preeminent architects their debut in this country and brings the best of contemporary architecture to London for everyone to enjoy.

Continued overleaf

There is no budget for the Serpentine Gallery Pavilion commission. It is paid for by sponsorship, sponsorship help-in-kind, and the sale of the finished structure through Knight Frank, which does not cover more than 40% of its cost. The Serpentine Gallery collaborates with a range of companies and individuals whose support makes it possible to realise the Pavilion.

Julia Peyton-Jones, Director, and Hans Ulrich Obrist, Co-Director, Serpentine Gallery, said: 'Kazuyo Sejima and Ryue Nishizawa's design embraces the parkland around the Serpentine Gallery as never before with an extraordinarily innovative design, which reveals the subtle play on light and perception so characteristic of their work. This Pavilion will be a wonderful addition to London's landscape this summer. It is our dream come true.'

Separate areas within the Pavilion contain spaces for a café and an auditorium, where the *Park Night* events programme will be presented, including performances, talks, film screenings and the *Serpentine Gallery Poetry Marathon*.

Sejima and Nishizawa's pioneering buildings have created an architecture that marries aesthetic simplicity with technical complexity, defining a new architectural language which plays with light and perception. Sought after by high-profile clients the world over, from the Louvre Museum in Lens, France, to the New Museum of Contemporary Art in New York, USA, SANAA's projects are open stages which make visible the connection between the built structure, the users and the natural environment. Sejima, who in her early days studied at the Japan Women's University and worked with architect Toyo Ito, designer of the Serpentine Gallery Pavilion in 2002, began collaborating with Nishizawa in 1995. The architects are working with the structural design and engineering firm SAPS, led by Mutsuro Sasaki, and with the Arup team, led by David Glover and Ed Clark with Cecil Balmond, to realise this project.

NetJets Europe is the title sponsor for the Serpentine Gallery Pavilion 2009. Mark Booth, Executive Chairman, said: 'Sejima and Nishizawa's design for the Serpentine Pavilion 2009 is truly breathtaking. The incredible light and openness of the concept will make for a stunning structure which will raise the bar even higher for the much-anticipated Pavilion. Design is an area that we're passionate about at NetJets: we're firmly focussed on how we can bring world-class design to our customers' flight experience; just as the Serpentine Pavilion brings world class architecture to London. We're delighted to be a partner in this project and are looking forward to seeing the finished Pavilion.'

Arup Partner Ed Clark commented: 'Arup's eighth year of commitment to the Serpentine Pavilion reflects our belief in the project and the positive experience our teams get from collaborating with some of the most exciting architects of our time. This year's Pavilion does not disappoint and reflects the exciting dynamism that SANAA bring to all of their projects.'

Peter Rogers, Director of Stanhope plc, will donate his expertise to all aspects of the Pavilion. He said: 'The Serpentine Pavilion is a unique project whose innovative and challenging designs transcend normal building projects as well as fusing art and architecture in an exciting built form.'

July, 2010

Serpentine Gallery

News Release
Jean Nouvel commissioned to design 10th Serpentine Gallery Pavilion
5 July – 20 October 2010

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In its 40th anniversary year, the Serpentine Gallery is delighted to announce that the **10th Serpentine Gallery Pavilion** is being designed by world-renowned French architect **Jean Nouvel**. This year's Pavilion is the 10th commission in the Gallery's annual series, the world's first and most ambitious architectural programme of its kind. It will be the architect's first completed building in the UK.

The Pavilion commission has become an international site for architectural experimentation and follows a long tradition of Pavilions by some of the world's greatest architects. The immediacy of the commission – a maximum of six months from invitation to completion – provides a unique model worldwide.

The design for the 2010 Pavilion is a contrast of lightweight materials and dramatic metal cantilevered structures. The entire design is rendered in a vivid red that, in a play of opposites, contrasts with the green of its park setting. In London the colour reflects the iconic British images of traditional telephone boxes, post boxes and London buses.

The building consists of bold geometric forms, large retractable awnings and a freestanding wall that climbs 12m above the lawn, sloping at a gravity defying angle. It experiments with the idea of play in its incorporation of the French tradition of outdoor table-tennis. Striking glass, polycarbonate and fabric structures create a versatile system of interior and exterior spaces. The flexible auditoria will accommodate the Serpentine Gallery *Park Nights* and *Marathon* and the changing summer weather.

The Pavilion will host the 5th Serpentine Gallery Marathon, *The Marathon of Maps for the 21 Century*. Maps have a powerful hold on our imaginations, defining our understanding of geography, scale, space and ideas. Artists, writers, thinkers and scientists will present maps encompassing their experience of the world today.

Jean Nouvel is responsible for the design of over 200 buildings the world over, including the Copenhagen Concert Hall (2009); the Ferrari Factory, Modena (2009); Pavilion B at the Genoa Trade Fair (2009); 40 Mercer Street, New York (2008); the Musée du quai Branly, Paris (2006); the extension to the Museo Nacional Centro de Arte Reina Sofia, Madrid (2006); the Guthrie Theater, Minneapolis (2001); the Los Leeum Museum of Modern Art, Seoul (2004); the Torre Agbar, Barcelona (2000); the Culture and Congress Centre, Lucerne (2000), and the Institut du Monde Arabe, Paris (1989).

Continued Overleaf

Nouvel's body of work is unparalleled in its innovation and range. His approach is characterised by a conceptual rigour, rather than by an overarching aesthetic. He emphasises research, analysis and discussion, creating designs that are highly individual to each project. A key part of Nouvel's process is his embrace of other disciplines, including music, literature and the moving image.

The Pavilion will also be the location for the Serpentine's presentation of the renowned French artist Christian Boltanski's acclaimed installation, *Heartbeat*. In this work, visitors are invited to contribute a recording of their heartbeat to an archive in a specially designed booth. The archive will be housed permanently on the uninhabited island of Ejima, Japan. The project has been ongoing since 2008 when it began as *Les archives du cœur*, a central installation in Boltanski's exhibitions at Magasin 3, Stockholm, and at la maison rouge, Paris, as part of the 37th Festival d'Automne à Paris.

Nouvel's Serpentine Gallery Pavilion will operate as a public space, a café and as a venue for *Park Nights*, the Gallery's acclaimed programme of public talks and events, attracting up to 250,000 visitors every summer. The Pavilion will open in July on the Serpentine Gallery's lawn, where it will remain until October. Nouvel will work with the structural design and engineering firm Arup, led by David Glover and Ed Clark with Cecil Balmond, to realise this project.

Julia Peyton-Jones, Director, and Hans Ulrich Obrist, Co-Director, Serpentine Gallery, said: "We could not be more thrilled that Jean Nouvel has accepted our invitation to design the 10th Serpentine Gallery Pavilion, the only commission of its kind worldwide that annually invites pre-eminent architects to complete their first build structure in England. It is an honour to bring Nouvel's globally acclaimed work to London for everyone to enjoy."

There is no budget for the Serpentine Gallery Pavilion commission. It is paid for by sponsorship, sponsorship help-in-kind and the sale of the finished structure, which does not cover more than 40% of its cost. The Serpentine Gallery collaborates with a range of companies and individuals whose support makes it possible to realise the Pavilion. On the occasion of the 10th anniversary we are delighted the Pavilion is being supported by Arts Council England, through its Sustain programme.

Moira Sinclair, Executive Director of Arts Council England, London said:
'Our Sustain fund was established to help support artistic excellence in the context of the economic downturn, and the Serpentine Pavilion is a landmark example - uniquely special to and beloved by London, and a key 'moment' on the international visual arts and architectural calendars. I am delighted that this grant, alongside our core funding to the Gallery, will help ensure a stunning Pavilion for 2010 that will inspire, intrigue and entertain everyone who explores it.'

Arup will provide all the engineering and specialist design solutions for the Pavilion. Arup Director David Glover commented: "It is a privilege to support the Pavilion programme again this year on its 10th anniversary. Arup's commitment to the Serpentine Pavilion reflects our belief in the project and the positive experience our teams get from working with some of the most exciting architects of our time. Ateliers Jean Nouvel are renowned for taking a rigorous and contextual approach to design which brings delight and surprise to all their projects. This year's Pavilion is sure to be no exception."

Peter Rogers, Director of Stanhope, will donate his expertise to all aspects of the Pavilion. He said: "The Serpentine Pavilion is a unique project whose innovative and challenging designs transcend normal building projects as well as fusing art and architecture in an exciting built form."

Continued Overleaf

July, 2011

Serpentine Gallery Pavilion 2011
Designed by Peter Zumthor
1 July – 16 October 2011

The Serpentine Gallery Pavilion 2011 is designed by world-renowned Swiss architect **Peter Zumthor**. This year's Pavilion is the 11th commission in the Gallery's annual series, the world's first and most ambitious architectural programme of its kind. It is the architect's first completed building in the UK and includes a specially created garden by the influential Dutch designer **Piet Oudolf**.

At the heart of Peter Zumthor's Pavilion is a garden that the architect hopes will inspire visitors to become observers. Zumthor says his design 'aims to help its audience take the time to relax, to observe and then, perhaps, start to talk again - maybe not.' The design emphasises the role the senses and emotions play in our experience of architecture. With a refined selection of materials Zumthor creates contemplative spaces that evoke the spiritual dimension of our physical environment. As always, Zumthor's aesthetic goal is to customise the building precisely to its purpose as a physical body and an object of emotional experience.

Zumthor has stated that 'the concept for this year's Pavilion is the *hortus conclusus*, a contemplative room, a garden within a garden. The building acts as a stage, a backdrop for the interior garden of flowers and light. Through blackness and shadow one enters the building from the lawn and begins the transition into the central garden, a place abstracted from the world of noise and traffic and the smells of London – an interior space within which to sit, to walk, to observe the flowers. This experience will be intense and memorable, as will the materials themselves – full of memory and time.'

Materials have always played an evocative as well as an essential role in the buildings designed by Zumthor. The 2011 Pavilion is constructed of a lightweight timber frame wrapped with scrim and coated with a black Idenden over scrim. Exterior and interior walls with staggered doorways offer multiple paths for visitors to follow, gently guiding them to a central, hidden inner garden. The covered walkways and seating surrounding this central space create a serene, contemplative environment from which visitors look onto the richly planted sunlit garden, the heart and focus of the building.
With this Pavilion, as with previous structures such as the famous Thermal Baths at Vals, Switzerland, or the Bruder Klaus Chapel in Mechernich, Germany, Zumthor has emphasised the sensory and spiritual aspects of the architectural experience, from the precise yet simple composition and 'presence' of the materials, to the handling of scale and the effect of light.

Piet Oudolf is a prominent garden designer and a leading figure of the New Perennial planting movement. His award-winning designs emphasise the natural architecture of plants, using expressive drifts of grasses and herbaceous perennials to create gardens that evolve in form throughout the lives of the plants. These are chosen for their structure, form, texture and colour, showcasing many different varieties in his compositions. Oudolf has pioneered an approach to gardening that embraces the full life-cycle of plants, delighting in their beauty throughout the seasons.

Piet Oudolf said: "I am very pleased to be collaborating with Peter Zumthor and the Serpentine Gallery on this year's Pavilion and to be part of this exciting project. My work aims to bring nature back into human surroundings and this Pavilion provides the perfect opportunity for people to reflect and relax in a contemplative garden away from the busy metropolis."

The Serpentine's Pavilion commission, conceived in 2000 by Gallery Director Julia Peyton-Jones, has become an international site for architectural experimentation and follows a decade of Pavilions by some of the world's greatest architects. Each Pavilion is sited on the Gallery's lawn for three months and the immediacy of the commission – a maximum of six months from invitation to completion – provides a unique model worldwide.

Julia Peyton-Jones, Director, and Hans Ulrich Obrist, Co-Director, Serpentine Gallery, said: "It is an honour and a great joy to be working with Peter Zumthor on the 11th Serpentine Gallery Pavilion. The commission allows us to connect with the best architects in the world and each year is an exciting and completely new experience. Zumthor's plans will realise an exquisite space for the public to enjoy throughout the summer."

Zumthor's Serpentine Gallery Pavilion will operate as a public space and as a venue for Park Nights, the Gallery's high-profile programme of public talks and events. Park Nights will culminate in the annual Serpentine Gallery Marathon in October, now in its sixth year. In 2006 the Park Nights programme included the renowned 24-hour Serpentine Gallery Interview Marathon, convened by Hans Ulrich Obrist and architect Rem Koolhaas; in 2007, the Serpentine Gallery Experiment Marathon presented by artist Olafur Eliasson and Hans Ulrich Obrist; in 2008, Obrist led over 60 participants in the Serpentine Gallery Manifesto Marathon. These were followed in 2009 by the Serpentine Gallery Poetry Marathon and in 2010 by the Serpentine Gallery Map Marathon.

Architect's Statement

Hortus conclusus

We come from nature and we return to nature; we are conceived and born; we live and die; we rot or burn and vanish into the earth. I rarely thought about such things when I was young. Now I do. I see a great cycle and I am part of it. For a little while, I am here. I did not exist before my time and I will no longer exist after my time. But in my time, I belong to the process of life on this planet; for a little while I am part of the organism of human beings, animals and plants that exists on this planet and that passes life on.

Looking back I realise that I have always taken plants for granted; they were part of my surroundings; they were self-evident and I enjoyed them as meadows, gardens or woods. That has changed. I have become more attentive to the plant world even though I never studied it and know only a few plants by name. But I like being with them. To me, their presence is quieting.

Plants embody everything that I like to have around me: presence, personality, character. They are supple and therefore strong, yet softly-spoken and gentle; they are fragrant and delicate; they have movement, colour, structure, scale and proportion. Plants are large in form, tiny in detail and always a single whole. Plants are beautiful in sun and rain, in tropical heat, fighting immortal cold, dancing in the wind, buffeted by storms.

Plants have long been part of the earth's history. They come from afar. Their beauty is deep and beyond question. It can be overwhelming; their fragrance beguiling. I look at my garden and I see vibrancy, opulence, serenity; I see dignity, playfulness, infinite tenderness, the nodding kindness of Herb Robert[1], and in the larger, beautiful picture, I discover small, modest dots of colour that enhance the luxuriant whole.

Landscapes mark the surface of the earth. Billions of plants react to sun, wind and weather, to heat and humidity, to drought and cold, to the nature of the soil in which they grow; they ceaselessly converge to form new plant societies and landscape ensembles. They are infinite in number and variety; they grow naturally and are influenced by us: oases, steppes, forests, wetlands, meadows, moors, landscaped parks. And there are gardens: herb gardens, kitchen gardens, vegetable gardens, flower gardens, rose gardens, pleasure gardens. Every name listed here evokes a distinct image; with each of them I associate specific lighting, smells and sounds, many kinds of rest, and a deep awareness of the earth and its flora.

A garden is the most intimate landscape ensemble I know of. It is close to us. In it we cultivate the plants we need. A garden requires care and protection. And so we encircle it, we defend it and fend for it. We give it shelter. The garden turns into a place.

Enclosed gardens fascinate me. A forerunner of this fascination is my love of the fenced vegetable gardens on farms in the Alps, where farmers' wives often planted flowers as well. I love the image of these small rectangles cut out of vast alpine meadows, the fence keeping the animals out. There is something else that strikes me in this image of a garden fenced off within the larger landscape around it: something small has found sanctuary within something big.

The *hortus conclusus* that I dream of is enclosed all around and open to the sky. Every time I imagine a garden in an architectural setting, it turns into a magical place. I think of gardens that I have seen, that I believe I have seen, that I long to see, surrounded by simple walls, columns, arcades or the façades of buildings – sheltered places of great intimacy where I want to stay for a long time.

June, 2012

Serpentine Gallery Pavilion 2012
Designed by Herzog & de Meuron and Ai Weiwei
1 June – 14 October 2012

Herzog & de Meuron and Ai Weiwei have created the 2012 Serpentine Gallery Pavilion. It is the twelfth commission in the Gallery's annual series, the world's first and most ambitious architectural programme of its kind.

The design team responsible for the celebrated Beijing National Stadium, which was built for the 2008 Olympic Games has come together again in London in 2012 for the Serpentine's acclaimed annual commission, presented as part of the London 2012 Festival, the culmination of the Cultural Olympiad. The Pavilion is Herzog & de Meuron and Ai Weiwei's first collaborative built structure in the UK.

This year's Pavilion takes visitors beneath the Serpentine's lawn to explore the hidden history of its previous Pavilions. Eleven columns characterising each past Pavilion and a twelfth column representing the current structure support a floating platform roof 1.5 metres above ground. The Pavilion's interior is clad in cork, a sustainable building material chosen for its unique qualities and to echo the excavated earth. Taking an archaeological approach, the architects have created a design that will inspire visitors to look beneath the surface of the park as well as back in time across the ghosts of the earlier structures.

Julia Peyton-Jones, Director, and Hans Ulrich Obrist, Co-Director, Serpentine Gallery, said: "It is a great honour to be working with Herzog & de Meuron and Ai Weiwei, the design team behind Beijing's superb Bird's Nest Stadium. In this exciting year for London we are proud to be creating a connection between the Beijing 2008 and the London 2012 Games. We are enormously grateful for the help of everyone involved, especially Usha and Lakshmi N. Mittal, whose incredible support has made this project possible."

The Serpentine Gallery Pavilion will operate as a public space and as a venue for *Park Nights*, the Gallery's high-profile programme of public talks and events. Connecting to the

archaeological focus of the Pavilion design *Park Nights* will culminate in October with the *Serpentine Gallery Memory Marathon*, the latest edition of the annual Serpentine Marathon series conceived by Hans Ulrich Obrist, now in its seventh year. The Marathon series began in 2006 with the *24-hour Serpentine Gallery Interview Marathon*; followed by the *Experiment Marathon* in 2007; the *Manifesto Marathon* in 2008; the *Poetry Marathon* in 2009, the *Map Marathon* in 2010 and the *Garden Marathon* in 2011.

Usha and Lakshmi N. Mittal are lead supporters of the Pavilion. They have also purchased the structure and it will enter their collection after it closes to the public on 14 October 2012.

Designers' Statement

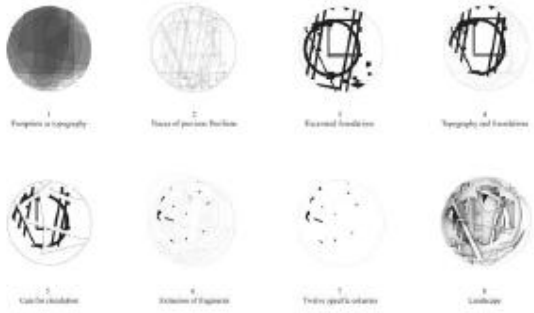
Herzog & de Meuron and Ai Weiwei said:

Every year since 2000, a different architect has been responsible for creating the Serpentine Gallery's Summer Pavilion for Kensington Gardens. That makes eleven Pavilions so far, our contribution is the twelfth. So many Pavilions in so many different shapes and out of so many different materials have been conceived and built that we tried instinctively to sidestep the unavoidable problem of creating an object, a concrete shape. Our path to an alternative solution involves digging down some five feet into the soil of the park until we reach the groundwater. There we dig a waterhole, a kind of well, to collect all of the London rain that falls in the area of the Pavilion. In that way we incorporate an otherwise invisible aspect of reality in the park – the water under the ground – into our Pavilion. As we dig down into the earth to reach the groundwater, we encounter a diversity of constructed realities such as telephone cables, remains of former foundations or backfills. Like a team of archaeologists, we identify these physical fragments as remains of the eleven Pavilions built between 2000 and 2011. Their shape varies: circular, long and narrow, dot shaped and also large, constructed hollows that have been filled in. These remnants testify to the existence of the former Pavilions and their more or less invasive intervention in the natural environment of the park.

All of these traces of former pavilions will now be revealed and reconstructed. The former foundations and footprints form a jumble of convoluted lines, like a sewing pattern. A distinctive landscape emerges which is unlike anything we could have invented; its form and shape is actually a serendipitous gift. The plastic reality of this landscape is astonishing and it is also the perfect place to sit, stand, lie down or just look and be awed. In other words, the ideal environment for continuing to do what visitors have been doing in the Serpentine Gallery Pavilions over the past eleven years. The pavilion's interior is clad in cork – a natural material with great haptic and olfactory qualities and the versatility to be carved, cut, shaped and formed.

On the foundations of each single Pavilion, we extrude a new structure (supports, walls, slices) as load-bearing elements for the roof of our Pavilion – eleven supports all told, plus our own column that we can place at will, like a wild card. The roof resembles that of an archaeological site. It floats a few feet above the grass of the park, so that everyone visiting can see the water on it, its surface reflecting the infinitely varied, atmospheric skies of London. For special events, the water can be drained off the roof as from a bathtub, from whence it flows back into the waterhole, the deepest point in the Pavilion landscape. The dry roof can then be used as a dance floor or simply as a platform suspended above the park.

Cork landscape
Herzog & de Meuron and Ai Weiwei
© Herzog & de Meuron and Ai Weiwei



Concept diagram
Herzog & de Meuron and Ai Weiwei
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Pavilion roof
Herzog & de Meuron and Ai Weiwei
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Traces of previous foundations
Herzog & de Meuron and Ai Weiwei
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These press releases were retrieved from the website http://www.serpentinegallery.org.

June, 2013*

Serpentine Gallery Pavilion 2013
Designed by Sou Fujimoto
8 June – 20 October 2013

The Serpentine Gallery Pavilion 2013 is designed by multi award-winning Japanese architect **Sou Fujimoto**. He is the thirteenth and, at 41, the youngest architect to accept the invitation to design a temporary structure for the Serpentine Gallery. The most ambitious architectural programme of its kind worldwide, the Serpentine's annual Pavilion commission is one of the most anticipated events on the cultural calendar. Past Pavilions have included designs by Herzog & de Meuron and Ai Weiwei (2012), Frank Gehry (2008), Oscar Niemeyer (2003) and Zaha Hadid, who designed the inaugural structure in 2000.

Widely acknowledged as one of the most important architects coming to prominence worldwide, Sou Fujimoto is the leading light of an exciting generation of architects who are re-inventing our relationship with the built environment. Inspired by organic structures, such as the forest, Fujimoto's signature buildings inhabit a space between nature and artificiality. Fujimoto has completed the majority of his buildings in Japan, with commissions ranging from the domestic, such as *Final Wooden House*, *T House* and *House N*, to the institutional, such as the Musashino Art Museum and Library at Musashino Art University.

Occupying some 357 square-metres of lawn in front of the Serpentine Gallery, Sou Fujimoto's delicate, latticed structure of 20mm steel poles has a lightweight and semi-transparent appearance that allows it to blend, cloud-like, into the landscape against the classical backdrop of the Gallery's colonnaded East wing. Designed as a flexible, multi-purpose social space – with a café run for the first time by Fortnum and Mason inside – visitors will be encouraged to enter and interact with the Pavilion in different ways throughout its four-month tenure in London's Kensington Gardens.

Fujimoto is the third Japanese architect to accept the invitation to design the Serpentine Gallery Pavilion, following Pritzker Prize winners Toyo Ito in 2002 and Kazuyo Sejima & Ryue Nishizawa of SANAA in 2009.

AECOM have provided engineering and technical design services for the Pavilion for 2013. David Glover, AECOM's global chief executive for building engineering, has worked on the designs of many previous Pavilions.

Julia Peyton-Jones, Director, and Hans Ulrich Obrist, Co-Director, Serpentine Gallery, said:

"Art and architecture is always experienced within the context of nature at the Serpentine. Like the park that surrounds the Gallery, Sou Fujimoto's extraordinary design for our new Pavilion inhabits a space between nature and artificiality. While the structure blends, cloud-like into its natural surroundings, the intricate matrix of interlinking grids suggests a digital aesthetic that resonates with our age. This harmonious combination of architecture, technology and nature makes it the perfect landmark for the Serpentine Gallery, for Kensington Gardens and for London this summer. We are thrilled with the result and hope everyone who can, will come and see it."

Describing his design concept, Sou Fujimoto said:

"For the 2013 Pavilion I propose an architectural landscape: a transparent terrain that encourages people to interact with and explore the site in diverse ways. Within the pastoral context of Kensington Gardens, I envisage the vivid greenery of the surrounding plant life woven together with a constructed geometry. A new form of environment has been created, where the natural and the man-made merge; not solely architectural or solely natural, but a unique meeting of the two.

The Pavilion is a delicate, three-dimensional structure; each unit comprises fine steel bars of 800 and 400 mm rectangles. It will form a semi-transparent, irregular canopy, simultaneously protecting visitors from the elements while allowing them to remain part of the landscape. The footprint of the structure will be 350 square-metres and the Pavilion will have two entrances. A series of stepped terraces will provide seating areas that will allow the Pavilion to be used as a flexible, multi-purpose social space.

The delicate quality of the structure, enhanced by its semi-transparency, will create a geometric, cloud-like form, as if it were mist rising from the undulations of the park. From certain vantage points, the Pavilion will appear to merge with the classical structure of the Serpentine Gallery, with visitors suspended in space."

Architect's Statement

For the Serpentine Pavilion 2013, I have created a translucent architecture, a terrain that encourages people to explore the site in new and diverse ways. Within the pastoral context of Kensington Gardens, the vivid greenery surrounding the site merges with the constructed geometry of the Pavilion. A new form of environment has been created, where the natural and the man-made fuse. The inspiration for the design of the Pavilion was the concept that geometry and constructed forms could meld with the natural and the human. The fine, fragile grid creates a strong structural system that can expand to become a large cloud-like shape, combining strict order with softness. A simple cube, sized to the human body, is repeated to build a form that exists between the organic and the abstract, to create an ambiguous, soft-edged structure that will blur the boundaries between interior and exterior.

The Serpentine Pavilion 2013 is a delicate, three-dimensional, latticed structure, each unit of which is composed of fine steel bars. It forms a semi-transparent, irregular shape, simultaneously protecting visitors from the elements while allowing them to remain part of the landscape. The depth of the grid at different locations will create thicker walls or thinner, transparent sections. The building's footprint is 357 square metres and the gross internal area is 142 square metres. The Pavilion has two entrances, with a series of stepped terraces to provide integrated seating. The topography of the grid is a flexible, multi-purpose social space, where the walls, seating and roof are made of the same steel cubes. In this way, the organic structure of the Pavilion overall creates an adaptable terrain, encouraging visitors to create their own experience of the building.

Whether attending an event or simply relaxing in the Park, each person is invited to find a singular, favourite space inside and around the Pavilion. By day, it will function as a space open to all visitors, with a café. The largest of the terraced areas can be used as an events space, while other terraces provide further spaces for visitors to inhabit and explore. From certain vantage points, the fragile cloud of the Pavilion appears to merge with the classical structure of the Serpentine Gallery, its visitors suspended in the space between architecture and nature.

Sou Fujimoto, May 2013

Drawings and Plans

Serpentine Gallery Pavilion 2013
Designed by Sou Fujimoto
Exterior Indicative CGI
© Studio Cyrille Thomas for Sou Fujimoto Architects

Serpentine Gallery Pavilion 2013
Designed by Sou Fujimoto
Exterior Indicative CGI
© Studio Cyrille Thomas for Sou Fujimoto Architects

*The 2013 Serpentine Pavilion has been completed during this thesis.