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ATTRIBUTES OF MODERN ARCHITECTURE AND CONSERVATION ACTION

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ATTRIBUTES OF MODERN ARCHITECTURE AND CONSERVATION ACTION

Paula Maciel Silva ♥ and Silvio Mendes Zancheti♣

Abstract

This paper sets out to identify the attributes that bear the values of the modern building and to define concepts that enable a more uniform understanding to be reached of the stages of evaluating and making judgments on attributes. There is also discussion on how conservation action can interfere with the attributes of a building. Attributes bear values and it is desirable that they are expressed with integrity and authenticity. The Operational Guidelines for the Implementation of the World Heritage Convention lists a series of attributes, but does not define them. This study used two categories of cases to identify the attributes of modern architecture: significant historiographical buildings and properties that belong to the World Heritage List. The method used to identify and construct concepts was content analysis. The hypothesis was made that there were attributes not specified by UNESCO. The study conceptualizes ten attributes that characterize modern architectural buildings, two of which are new: interconnection and interpenetration; and integration of the arts. The common understanding of the attributes is a contribution towards drawing up a methodology to assist judging conservation actions on the integrity and authenticity of modern buildings.

keywords: modern architecture atributes, conservation action, significance concept.

Introduction

Conservation action interferes with the *attributes* of the building, *attributes* being the bearers of values which it is desirable to express with integrity and authenticity. "*The attributes of an object are defined as any and all characteristics of the objects and processes recognized as having heritage value, whether physical and/or material or nonmaterial*"[i] . But what are the attributes of a building? And more specifically, of a building of modern architecture?

The list of attributes provided by the Operational Guidelines for the Implementation of the World Heritage Convention[ii] is the starting point for identifying the attributes of modern architecture. The first Operational Guidelines dates from 1977, but it is only in the 2005 and 2008 editions that attributes are mentioned. Paragraph 82 lays down that cultural assets "*satisfy the conditions of authenticity if their values are expressed truthfully and credibly by means of attributes*." And it sets them out: form and design; materials and substance; use and function; management traditions, techniques and

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systems; location and implementation; language and other forms of nonmaterial heritage; spirit and feelings; other intrinsic and extrinsic factors. In this last item, UNESCO sees the possibility of there being other attributes.

This article sets out to identify the attributes that bear the values of modern architecture and to define their concepts so that a common understanding may be achieved. It is a procedure that targets the stages of evaluating and making judgments on attributes. Discussion forums of experts found that there is agreement on the attributes identified, but the understanding of the concept of each attribute is still some distance from being held in common.

Among the attributes present in an object, some are more important and directly related to the significance of the property and these are the attributes that deserve greatest attention when making judgments on conservation actions.

The concept of significance is associated with the set of cultural values *attributed* by a community to an asset[iii]. Significance may increase or decrease over time, or be redefined, and new values can be created[iv]. There is an understanding that *cultural significance is the set of values resulting from making judgment and undertaking the social validation of past and present meanings of an object*. This judgment is made in the present and uses the meanings and values of the past as references, supported by instruments of memory recognized by society[v].

The ability of a property to express its significance depends on the integrity and authenticity of its attributes. Integrity is an appreciation of the completeness and intact character of the heritage asset and its attributes[vi]. Evaluating the conditions of integrity of an asset means to evaluate the extent to which it possesses all the elements necessary to express its Outstanding Universal Value, and is of a sufficient dimension to express its significance. "It is the level at which the attributes of the heritage site incorporate the values in a complete, total and safe way having considered their past and present contexts. It is the level of completeness expressed by the attributes of modern architecture."[vii]

Authenticity is the recognition of the truth of the heritage site, intersubjectively, in a society. It is the sense of the probability of the physical material and non-material attributes expressing the values of the heritage site in a true or false manner[viii]. This paper interprets this definition as follows: *The authenticity of an attribute is the state in which the attribute is found and represents its ability to express the value of the heritage asset in a true or false way.*

1 Methodology for identifying and conceptualizing the attributes of modern achitecture

The research used two categories of cases to identify and conceptualize attributes: (a) the assets of modern architecture that are part of the World Heritage List and (b) the significant buildings mentioned in the historiography of modern architecture. The criterion for identifying the cases followed the methodology suggested by Deslairiers &

Kérisit[ix] for the development of qualitative research. The modern architecture listed by UNESCO (a) are a type of intentional case and represents the totality of the assets, it is restricted by the number of examples which is still low (see Table 1). The investigation focused on the Statements of Significance, and the descriptions of the assets presented by the States responsible for nominating each property to the list. The selection criteria follows the *rule of exhaustivity*[x] since it is possible to analyze all the documents available in the site. Significant buildings (b) are characterized by their historical importance and are cases that are often cited in the literature.

Table 1: Examples of modern architecture in the World Heritage List

	Country	Date *
Bauhaus Building and its Sites in Weimar and Dessau	Germany	1996
Schröder House	Holland	2000
Campus of Caracas University	Venezuela	2000
Villa Tugendhat in Brno	Czech Republic	2001
Luis Barragán House and Studio	Mexico	2004
Centennial Hall in Wrocław	Poland	2006
Central Campus of the Autonomous National University of Mexico (UNAM)	Mexico	2007
Opera House un Sydney	Australia	2007
Modern housing estates in Berlin	Germany	2008

*Date entered on the World Heritage List.

The method used to analyze the texts was that of content analysis[xi]. "This is a set of techniques for analyzing communications that uses systematic and objective procedures to describe the content of messages. The interest is not in the description of the content, but rather on what the messages can teach us after being studied." [xii]

The starting point was the hypothesis that *buildings of modern architecture might have attributes that have not been specified in the Operational Guidelines*[xiii]. On this basis, the central objective was defined: *to identify the various features in the texts that confer on the building the quality of being an example of modern architecture*. This objective defined the position from which to explore the texts: to seek lessons that may add new content and/or be grounded on and complement existing concepts. The attitude is that of *being investigative* rather than being induced to fit in all the features found in the attributes as defined by UNESCO.

The procedure was as follows: (a) the characteristics were summarized in *concepts-syntheses* that express the values of the asset. Next, (b) the concepts-syntheses were grouped by *categories* - which correspond to the attributes. It was found that some of these concepts were important and could not be grouped with those that already exist. (c) Therefore, the *attributes* emerged.

The construction of the conceptualization of each attribute occurred in reverse. The texts from which they were extracted were related to each of these in order to identify how they are currently understood.

In addition to the bibliographic references already cited, in parallel to these, 30 cases of buildings that have already undergone conservation actions were the object of analysis. The objective was to identify the actions performed when conserving a modern building and how they interfered with the attributes. These considerations are presented after conceptualizing what an attribute is, in the next section. This resulted in putting forward considerations that may assist making judgment on the action of conserving the integrity and authenticity of the attributes of an asset.

2 The attributes of modern architecture and discussion on integrity and authenticity

The attributes of modern architecture proposed are: (a)form and design; (b)material and substance; (c)use; (d)function; (e)traditions; (f)techniques; (g)location and setting; (h)language; (i)*interconnection and interpenetration* and (j)*integration of the arts*. Of these, the last two are not included among the attributes given in the Operational Guidelines.

a. Form and design

This covers the characteristics of the design, plasticity, aesthetics, design, but not the originality of the material. In this attribute, the external aspect of the volumetry, structure and surfaces that make up the envelope (walls, roofing, window-frames, hollow elements and those that give solar protection) compared to what originally existed in the building. This is an attribute of great importance in modern architecture. It is evident in all buildings from the World Heritage List, for this represents their aesthetic novelty in architecture.

The complete or partial reconstruction of a building, following the guidelines of the original design, does not always imply loss of this attribute. This is the case of protected buildings that have had part of their edifications damaged during armed conflicts. This is not about a simple copy. It is about the *rescue of historical or architectonic meaning*.

Additional elements, *placed arbitrarily*, which altered the original composition of the design contribute negatively. Removing them can bring benefits to the integrity and authenticity of the building[xiv]. The addition of new elements, whether for technical or functional reasons, is understood as a change and reduction of the attribute of 'form and design'.

b. Materials and substance

The attribute related to the original material. There is no loss of this attribute when the original materials have been maintained. The statements of significance of the buildings on the World Heritage List mention the permanence of the original materials.

Altering the material is justified in cases where the building has undergone modifications and there is the desire to restore the original form and design. There may be loss of the attribute of 'material', but this will represent a gain in the attribute of 'form and design'.

There are examples in which significance is strongly linked to the originality of the material. Exposed concrete structures may be what define the internal space and integrating parts of the composition of the design. The Centennial Hall, 1911-13, in Wroclaw, Poland, by Max Berg, is noted for pioneering the use of reinforced concrete forms with curves so as to stretch across large spans. The structure was left exposed after demoulding. It is a case in which the originality of the material reveals the technological innovation of the age and the design of the architectonic space created. It is an example in which the truth of the material has significant value in the conceptualization of the design.

With respect to the materials of the envelope of the building there are different situations. Plastered surfaces are more easily reproducible, since the technology and materials used are still available. Ceramic coating, in general, is difficult to replace, and exposed concrete undergoes important alteration in the aesthetic aspect. As to door- and window-frames, there are cases in which all that occurs is to change sealing elements and opening mechanisms; in others, the replacement of glass, or even the complete replacement of the architectonic element with the total loss of the attribute of 'material'. In general, it is essential to keep the same 'design' in order to maintain the attribute of 'form and design'. The influence of the frames on the significance of the building may vary depending on the area it occupies on the facades. Large areas, such as glass walls or long horizontal windows, in general, exercise more influence on the building composition, which may give them greater value in the significance of the building.

c. Function

'Function' refers to the type of activity that a building houses (office, airport, residence, cinema, etc.). It identifies the permanence of the original function.

The relationship of form v function is often presented as a challenge for conservation[xv], but "functions do not generate forms for themselves alone"[xvi]. One should not generalize the concept that "form follows function". The approach is directed towards the suitability of the buildings. The independent structure, the structural solution used on a large scale, favours greater freedom, space saving and functional flexibility. It should, be emphasized that some buildings have envelopes that are more flexible than others. The Van Nelle Factory, for example, has a loose envelope and was adapted for a set of offices in the 1990s, while the Zonnestraal Sanitarium, the design of which is tied to a functional specification, was more difficult to be adapted to new functions[xvii].

d. Use

'Use' is related to the requirements necessary for operation. It evaluates the conditions of actual use, the ability to make the building suitable for continuing to perform its activities, or even for it to be adapted to new functions with other spatial patterns. The ability of the building to perform its functions adequately contributes to the maintenance and sustainability of the asset.

The glass curtain of Lever House, 1950-52, New York, by Gordon Bunshaft, had the details of its aluminum profiles changed and a colorless film was applied to the glass to achieve a better thermal energy performance, and, externally, the formal characteristics were preserved. There was a gain in the attributes of 'use and function' and 'design', and loss in the attribute of 'materials and substance.'

Intervention occurs so as to recover material, aesthetic, social, etc.., values of use, yet it will not be possible, in every instance, for such values to continue to exist simultaneously. The requirements of use, form and aesthetics guide conservation action towards integrity, but in general a reduction in authenticity occurs[xviii]. The reflection proposed by the contemporary theory of conservation contributes to lesser importance being assigned to the maintenance of the building's original function and a greater one to the capacity of the building to house and perform the activities it is used for[xix]. However, one must consider that the value of use has its importance. However, this cannot condition the intervention. Brandi has stated that it should be seen as a means and not as an end[xx].

e. Tradition

This refers to the cultural tradition of the place where the modern architecture is being designed. After the early years of the beginning of modern architecture and having been in contact with other cultures or new generations, regional characteristics are introduced. The value of tradition is present in the materials chosen and how they were used.

Villa Mairea, 1939, Noormakku, Finland, by Alvar Aalto, integrates Finnish cultural values which are expressed through materials such as bricks, wood and stone[xxi]. In this case the attributes of 'tradition' and 'material' are related, since there is a cultural meaning associated with the materials.

Another example is how modern architecture is adapted to different climatic conditions. There is a reinterpretation of traditional forms of sealing and elements appear such as *brise soleil* and louvers that filter the sunlight. In the residential buildings of Guinle Park, by Lúcio Costa, *the envelope has value because of its weight, texture and composition*[xxii].

f. Technique

In the documents of the World Heritage List, 'technique' is understood as the mode of doing. They refer to the technique used in conducting the structure of buildings, finishes, metal profiles, precast elements, etc. Maintaining the technique in the act of repairing damage takes place by using the same technology as that used in the original building.

The attribute of 'technique' contains the value of the technological innovations that enabled modern architecture to create buildings with spatial qualities that were different from those already existing up until then. It emphasizes technologies that involve the use of reinforced concrete, steel and glass, modern synthetic materials and standardized modular parts such that these facilitate manufacture and construction[xxiii]. Principles such as the flexibility of the open floor plan and the use of an independent structure are aspects of the technology that characterize modern architecture.

The value of the technology is identified, in general, by an expert who understands its significance at the time of designing the building. Transferring such significance to the present generation is a challenge. The substitution of components or of construction systems may mean a loss of the records of innovative experiments. The correction of design 'defects' represents a reduction in the attribute of 'technique', but may represent the maintenance of the attribute of 'use'.

g. Localization and implementation

This refers to the relationship of the building with the natural conditions of the site and its surroundings, whether this is within the limits of its own lot, or whether in the rural or urban context. The documents of modern architecture buildings listed by UNESCO show the permanence of the relationship of the building with the site. An example is the Schröder House, built at the end of a set of nineteenth-century houses and near a small square, the document points out that it maintains its original features with minor changes due to a roundabout built in the 1960s.

In the buildings of monumental scale, the aesthetic power of the work is intended to impress because it is an example of its grandeur and singularity. The void is part of the composition and gives value to the monumentality, as verified in the Sydney Opera House, 1957-73, by Jørn Utzon, and the National Congress Building, Dhaka, Bangladesh, by Louis I. Kohn[xxiv].

The particularity of each work reflects the site, the context and the unique intentions, as well as the themes and the individual vocabulary of the artist[xxv]. Fallingwater, by Frank Lloyd Wright, the Woolley House, by Ken Woolley[xxvi] and the House at Canoas, Rio de Janeiro, by Oscar Niemeyer are some examples of a complete juxtaposition of the architectonic work in the landscape. The significance of the building is directly related to the natural context in which it is inserted.

There is loss of the attribute of 'location and implementation' when there are changes in the open spaces around the building. This is an aspect to be considered for making judgment on the addition of new buildings (annexes) next to the main building and urban growth.

h. Language

This is the mode of express oneself. "*Architecture is an expressive language for the articulation of ideas and sensations* ..."[xxvii]. These are the theoretical concepts present in the architectonic work. It is a non-material attribute expressed by means of other attributes such as form and design, technique, interconnection and interpenetration.

The attribute of 'language' identifies the theoretical concept expressed in the building. Documents from the world heritage buildings emphasize these concepts for each example: in the Bauhaus Building, there are the teachings of the Bauhaus school; in the Schröder House it is those of the De Stijl movement; in the Villa Tugendhat, it is those of the International Style; in the Barragán House, it is those of the Modern Movement integrating the traditional, and philosophical and artistic currents; in the Centennial Hall in Wroclaw, it is the innovation in the development of construction technology of large, reinforced concrete structures, etc.

i. Interconnection and interpenetration

Modern architecture brings a new concept of interconnectedness and interpenetration between indoor spaces and of these with the exterior. This is a characteristic of earlier decades, 1920s and 1930s, and that later was extended[xxviii]. This is the start of the predominance of empty spaces over a full one and the use of the term 'opening' gives evidence of this characteristic. External and internal spaces are seen simultaneously[xxix]. *Sketches* by Le Corbusier, for example, show the landscape of the surroundings seen from the inside. Farnsworth House, 1945-51, Plano, Illinois, by Ludwig Mies van der Rohe, is significant because of the relationship established between interior and exterior[xxx]. 'Freed space", to Rietveld, is a goal of modern architecture, and he associates that intellectual with spatial opening[xxxi]. For Wright, the new conception of space meant the destruction of the box and this was a fundamental change in the relationship of exterior to interior[xxxii]. What is important is the detail of the junction of the panes of glass. The new plastic solution presented glass walls that bend thus giving continuity to the composition of the building[xxxiii]. The glass curtain is the maximization of the transparent surface.

This is a significant value, highlighted in most of the sites listed by UNESCO. "*The house (Barrag an) proposes a new relationship between internal space and the architectonic landscape. House and garden are seen in a harmonious unity, indivisible, and devoid of any idea of subordination*"[xxxiv].

The maintenance of the attribute of interconnection and interpenetration means that the action of conservation should preserve these characteristics, whether in the relationship of the indoor environments, or whether of these with the external environment.

j. Integration of the arts

This refers to the relationship between architecture and the other arts, especially painting and sculpture. The Venice Charter, 1964, lays down that works of art are an integral part of the monument and that they cannot be removed[xxxv]. In the principles of Bauhaus and the De Stijl movement, the idea is present of the inter-relationship between architecture and the other arts: the design of the new building would bring together architecture, sculpture and painting in a single unit[xxxvi].

This is not a characteristic only of recent buildings. The difference is that, in this case, art is used to emphasize concepts of modern architecture and not in the sense of ornament. For Costa, works of art have a role in the architectonic composition and, on

referring to the murals made with tiling on the ground floor of the buildings, he states that "they have the function of dampening the density of the walls in order to take away from them any impression of support, because the upper block is not supported on them, but on the columns."[xxxvii]

In buildings where art and architecture are part of a single composition, to conserve the building and to conserve the work of art are simultaneous actions. The loss of the work of art may take away from the significance and heritage value of the asset.

3 Final considerations

In the UNESCO Operational Guidelines in 2006, tangible and non-material attributes were listed and they stated that they express the values that make an asset an object of preservation. The non-conceptualizing of the meaning of each attribute leaves room for different interpretations. It might be thought that the lack of objectivity in defining the concepts derives from the diversity of the assets that are submitted for listing. The authors agree that there are diversities and particularities in each site even in the universe of the cases of modern architecture buildings. Conceptualizing aims to standardize the understanding of which aspects, material and non-material ones, of the building are related to each attribute. This understanding will allow each attribute to be evaluated in its current state and so also will be the influence of conservation actions on the integrity and authenticity of each of them. The result of these partial evaluations will provide items of support for evaluating the building as a whole and guide the step of making a judgment on the conservation action. This is a methodology that arises from the concept that *the fragmentation of the building into attributes is a strategy for enhancing the judgment.*

This study, on considering the UNESCO attributes as data for research and not as consolidated results, questioned the relevance of a source that is characterized as such. The challenge would be to negate all the pre-established truths and check those which would be maintained. The investigation led to the proposal of two new attributes – interconnection and interpenetration; and integrating the arts - and the subdivision of others. This is so for the attributes of *use and function* and *tradition and technology* which UNESCO presents in aggregate.

Function is related to the type of activity and is an attribute related to the initial existence of the building (past time). It is a concept that goes back to the principle of form v function that emerged in modern architecture. The term *use*, in general, is seen as a synonym of function. On the other hand, one also has to evaluate the operating conditions of a building and these are related to the permanence of the building as a whole. Tradition and technique are distinguished from each other because they express different concepts. In the attribute of *tradition,* elements are evaluated that have a relationship with the place and in the attribute of *technique,* the mode of doing, these are related to technology.

This paper identifies attributes and presents considerations that can guide judgment on decisions when planning conservation. It contributes to the methodological rigor required as a necessary condition so that the asset may be respected and so that such rigor may be a conductor of the creative process. Further research will lead towards proposing

a methodology to guide making judgment on conservation actions on the integrity and authenticity of the attributes of modern architecture

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