

A Demonstrative and Estimated Model of the Values of Built Heritage from a Collection of Existing Models

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Abstract The decision to intervene in the architectural heritage must be based on scientific and cultural criteria according to its values. For this, it is necessary to determine what these values are. This research attempts to identify the values and sub-values of the built cultural heritage (its axiology) through the critical analysis of existing suggestions and debates within this subject according to national and international agreements and recommendations with the support of published research since the beginning of the XIXth century. This chronological analysis has helped us to develop a table of values and sub-values evaluated and estimated before any intervention on the built heritage. The results helped finding the criteria while respecting the scientific and cultural evaluation of the work along with the emotions conveyed by stakeholders and users. In this paper, we also emphasize that we can identify, evaluate and classify the values before any intervention on the built heritage. This is significant and important because we think that can affect the type of architectural intervention in any decision-making. This work is intended for the general public and for technicians who intervene in the heritage without sufficient preparation. It can help them to read, to analyze and to understand the meanings of architectural works through the recognition of values that deserve to be preserved or recovered in a perspective of sustainability. All values must be taken as a major decision criterion to be evaluated before any patrimonial intervention, using a table of values; organized, prioritized and categorized into

groups of sub-values.

Keywords Heritage Axiology, Heritage Charters, Heritage Laws, Architectural Intervention, Heritage Values

1. Introduction

In contemporary societies, 'Heritage Values' refer to the important beliefs [1], meanings and values [2] of all types that individuals or groups of people confer on heritage. These values (historical/ artistic/ economic/ social/ scientific... etc.) vary over time and space and change according to peoples and the circumstances at the time of their evaluation. These values still remain the key factor in legitimizing the heritage protection and management [2].

Heritage is defined as a complex human oeuvre which reflects values, through which a certain community could identify itself [3].

The recognition of values is one of the key phases of the cognitive process of acquiring, collecting knowledge, and understanding the building or site at the decision-making [3]. This approach contributes to the values maintenance: based on a reliable respect for the documentary and contributions at a given time [4]. All intervention parameters' tend to enhance the value of the building either through 'Restoration' by recovering its historical and

artistic value; 'Repair' by maintaining its integrity value; or 'Rehabilitation' by improving the state of its functionality [5], [6]. These various operations involve a diverse set of architectural knowledge. They have as a common element *'The Object of Intervention'* the entity or the value of which must first be analyzed to define the set of operations upon such an object, moving from subjective architectural intervention to objective and scientific intervention based on the value as a decisive criterion for the existing heritage building recovery.

The present research attempts to offer a critical analysis of existing studies, not only literary, but also of agreements, both national and international, on the built heritage values. The analysis focuses chronologically on three levels. This involves analyzing the value in the most important international heritage charters, in the heritage laws of several countries and in scientific research on heritage values published by authors since those of the classic and modern pioneers (XIXth, middle-XXth century) until the present times (end-XXth, early-XXIth century).

Our hypothesis stretches from the principle of developing a demonstrative and estimative model of values possibility by identifying the main sub-values as a criterion that objectively allows us to evaluate an old-building before the intervention. This approach has led us to recognize all the valid values to be taken into account for decision-making in architectural interventions. We understand that this analysis can help all those involved in architectural heritage.

It is noteworthy that the notion of value has been used for a long time and has evolved over time until its theorization recognized by *axiology*¹. As with a monument, the question of value, of its axiology, also presupposes a relatively modern discussion. It is that of a building which was assigned a certain value or a given cultural-heritage quality, and has a recognized societal state like a building that could be maintained [6].

According to R. Fernández [6], in the great ancient cultures, the judgment was based on its isolation only, its self-affirmation of a beauty ideal and its imperialist syncretic will, which clearly placed the problem of the monument in the same plan of decision. The Middle-Ages faced a situation related to its theological prescription by demonstrating the bequeathed material culture. In the Renaissance, the value of the cultural innovations of the city-state was defined by its political or civil meaning and transitions. The scientific views of German idealism and Winckelmann's archaeological collections operate on establishing the real quality of the ancient monuments.

In the mid-19th century, a debate was established, raising the question of the ancient monument as an autonomous object of the present; therefore susceptible to the establishment of a value judgement, notably around the

action on such monuments. Finally, A. Riegl [7] begins to institute a field of concepts on the monument's axiology, the criteria for the recognition of their values at that time.

The value status of a historic cultural object requires selection, not everything historical is a heritage and material to be preserved; the accumulation of cultures requires selection [6] so as not to be a prisoner of the past but to project oneself into the future [8]. According to R. Mason, *assessing values is an essential activity in any conservation effort since values strongly shape the decisions that are made* [9]. They help give a building 'heritage' status, to select which building or site to invest in; which treatment to apply on a monument. Methodologically, the evaluation of heritage values is delicate: several problems are arisen related to their diversity; parameters such as the factors of time that change them, *the fact is that these values are sometimes in conflict*. [9]

Briefly, it is now a matter of analyzing the values that have been taken into consideration for interventions in the architectural heritage to construct a table that clarifies the role of these values as criteria for decision-making, to better understand the wide range of heritage values.

2. Analysis of Architectural Heritage Values

The values models analyzed defend the built heritage and protect it against the bad intervention practices that lead to the falsification of its values. The chronological analysis of the existing proposals on the importance of values in heritage decision-making allowed us to identify the values and sub-values from: Heritage-Charters, National-Laws on Heritage Conservation, and Scientific-Research studies through the opinions of recognized authors in this domain. They are clarified hereunder:

2.1. International Recommendations; Declarations and Heritage Charters

We made a chronological study of the charters of Athens-1931, Venice-1964, Burra-1979, the Dresden Declaration-1982, the Nara Document-1994, and the Krakow Charter-2000. They consider the values recognition as the first criteria to be regarded in the heritage intervention process. Although these charters are sometimes complementary (Athens/Venice) or combinatory (Krakow/Venice/Dresden), they all converge to respect heritage values.

The *Athens Charter-1931* [10] recommends the preservation of historical and artistic values of heritage buildings. These values are a decisive criterion for the management of the remaining ones to respect the values of its use; its surroundings; its scientific innovation through the use of new materials and modern techniques. The

¹ Discipline, appeared by the end of the nineteenth century (M. Verbeek-Boutin). From the Greek *αξία*:axia/value/quality, *logos*:study/theory; of what is worth; of what can be the object of a value judgment (Universals). It can be defined as a science of philosophical/aesthetic/moral values.

explanatory ambiguity of the reinforced concrete used in the old building caused many problems because of the Athens Charter.

The *Venice Charter-1964* [11] approved that the monumental works express the human immaterial values represented by historical and aesthetic ones; to be revealed in actions of intervention. The Charter briefly addresses the values of traditional technical integrity, uses designation, and the surrounding: suggesting adaptive improvements to modern techniques and uses that ensure continuity in the use of the building.

The *Burra Charter-1979* [12] advocates a precautionary approach to recovering the heritage property with the least possible alteration and keeping the maximum of its cultural value: aesthetic, historical, scientific, social, or spiritual.

In *Dresden Declaration-1982* [13], the reconstruction of destroyed monuments is based on the preservation of spiritual-social values; the recovery of these values appears in the desire for intellectual, political, symbolic (relationship: peoples/native-lands) recognition, functional, and historical authenticity.

The *Nara document-1994* [14] is based on the concept of authenticity (intellectual/spiritual) that respects the cultural

and social attributed values of artistic/ technical/ historical/ social dimensions. Authenticity value may include some or other internal/external aspects to the work.

The *Krakow Charter-2000* [3] based on the preservation of culture, plurality of values at the decision-making time: historical, artistic, architectural, traditional technical integrity, built and socio-cultural identity contexts values.

We gather below a comparative summary of the values contained in the analyzed international heritage recommendations (**Table 1**).

We could assume that the charters have evolved over time, ranging from the establishment of theoretical concepts (1931) to the evolution of these conceptual principles (1964); the establishment of the practices standards (1979), to the principles of intervention practices and social development (2000). The charters have moved from a value judgment based on historical and artistic criteria, which were grouped into cultural and then socio-cultural values, ranging from material to immaterial values embodied by several aspects, from the values of the heritage property itself to those of the surrounding context: physical/social. The preservation of contextual values highlights any building in terms of its recovery.

Table 1. Values according to the international recommendations; declarations and heritage Charters. Authors, 2022

Athens-Charter-Values, 1931	Venice-Charter-Values, 1964	Burra-Charter-Values, 1979	Dresden-Declaration-Values, 1982	Nara-Document-Values, 1994	Krakow-Charter-Values, 2000
-Historical -Artistic -Scientific/Technical -Of Use -Of Surrounding	Human Intangible-values: -Historical -Aesthetic -Traditional technical integrity -Of Use/Occupation -Surrounding environment	Cultural-values: -Historical -Aesthetic -Scientist -Social/Spiritual	Spiritual-values: -Intellectual -Political -Symbolic -Functional -Historical Authenticity	Socio-cultural-values: Intellectual/Spiritual authenticity	-Historical -Artistic -Architectural -Technical integrity -Socio-cultural Context -Built Context

2.2. National Heritage Conservation Laws, Codes and Standards

Since values are not universal, the Athens Charter recommended the establishment of national legislation for each state [10]. We have analyzed the different legislations: German (1973-1980), English (1979-1990) updated by the British-Standard-7913 (2013), Spanish (1985), and Algerian (1998) laws along with the French and Italian codes (2004); updated of the old laws, to identify all the principal values/sub-values; to understand their evolution and contribution to protect the buildings which belong to different nations.

Accordingly, the German-Laws of 1973² [15] and 1980³ [16], include two fundamental values: The social value, reinforced by the degree of the intrinsic building-values (historical/artistic/architectural/urban/scientific/cultural); the social-use value supported by the degree of the intangible values of the heritage property (spiritual/authentic).

For the English laws⁴, comprising: Special values (architectural/ historical/ contextual) for listed buildings and sites to be protected (Law1990-art.1), and social value (historical/ architectural/ traditional/artistic/archaeological) for ancient monuments (Law1979, art.61-12).

The British Standard 7913:2013 [17] updates existing laws and describes good heritage practices, it enables effective decision-making in the strategic and operational management of a historic building based on an assessment of its heritage values and an understanding of its significance. According to the Guide, Heritage has cultural, social, economic and environmental values that combine to define the significance of the physical and spatial properties of a historic building or its context. Assessment is done by a group of core values (aesthetic/communal/evidential/historical), or by potential individual values that go beyond core values (architectural/ technological or built fabric/ townscape and spatial characteristics/ archaeological/ artistic/ economic/ educational/ recreational/ social/ cultural/ religious/ ecological/ environmental, etc..) that may also be taken into consideration. Whatever approach is chosen, the heritage values assessment must be comprehensive, balanced and objective; the importance of values changes over time, it is related to the public interest, supported by a policy and legislation to protect the historical environment, and reflected in the planning system.

In the Spanish Law⁵-1985 [18], the set of heritage values in any immovable property of a monumental character are: historical/ paleontological/ archaeological, artistic (aesthetic/ sensory/ botanical), scientific, social (anthropological, ethnological: architectural, and cultural values which testify Spanish traditions).

In the Algerian Heritage Law-1998⁶ [19], any immovable cultural, urban, or rural property of values: historical, archaeological, scientific, ethnographic, anthropological, artistic/ aesthetic, architectural, traditional, cultural, or contextual (surroundings/ monumental visibility) are to be preserved.

Regarding *the instrumentalisation of French heritage*, which dates back to 1887, the 2004 *code*⁷ emphasizes that heritage means all what is *historical, artistic, archaeological, aesthetic, scientific, or technical value* [20]. The classification of a historical monument takes place only if the values, both artistic and historical, have a *social value* that represents public interest. However, considering the context enhances the value of the treated building by classification. Otherwise, the *social value and the physical context* could be considered as added values to those initially specific to the building. If a territory has a *cultural, architectural, urban, landscape, historical, or archaeological value*, it must be protected.

According to the Italian Cultural Property and Landscape Code⁸ [21], although research and legislation on the preservation of Italian heritage is of no recent practice, 'cultural heritage' includes any cultural property, movable/immovable, tangible/intangible; any element of civilization referring to historical/artistic/social/economic values; any cultural private property which has a particularly important value: historical / artistic / scientific / technical / industrial; buildings and areas of considerable public interest: landscape heritage properties, constituting the expression of historical/ cultural/ natural/ morphological/ aesthetic values of the territory. Landscape values take into consideration: architectural typologies/ techniques/ building materials. Some ambiguities still exist concerning the meaning of the used terms; artistic/ aesthetic and scientific/ technical/ industrial, yet considered scientific.

We provide a comparative study of the values of the analyzed laws, codes and standards (**Table 2**).

2 Gesetz zum Schutz und zur Pflege der Denkmäler,25Juni1973.

3 Gesetz zum Schutz und zur Pflege der Denkmäler im Lande Nordrhein-Westfalen,11März1980.

4 Two provisions applicable in the United-Kingdom, where the property may belong to either or both of the two categories established by these laws, namely: Section61-12 of the Ancient Monuments and Archaeological Areas-Act/1979; Section1 of the Planning (Listed buildings and conservation areas-Act/1990).

5 Ley16/1985, de25 de junio1985, del Patrimonio Histórico Español. Consulted online and translated from the original language.

6 La Loi n°98-04 du15 juin1998 relative à la protection du patrimoine culturel algérien.

7 Code du patrimoine français,February2004.

8 Decreto legislativo 22Gennaio2004, n.42 Codice dei beni culturali e del paesaggio, ai sensi dell'articolo 10 della legge 6luglio2002,n.137.

Table 2. Values according to National Heritage Conservation Laws, Codes and Standards. Authors, 2022

German-Laws-Values, 1973/1980	Spanish-Law-Values, 1985	Algerian-Law-Values, 1998	French-Code-Values, 2004	Italian-Code-Values, 2004	English-Laws-Values,1979/2013
					Laws untill,1990
<u>Social value:</u> <i>-historical</i> <i>-artistic</i> <i>-architectural/</i> <i>urban-planning</i> <i>-scientist</i> <i>-cultural</i> <u>Use value</u> (social connection): <i>-spiritual</i> <i>-authenticity</i>	<u>-Historical</u> <u>-Artistic:</u> <i>-aesthetic</i> <i>-sensory</i> <i>-botanical</i> <u>-Scientific-or-Technical</u> <u>-Territorial use</u> <u>-Social;</u> <i>-anthropological</i> <i>-ethnographic;</i>	-Historical -Archaeological -Scientist -Artistic(or-cultural-or-tr aditional) -Ethnographic -Anthropological -Social added values -Context values	-Historical -Archaeological -Artistic(aesthetic) -Scientific/Technical -Social added: (artistic-historical) -Physical context added -Territory values: <i>-historical</i> <i>-archaeological</i> <i>-cultural</i> <i>-architectural</i> <i>-urban</i> <i>-of landscape</i>	- Artistic - Historical - Archaeological - Ethno-anthropological - Scientist or Technical/Industrial - Exceptional Social value: <i>-historical,</i> <i>-artistic,</i> <i>-economic</i> - Landscape value: <i>-historical,</i> <i>-cultural,</i> <i>-natural,</i> <i>-morphological:</i> <i>architectural-typologies/technique</i> <i>s/building-materials</i>	Special value: <i>-architectural</i> <i>-historical</i> <i>-context</i> Social value: <i>-historical</i> <i>-architectural</i> <i>-traditional</i> <i>-artistic</i> <i>-archaeological</i>
					BS7913:2013
					<u>Group values</u> <i>-aesthetic,</i> <i>-communal,</i> <i>-evidential,</i> <i>-historical</i> Or any individual value

We could advance that in the laws, the basic values (artistic/ historical) are regarded by consensus. The social/ contextual values also are important criteria in these laws but with different sub-values. The Spanish law gives a major importance to ethnographic values which are considered social values. The German law gives importance to social-use values. The French code distinguishes between intrinsic values and those added to the building by the public. The Algerian law is inspired by the French code and takes the Athens Charter as a reference point. The English law considers the context values as a special value; however the British-Standard-7913 goes beyond core values and develops a non-exhaustive list of values to be taken into account. And the Italian code details it as a landscape value in relation to the landscape property and public interest in urban-planning.

2.3. Opinions/Proposals of Recognized Authors

The protection of the architectural heritage was first raised in France, in the face of revolutionary vandalism and the abandonment of monuments during the 19th century, through heritage interventions on the ancient buildings initiated by *Eugène Viollet-le-Duc*. The idea was to revive the Gothic style of the 12th and 13th centuries, which he considered a golden age that best expressed the identity of the French nation [22]. The stylistic restoration for *Viollet-le-Duc* looks for the homogeneous image in the unity of the style by the recovery of the *original value*, artistic and technological primitive of the monument. It may, according to *J. Ruskin* [23], cause irreparable damage and result from many changes that can strip a building and its history, through a double process of addition and destruction of some of its most interesting material elements; actions made subjectively either by ignorance of truths or by instinctive follow-up of constructor.

William Morris, in agreement with *John Ruskin*, reaffirms the thought that opposes the restoration undertaken by *Viollet-le-Duc* in 1853 with his gothic fantasy at *Carcassonne* and the many interventions in *Britain*, and that was practiced by the Victorian architects by the restoration of the *abbey of St Alban* in *Hertfordshire*. In response to 19th-century conservation problems, he wrote *the Manifesto* [24], which described the principles of the Society for the Protection of Ancient Buildings (SPAB), and extended protection to "all times and all styles". Taking into account the *acquired values* of the historical monument, protecting everything can be considered artistic/ picturesque/ historical/ ancient/ substantial; without rejecting the stratigraphy and the contribution of the epochs. *The Manifesto* recommends the protection rather than restoration by the repair of old buildings in order to prevent their decay by daily care, and so that their entire history is preserved and transmitted to the future.[24]

We could say that the classical theories of intervention were not based primarily on the criteria of values, but rather their concern was to protect monuments against

vandalism. Modern theories came to treat and deepen this point. Long before the publication of national and international recommendations on heritage, several researches have been performed within this framework since the end of the 19th century about the value as a major criterion for decision-making in interventions.

Alois Riegl [7] establishes the principles of historical preservation based upon the 'Values' of monuments as generally viewed by the masses. He divides them into two main categories chronologically classified as: The memory values and the contemporaneity values which include relative art value that satisfies modern *kunstwollen*.

Besides, the ancient valorization of antiquity works, *A. Riegl* approaches this value -*artistic/historic*- from another angle related to natural and human time, encouraging an assessment attitude that creates a new value of significant memory as seen by current societies.

While the old classical values helped preserve the heritage but led to its museification, Riegl has just suggested new values with other evaluation criteria complementing the existing ones which he considers indispensable in the management of historic monuments. He discusses the axiology in the conservation field, dismantling the concept of the historical monument, revealing the conflicting values on which it is based upon and the contradictory solutions that this conflict may involve.

Unlike Riegl, who distinguishes between values linked to the past and those linked to current experience, *Cesare Brandi* [25], inspired by the ideas of *Camillo Boito*, suggests a different axiological approach. According to him, the work of art must be evaluated based on the aesthetic and the historical values. Ideally, both 'values' must be regarded, but if there is a conflict, the aesthetic value remains primary. Brandi is in retreat from Riegl, he presents the values objectively [26], without going through a Rieglian semantic judgment, although Brandi does not go into details and technical processes.

According to G. Giovannoni [27], in continuity with Boito's ideas, heritage is not only endowed with aesthetic and historical values but it is also linked to a social-use value based on the living conditions of our time; the aesthetic-historical value interpreted by the image value must be subject to rigorous scientific techniques; the social-use value is an important element of contextual value that requires adaptive improvement to living and hygiene conditions. Leopoldo Torres Balbás follows the same line of thought. He participated with Giovannoni in drafting the principles of the Charter of Athens 1931, and was in charge of the restoration of the Alhambra of Grenade during the first half of the XXth-century, where he would defend respect for all phases of construction with historical and artistic values.

We have gathered a comparative synthesis of the values contained in each of the classical and modern scientific analyzed studies (**Table 3**):

Table 3. Values according to classical and modern scientific studies (XIXth-middle XXthS). Authors, 2022.

Eugène Viollet-le-Duc/John Ruskin and William Morris; Debate Middle-XIX th -Century	Alois Riegl values; End of the XIX th -Century	Gustavo Giovannoni values and Leopoldo Torres Balbás values; Early XX th -Century	Cesare Brandi values; Middle XX th -Century
-Origin-value -Acquired-value	<u>Past/Memory-value:</u> -Seniority -Historical -Intentional Commemorative <u>Present/Contemporaneity-value:</u> -of Use -of Novelty -Absolute/Relative art value	-Aesthetics -Historical -Contextual/Social-use	-Aesthetics -Historical

Aside from the existing dualities, R. Fernández [6] sees that the treatment of the value notion can be done from another perspective based on the analysis of the historical performance of the object; not of its origin but of its historical role linked to quality. The analysis of performance must be developed on three quality levels: technological, functional, and symbolic. It enables it to evaluate the durability and the use of the object.

Contrary to Fernández's research based on performance criteria, R. Mason's works [9] are founded on the conservation value of properties in a non-technical sense. It is about economic/cultural values. The socio-cultural values are the core of traditional values in heritage conservation. Mason subdivides them into five sub-values: historical signification to the past (historical/artistic/architectural/technological/functional); cultural/symbolic; social; spiritual; and aesthetic: visual qualities that insure semantic-security. He subdivides the economic values into two sub-values: of use; of non-use.

R. Mason approaches the values evaluation in a non-technical and non-moral sense while Muriel Verbeek-Boutin [26] studies values in their moral sense. For this, her design of the evaluation models complements the traditional conceptual models of decision-making. She suggests moving from a static to a dynamic axiology; where the 'intrinsic' aesthetic value is added to a subjective value conferred to the object by various contributors. For Muriel, understanding the subjectivity of values is the best means to strive for objectivity. This axiology, based on communication and the concerns of the various actors in the statement of all the valid values, will enable to objectify

intervention decisions. Far from a purely scientific value judgment, the heritage object arouses emotions. The values and the decisions based on this criterion are considered through the emotions of the stakeholders along with the feelings that the object projects [28].

The *Canadian Heritage Chair's study* led to a review of the criteria for assessing the heritage-values of the Montreal University Campus [29]. These buildings-values are: historical/architectural/environmental [30]. The historical associations are addressed: the theme, important events or characters, and the particular local history of the building. The architectural value encompasses all of the aesthetic, functional, and technical sub-values: these criteria measure the intrinsic and the integrity values. The environment addresses location, setting, and point of interest.

In 2012, the Algerian-Spanish Research [31] demonstrated ; through the establishment of a rehabilitation method on a historic district Ben M'hidi in the historic center of Algiers, that heritage buildings interventions are not only based on the classical historical-artistic values but also on the utility values referring to the Vitruvian-trilogy: Venustas measures both material and immaterial values: Utilitas henceforth determines the degree of buildings habitability, dwellings, and public spaces: Firmitas examines their stability and their state of conservation.

We have gathered a comparative outline of the values contained in each of the recent analyzed scientific studies (**Table 4**):

Table 4. Values according to recent scientific studies (Late XXth -Early XXIst Century). Authors, 2022

Roberto Fernández, 1997	Randall Mason, 2002	Muriel Verbeeck-Boutin, 2009	Canadian Heritage Chair, 2008	UPM-EPAU,2012
<u>Performance-history Values:</u> -Technological -Functional -Symbolic	Non-moral values; <u>Sociocultural:</u> -Historical -Cultural/Symbolic -Social -Spiritual/Religious -Aesthetic <u>Economic:</u> -Use/Market Value -Non-use Values, * of Existence * of Option * of Legacy	Moral values; <u>All of Valid-values:</u> -Aesthetics -Subjective /Emotional (Stakeholders-Objects)	<u>Historical association values:</u> -Thematic -Event -Significant character -Particular Local History <u>Architectural:</u> -Aesthetic -Functional -Technical <u>Environmental:</u> -Location -Frame/Character -Points of Interest, (social/symbolic value)	<u>Venustas values:</u> -Historical -Artistic (material qualities) -Architectural (blocks occupation types) -Cultural (social memory/symbol/identity) <u>Utilitas values:</u> -Habitability <u>Firmitas values:</u> -of Construction stability -of State of conservation

We could advance that there has been a consensus for recent studies which invites to renew and update traditional/classical values. Each suggests assessing values from a different and well-defined perspective. Studying values from a perspective of physical performance: historical or economic remains different from that of a purely moral or semantic one.

3. Results & Discussions

In this complex cultural environment, the protection of values is regarded as a unifying principle to be put into practice within the existing architecture, necessary to decide upon possible interventions in the architectural heritage.

Intervention decisions relied-upon authors who were avant-gardists and debated the value point as an important criterion for intervention even before the Athens Charter. They evoked the main historical and artistic grounds first, then the use and contextual values despite their different and sometimes opposing visions. Those who regard the monument as a physical object with an aesthetic value without addressing the technical side; those who regard it as a time-travelling work with semantic/social values: commemorating the past and present contemporaneity regarded by the masses; those who evaluate it in its context by assessing the environment where it is located as a basic criterion of values.

The charters complemented the ideas of the precursors. The criteria for assessing values have been advantageously developed and detailed over time. They not only addressed the contextual and scientific values from a technical opinion but they also did consider the aesthetic and historical values until the arrival of the Nara Charter on

Authenticity. This criterion has already been addressed by the German law and previously cited in the Dresden Charter. Subsequently, all existing values were grouped as sub-values of the cultural value announced in the Burra Charter. However, they have been gathered as a social value in the German law. Whereas, the Krakow Charter made a clear distinction between the main values (historical/ artistic/ architectural/ technical) and the cultural value as did the French and Italian codes. This charter detailed the values and addressed the notion of tangible/intangible value of the objects to be evaluated; it also evoked the values of the past and present already raised by Riegl a century before.

Alongside the conventional ancient values, most of heritage laws, codes and standards have addressed urban and landscape values as an indispensable contextual value to be evaluated because the elements of context have an impact on the monument just like this one has an impact on the context, and on its morphogenesis. The social value is added to this contextual value as defined in each law by its different sub-values. In this regard, we consider that the social value is an intangible value added to the physical contextual one. To these two contextual sub-values can be added to the economic value. All three enhance the value of the building.

The authors and theorists of the recent studies posit that the values discussed by the ancient studies are important as a criterion, but they remain static, and need to be renewed from the architectural viewpoint to the moral and emotional viewpoint based not only on purely scientific judgement, or non-moral and non-technical but also on the socio-cultural and economic standpoint. The latest studies on values have been based on the trilogy of history/architecture/environment or of beauty/utility/solidity.

Although Mason's study suggests the economic value of

use/non-use, it is still considered through a single prism: we believe that it could be complemented by other economic values from a different perspective. We are discussing here economic values: intrinsic to the heritage building, attributed and generated by the latter, which are dependent and mutually related to each other. The cost of the heritage property rises according to its nature. Its physical nature is related to the quality of the building: its formal [32]/symbolic characteristics (size/scale), its technical characteristic [32] (the building age, complexity of the used techniques, the nature/quality of the employed materials along with its technical standardization, its state of integrity), and its functional characteristics [33]. These are the intrinsic values specific to the heritage building which coincide with Mason's research. Its political nature: legal management and technical management⁹ [32]. These are the values attributed to the heritage property. For socio-cultural management: allocation/ investment strategy/ economic gain [34], to enrich its values or useful for tourism, these are the values generated by the heritage property among other values. The strategy of cultural tourism is not shared by those who are conservative under the claim that the over-exposure of objects of heritage abuses of their existing longevity and endangers their quality and integrity.

The value criteria of the last two recent studies are specifically applicable to architectural building, landscape, or urban real estate unlike the criteria of the previous studies, which are solely applied to assess the work of art whether mobile or immobile. Aside to intrinsic performance (historical: Fenrandez-1997), the current performance (Canadian-Chair-2008) is added to identify the technological, functional, and aesthetic/symbolic qualities. These qualities are grouped and classified according to the architectural value of the Canadian Chair, and divided into sub-groups in the Algerian-Spanish research matrix-2012 (*venustas/utilias/firmitas*). *Venustas* contains the historic value (independent value in the Canadian research); it also contains the architectural and aesthetic values each is independent of one another unlike the Canadian study which considers them interrelated.

The social value includes all of the values added by the public at the time of their evaluation to the values of the work. It is purely current as regarded by the masses. Alongside other values, the social value given by the public is considered to be the most reliable means in comparison to its evaluation by the experts, though this social actor 'the public' remains marginalized in the management of the built heritage. This value should not be confused with the experts' assessment of the historical and artistic values. Research on this value is still insufficient to determine it [35]. To consider that all of the values found as social or cultural sub-values remains a too less exhaustive vision. Cultural values refer to all of those values already found or that have been present over time and include all of the

sub-values of cultural ground and precedence only. These values are attributed, altering, multiple, and often immeasurable or in conflict [36]. These values have an impact on the established principle of preservation as does the impact of it on values.

The criteria of values have inevitably changed over time; starting from the old visions wherein the work is evaluated by the experts as values decision-makers and interventions that only take the historical and artistic values, coming and moving to the current visions that, despite their divergence, converge within the idea of taking all of the valid values provided that there is a form of communication between the experts where each stakeholder assesses the values. Integrating social values with the participation of the public as an external non-expert actor, but as a decision-maker, which can be important in assessing the values of an object of intervention. As indicated by *K. Morisset*¹⁰; heritage needs to be rethought in agreement to today's society. In this respect, the heritage value of a building is a function of its collective interest.

Prior to the so-called traditional, classical, or static basic values based on historical-artistic values as the cultural value of the time, there are many current values perceived based on different perspectives. Those who evaluate the criteria of the building in terms of its technical performance, others for its moral or emotional performance, those who rely on its non-moral economic value, all of these visions are complementary, despite their divergence or convergence. Their combination allows a complete evaluation of value criteria. Measuring values and ranking them according to their weight further facilitates decision-making in an intervention project which is a modern systemic-dynamic axiology.

Another equally important point that leads to a divergent/convergent conflict is that of those who endorse and put forward the architectural value, i.e., those who consider it to be an artistic, cultural, or historical sub-value. We think that architecture is not a value but rather a set/number of elements (form/ space/ structure...etc.) with the above-mentioned values (artistic/ functional/ technical...etc.), it is a construct of two levels: intrinsic/acquired, and it is to be studied based upon two different spectrums: old/recent. The time factor must be regarded; the compilation of chronologies makes it easier to understand the evolution of a building.

Founded on the analyses made accordingly, this logic of reflection has permitted us to comprehend clearly how to analyze the existing architectural work; also how to evaluate the criteria of values with objectivity, taking the potential of each previously analyzed study on values and value decision criteria. Architecture as an element of value, it should not be analyzed isolatedly from its context during the pre-intervention assessment. The context (space/time) also carries social, economic, and environmental values

9 J.-P. Bady. Benhamou.

10 Lucie K. Morisset: Architectural Historian, Professor/ member of the Canada Research Chair in Urban Heritage UQAM, January 2019.

and has an impact on the values attributed to the existing architectural work. It is therefore necessary to decompose this architecture and its context into value elements to be evaluated before any heritage intervention. All the components of the architectural building (physical/spatial) have a value and meaning that must be studied before any decision making over the heritage under evaluation. We do not favour a precise value matrix within the previous studies, but rather we must take the potential of each one on the basis that each has advantages and disadvantages.

4. Conclusions

The study has analyzed existing heritage values in literary and scientific studies, recommendations of international agreements and national heritage laws, codes and standards. This analysis is done on the existing proposals from the 19th century to the present time to collect all of the useful values to be estimated in the decision-making intervention process.

The analyzed models are sometimes controversial but also complementary. To come to an exhaustive study, their combination seems to be effective. Looking at the values through the theorist eyes, the scientist and the practitioner help to avoid nuance and subjectivity in decision-making within interventions. The evaluation of value criteria by experts is still insufficient, which requires public involvement to distinguish between past and present values simply for heritage is consumed by the societies that currently use.

We opt for a value model that takes into account the potential of each analyzed model. These values have been analyzed chronologically, to distinguish between old and new, intrinsic and acquired qualities, or experiments that have marked the existence of heritage building to be effectively covered. The analysis was based on historical, architectural, and contextual perspectives, i.e., more objective than subjective, which were argued by each actor or stakeholder before the decision-making. Those to be restored, repaired or rehabilitated in the intervention operation.

Accordingly, we have established a specific proposal through a grid (**Table 5**) by looking for significance to each component of the existing building: design and form, materials and substance, use and function, traditions and techniques, place and context, spirit and feeling, and any other factor internal or external to the heritage-property. Architecture is not a separate value; it consists of a trilogy: art, technique, and use. The context is at the same time physical/visual, social in ethno-anthropological evolution, and economic in regards to time. The degree of contextual values is reinforced by the degree of historical and

architectural values.

The contextual values on their part reinforce the importance of the building in its environment, where the object of intervention cannot be studied in isolation but in its context. The latter has an impact on the evolution and values attributed to this object:

- the *physical context* through the authenticity of its location, the morphological organization of urban tissues and the character of the built urban landscapes associated with the object;
- the *social context* by the values of authenticity of origin and spiritual identity attributed to it by the mass;
- the *economic context* by the values of the building: intrinsic, acquired and generated.

The contextual value most often requires rehabilitation through adaptive improvement to the living and hygiene conditions required at the time of decision-making, as well as to modern techniques and uses that ensure continuity in the use of the building.

This article identifies and classifies values, and it can help experts and professionals, practitioners or not, and non-professionals, to read and analyze architectural works and to understand their meanings that deserve to be preserved in a perspective of sustainability; objective to be achieved through the recognition and recovery of values. All values must be taken as a major decision criterion to be evaluated before any patrimonial intervention, using a table of values; organized, prioritized and categorized into groups of sub-values.

This hierarchical classification of values and sub-values will help decision-making; it will help differentiate between intervention actions, since there is dependence between the three intervention levels with the different values and sub-values, whether it is a *restoration* of historical-artistic values, a *repair* of integrity values, or a *rehabilitation* of usage and contextual values.

For decision-making prior to intervention, the resulting table of values identifies and classifies all values qualitatively, and indicates their role in intervention decision-making on built heritage. Although value assessment is a sensitive activity, we confirm that it remains essential in any effort to recover old buildings, as it strongly shapes the nature of the intervention during the decisions to be made. The quantitative assessment concerns the weights of each of these values and sub-values, it should be studied in each specific case or in several standard cases, through the direct application of a *Values Assessment Method* which will help professionals. This research work is the core subject of a current doctoral thesis and could later be used for further research.

Table 5. Assembly of a demonstrative and estimated table of heritage values. Authors, 2022

Values		Sub-values	Criteria/Indices/Justification of Assessment	Type of intervention affected by these values and sub-values
Historical		Historical Associations	-Thematic signification -Events/historical Story -Persons/Designer	Restoration
Architectural	Artistic- <i>Venustas</i>	Formal Aesthetics	Formal composition & style	
		Spatial Aesthetics	Spatial composition / distribution & harmony (space / texture / structure / light..)	
	Technical- <i>Firmitas</i>	Technological Innovation	New materials/innovative technical solutions	Repair
		Construction Integrity	State of conservation of Materials/Details/Construction systems	
	Funcional- <i>Utilitas</i>	Habitability	Typologies/Conditions of occupation	Rehabilitation
		Adaptability	New-uses/non-use scenarios, included accessibility	
Contextual		Physical-Context	Natural location (place/views/surroundings/climate,... etc.)	
			Urban/Rural implantation (configuration/typology/integration,... etc.)	
			Built Environment (associated objects/places)	
		Social-Context	Ethno-anthropological Origins (Authenticity/Singularity)	
			Added Current Social Focus (Spiritual Identity): -Administrative/Political Recognition -Cultural Recognition (symbolic/artistic) -Social Recognition (of memory/contemporaneity)	
			Economic-Context	-Of the property (Intrinsic quality) -Attributed/Acquired (Technical-Legal management) -Generated (Socio-cultural management impact)
-Of Market				
Valid-Values		Moral/Subjective/Emotional...Other		

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