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Evaluating the authenticity of earthen heritage: The case of Ramses Wissa Wassef Art Centre in Egypt

Ayman G. Abdel Tawab *

Department of Architectural Engineering, Faculty of Engineering, Tanta University, Tanta, Egypt

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Abstract The authenticity of earthen heritage has long been a challenge to the trials of the under-represented States Parties, to the World Heritage Convention, to identify properties for listing on their Tentative Lists, of potential World Heritage Sites. Many under-represented States Parties and regions, such as Africa and the Arab States, retain a large number of properties representing earthen heritage, yet none of them has been inscribed on the World Heritage List. For such a pattern of cultural heritage to qualify for the World Heritage Site status, nominated properties should enjoy an Outstanding Universal Value and should also meet the conditions of authenticity and integrity. Due to the fragility of its building material, earthen heritage has always been the subject of continuous maintenance works to its material. Consequently, an impression that the material authenticity of such cultural heritage is questionable has evolved. The main purpose of this study was to discuss such perceptions in further depth. The study also aimed at evaluating the contribution of the “materials and substance” attribute versus the contribution of the other attributes of authenticity, toward the evaluation of the authenticity of earthen heritage. The study approached these objectives by evaluating by means of a proposed methodology the authenticity of one case study, which is Ramses Wissa Wassef Art Centre, in Egypt. The adopted evaluation methodology was developed based on the Nara Document’s notion of authenticity. The findings indicated the significant contribution of the non-material attributes, vis-à-vis the contribution of the “materials and substance” attribute, toward the authenticity of the examined property. The results suggest the need to broaden the narrow perception that reduces the authenticity of earthen heritage to its material aspects, so as to embrace all the other non-material attributes of authenticity.

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* Address: 23 Alphrid Liean Street, Roshdi, Alexandria 21311, Egypt.

Tel.: +20 3 5420760, mobile: +20 1023018833.

E-mail address: a_g_a_abdeltawab@yahoo.co.uk.

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1. Introduction

Identified largely based on its traditional construction material, earthen heritage seems to represent a unique pattern of cultural heritage. Earthen heritage has always been perceived as a genuine expression of indigenous communities and of their trials to sustain and emphasize their cultural identity. Such a

pattern of cultural heritage has always been classified either as “Vernacular Architecture,” or “Neo-Vernacular Architecture.” The criterion based on which such a pattern of cultural heritage is identified, which is its structural material, seems to have influenced the emergence of the perception that the authenticity of such a cultural heritage is merely rooted in its material aspects.

The significance of earthen heritage largely stems from its association with indigenous people and also with developing communities, whose cultural heritage is considerably under-represented on the World Heritage List. The World Heritage Centre and its experts’ analyses of the World Heritage List have revealed many representational gaps. Heritage resources of some regions have been found over-represented, in relation to other regions’ heritage. Among the regions whose heritage has been found under-represented on the World Heritage List, are Africa and the Arab States [1]. These two regions retain many significant properties representing earthen heritage, yet few of them have been inscribed on the World Heritage List. “La grande mosquée de vendredi de Niono,” in Mali, is an example of such properties that has not yet been inscribed on the World Heritage List. The mosque has been constructed using mud bricks in 1973 [2]. Listed on Mali’s Tentative List of 2008, the mosque has not yet been inscribed on the World Heritage List [3].

There are also many relevant properties representing this pattern of heritage in Egypt. The works of two Egyptian architects, Hassan Fathy and Ramses Wissa Wassef, represent the most outstanding examples of such properties. Many of the buildings designed by Hassan Fathy have been constructed using earth. On the other hand, Ramses Wissa Wassef has also constructed his art centre in Harrania Village using earth. The works of both architects represent their serious trials to revive the vernacular and the medieval heritage in Egypt. The works of Hassan Fathy have been appreciated on the international level. In 1984, Hassan Fathy has been awarded the UIA Gold Medal, which represents the international community’s acknowledgment of the significance of his works [4]. In 1980, he has been awarded the Aga Khan Chairman’s Award [5]. Ramses Wissa Wassef Art Centre has also been awarded the Aga Khan Award for Architecture in 1983 [2]. Despite the international appreciation of the works of both architects, none of the properties that they have designed has been inscribed on the World Heritage List or on the Egyptian Tentative List. To list any of those properties on the Egyptian Tentative List or to nominate any of those properties for inscription on the World Heritage List, the nominated property should enjoy an Outstanding Universal Value and should also satisfy the conditions of authenticity and integrity. The evaluation of the authenticity and integrity of those properties should follow the evaluation framework adopted by the World Heritage Centre’s Operational Guidelines [6].

Due to the fragility of its construction material, earthen heritage faces many threats. Ordinary threats usually include damp, prolonged rain, and standing groundwater [7]. Such threats can easily undermine the physical condition of earthen heritage and increase the need for maintenance works. Consequently, earthen heritage usually undergoes continuous maintenance works to its material resulting in its eventual entire renewal [8]. Cleere [9] has also indicated that in many cases preservation works might involve the consolidation of earthen heritage by inserting reinforced concrete elements. Such inevi-

table maintenance works might be the reason behind the emergence of a perception that the authenticity of earthen heritage is always questionable. Earthen architecture faces other challenges related to building regulations and legislation. Using earth as a construction material might be restricted due to building regulations and legislation [7]. Such restrictions might negatively influence the reconstruction and the preservation of the dilapidated earthen heritage. Other challenges might also encounter the conservation of earthen heritage, such as obtaining insurance for such fragile constructions [7]. Because of the fragility of its construction material and the many threats it faces, earthen heritage represents about quarter the sites inscribed on the World Heritage in Danger List [10].

In Egypt, earthen heritage seems to face other challenges. These challenges include the ban imposed on using earth as a construction material. The construction of the High Dam has resulted in the scarcity of the silt that enriches the soil in the Egyptian countryside. Therefore, extracting earth for construction purposes has been strictly banned. The construction of the High Dam has also led to raising the level of the subterranean water throughout Egypt, which is another serious threat to the foundations of earthen heritage.

2. Preliminary studies

Stovel cites the definition of authenticity that has been adopted during the discussions concerning the Nara Document, which is “[authenticity is a] measure of the degree to which the values of a heritage property may be understood to be truthfully, genuinely and credibly, expressed by the attributes carrying the values” [11, p. 23]. The previous definition has been construed, with few alterations, in Article 9 of the Nara Document on Authenticity, which states that “Conservation of cultural heritage in all its forms and historical periods is rooted in the values attributed to the heritage. Our ability to understand these values depends, in part, on the degree to which information sources about these values may be understood as credible or truthful. Knowledge and understanding of these sources of information, in relation to original and subsequent characteristics of the cultural heritage, and their meaning, is a requisite basis for assessing all aspects of authenticity” [12, p. 4]. Nara’s definition has adopted two criteria, of those adopted by Stovel’s definition, to evaluate the understanding of the information sources, which are either the credibility or the truthfulness of these sources. On the other hand, Stovel’s definition indicates the need to fulfill the three criteria, which are the credibility, truthfulness, and genuineness of the values’ attributes.

Authenticity evaluation is expected to vary according to the pattern of the concerned property. The variation in authenticity evaluation seems to stem from the relative nature of authenticity itself. The perception of the concept of authenticity seems to vary depending on the context of the heritage resource itself, and because of the influences of some factors. The perception of authenticity seems to vary from one discipline to the other. Ouf [13] points out that archeologists and urban designers’ perception of authenticity are entirely different. Archeologists’ perception of authenticity is usually reflected by their interest in accurately restoring monuments to their original physical condition. On the other hand, urban designers seem to be merely interested in the revival of the genuine spirit and feeling of historic areas.

The meaning of authenticity has changed over time. The meaning of authenticity in the 14th and 15th centuries incorporated the two ideas of authority and originality. The association of the idea of authority with the notion of authenticity must have had stimulated the obedience and respect feelings for what was considered authentic in the 14th century. In the 15th century, the consideration as authentic granted a sort of official legitimacy. The meaning of authenticity at this time did not conform to the meaning of truth. The development in book printing technologies during the 18th century has also resulted in a change of the notion of authenticity. By that time, authenticity was understood to mean “evidential genuineness” [14].

The perception of authenticity changes from one culture to the other. Communities whose cultural heritage is largely made of fragile materials, such as timber or earth, usually develop their own perception of authenticity that tolerates undertaking all the necessary maintenance works on a continuous basis. On the other hand, the European perception of authenticity should differ since the majority of the cultural heritage properties in Europe are made of stone. Therefore, the Nara Document has recommended that the evaluation of authenticity should be carried out within the cultural context to which the concerned heritage resource belongs [12].

The notion of authenticity changes according to the pattern of the concerned property. The authenticity of modern heritage is understood to tolerate the carrying out of alterations to the concerned property, while preserving it, as long as they reflect the modernism ethics. Integrity and the usage of up-to-date building materials and techniques represent the two key ethics of modernism. Consequently, the insertion of such modern building materials inside modern heritage while preserving it seems to contribute toward its authenticity [15]. The notion of authenticity might differ in the case of the reconstruction of historic towns destroyed during political conflicts. In this case, authenticity might mean the literal physical reconstruction of the destroyed property. Authenticity might also bear another meaning that limits the interest to the authenticity of the emotional experience associated with the destruction of the property, or what can be called authenticity of experience [16].

The evaluation of the authenticity of the concerned heritage resource is expected to vary according to the adopted assessment methodology and the adopted typology of values. The Nara Document and the Operational Guidelines provide a general framework that helps in evaluating the authenticity of heritage resources. Scholars have also suggested other methodologies to evaluate the authenticity of heritage resources [11]. The evaluation of authenticity is also dependent on the notion of heritage values. The definition of authenticity as the ability of the heritage resource's attributes to truthfully express its values emphasizes the relationship between authenticity evaluation and the heritage values of the concerned property. Consequently, the adopted typology of values will also influence the evaluation of authenticity since the various typologies might focus on certain values more than others. The evaluation of authenticity also changes according to the changes in the values held by each community and each generation in the same community. Since values change from one generation to the other [17], it is expected that each community and generation's perception of the authenticity of its heritage changes accordingly.

Various theoretical and official methodologies have been developed to evaluate the authenticity of heritage resources. The most relevant official methodology is the one adopted by the Operational Guidelines. According to this methodology, heritage resources can be evaluated to meet the conditions of authenticity if their attributes of authenticity truthfully and credibly convey the heritage values satisfied by the evaluated property. The attributes of authenticity, adopted by the Guidelines, include the following:

- form and design;
- materials and substance;
- use and function;
- traditions, techniques and management systems;
- location and setting;
- language, and other forms of intangible heritage;
- spirit and feeling; and
- other internal and external factors [6].

The previous attributes have been originally introduced in the Nara Document as the aspects of the sources of information [12]. Since that only some of these attributes are expected to express the satisfied values, the evaluation process should first begin by identifying the most relevant attributes of authenticity. Subsequently, the ability of these attributes to express the identified values should be evaluated [6].

Other methodologies concerned with the evaluation of the authenticity of heritage resources have been proposed by scholars. Stovel [11] has proposed a single methodology, or framework, that can be used to evaluate the two qualities of authenticity and integrity, since both qualities are concomitant. According to this framework, the evaluation of authenticity and integrity entails examining two concepts, which are “the ability of the heritage resource to convey significance” and “the ability to secure/sustain significance.” He has suggested deconstructing these two concepts into six sub-aspects of authenticity/integrity that should be examined. These six sub-aspects are wholeness, intactness, material genuineness, organization of space and form, continuity of function, and continuity of setting. The examination of these six sub-aspects should be conducted in relation to four heritage typologies; which are archeological sites, historic towns, architectural monuments and complexes, and cultural landscapes.

3. The aim and the method

The main objective of the study was to evaluate the contribution of the “materials and substance” attribute of authenticity, against the contribution of the other attributes, toward the overall evaluation of authenticity of earthen heritage. To achieve the previous objective, a methodology that can be used to evaluate the authenticity of cultural heritage was developed. To develop this methodology, a typology of values, which was based on Feilden's typology [18], was adopted. The adopted typology grouped the various values of cultural heritage under three key headings; which are emotional values, cultural values and use values (Table 1).

A single case study, which is Ramses Wissa Wassef Art Centre, was adopted to apply the evaluation methodology. The values satisfied by the examined property were identified. The elements, of the examined property, that contributed

Table 1 The adopted value typology [18,19].

Emotional values	Cultural values	Use values
Wonder value	Historic value	Functional value
Identity value	Age value	Economic value
Spiritual/religious value	Archeological value	Social value
Respect and veneration values	Newness value	Educational value
	Esthetic value	Political value
	Artistic value	
	Architectural value	
	Townscape and urban values	
	Landscape and ecological values	
	Scientific value	

toward the satisfied values and the attributes of authenticity that expressed those values were identified. To evaluate the authenticity of the examined property, the extent of truthfulness, genuineness and credibility at which the attributes expressed the satisfied values was evaluated. Finally, the contribution of one attribute of authenticity, which is “materials and substance,” toward the overall evaluation of authenticity of each value, and the authenticity of the property as a whole, was evaluated versus the contribution of the other attributes.

4. The case study: Ramses Wissa Wassef Art Centre

4.1. Introduction to the property

Ramses Wissa Wassef Art Centre is located in Harrania Village on the Mariotia Road (Fig. 1). The property functions mainly as an art centre that encompasses a number of workshops and as a residence for Ramses’s family and descendants. The property incorporates a large number of elements that include a central building used as the main family residence (Fig. 2). In front of this building lie the workshops, some of



Figure 2 The central family residence in Ramses Wissa Wassef Art Centre [19].

which have been constructed during the lifetime of Ramses Wissa Wassef himself, while others represent recent additions. The property also includes a tapestry exhibition hall located beside the workshops and a new museum that has been



Figure 1 The location of the Harrania Village and its surrounding environment, and the location of the art centre in the village [19,25]. 1. el-Ahram Street, 2. Mariotia Road, 3. Ring Road, 4. el-Mansoria Road, 5. Shabramant, 6. Zaghlul, 7. Abu an Numrus, 8. the Pyramids Plateau, 9. the Nile.

constructed behind the central residence. The most significant element in the property is Habib Gorgy sculpture museum designed by Ramses Wissa Wassef himself (Fig. 3). This building, which is no longer in use, is located in a separate zone along with a group of other family residences. The property also embraces a group of farm structures [20] and a group of seven weavers' houses [21] (Fig. 4).

The property is managed by the family members. A trust concerned with the exhibitions of the art centre abroad has been founded in 2005 and has been called "Ramses Wissa Wassef Exhibition Trust" [22]. The architectural style of the various buildings in the property can be described as either Vernacular or Neo-Vernacular Architectural Style.

The key elements in the art centre have been completed in 1974 [2]. The earliest buildings in the property have been designed by Ramses Wissa Wassef. The property incorporates other modern additions designed by two architects. These two architects are Badie Habib Gorgy and Ikram Nosschi. Badie is Ramses' brother in law, while Ikram Nosschi is his son in law [20]. Ramses Wissa Wassef, who is considered one of the most outstanding 20th century architects in Egypt, was born in 1911 and passed away in 1974. He has completed his post-graduate studies in the L'Ecole des Beaux-Arts in Paris and returned to Egypt in 1938. In 1938 he began lecturing in the newly inaugurated Architecture Department in the College of Fine Arts in Cairo, and has been elected as the head of the department in 1969 [23]. Ramses Wissa Wassef's other outstanding designed buildings in Egypt include "Mokhtar National Sculpture Museum" [24].

4.2. Threats to the authenticity and integrity of the property

Sustaining accommodation in the property and the prohibition of building with earth represent the key challenges to the authenticity of the property. Despite the well established arguments on the serious threats of falling into disuse on the integrity of heritage resources, the art centre represents the antithesis of those arguments. The evolution of Ramses' family who sustained their accommodation in the property escalated the demands for the construction of additional buildings.



Figure 4 The key elements in Ramses Wissa Wassef Art Centre [19,25,29, p. 1]. 1. entrance, 2. the central family residence, 3. the workshops, 4. the tapestry exhibition hall, 5. Ramses Wissa Wassef museum, 6. a group of farm structures, 7. Habib Gorgy sculpture museum, 8. the modern extension to the sculpture museum, 9. a group of family residences, 10. the weavers' houses.

These demands have collided with the ban imposed on the use of earth as a building material due to the construction of the High Dam. Consequently, some buildings have been constructed using stone that has been concealed by a similar earthen render to harmonize the entire composition.

The other serious threat to the integrity of the property is the rising level of subterranean water and its damaging impact on the foundations of the buildings in the property. The deteriorating sewage network in Harrania Village seems to have contributed toward this problem. The widening of the adjacent highway and the construction of a new bridge are other factors that exacerbated the declining condition in the village [30].

Preservation works to the property have been undertaken to confront its declining integrity. Due to the ban imposed on the usage of earth as a building material, the preservation works have been undertaken using cement mortars. Because

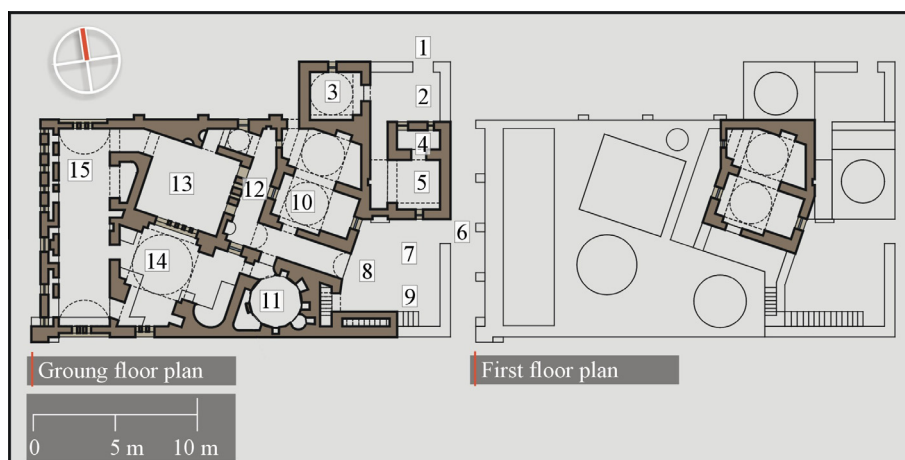


Figure 3 The plans of Habib Gorgy sculpture museum [19, 26; 27, pp. 17–18; 28, p. 50; 29, p. 3]. 1. entrance to guard's dwelling, 2. entrance courtyard, 3. guard's room, 4. W.C., 5. guard's room, 6. entrance to the museum, 7. entrance courtyard, 8. entrance, 9. stairs, 10. office, 11. exhibition area, 12. open passageway, 13. courtyard, 14. the domed exhibition area, 15. the vaulted exhibition gallery.

of their alien nature, those cement elements have been repelled, by the original earthen structure, resulting in the failure of the preservation works [20] (Fig. 5).

The dramatic urban changes that took place in the village represent another serious threat to the integrity and authenticity of the property. The entire urban environment immediately surrounding the property has been dominated by new developments of a very limited architectural quality. Those new developments seem to seriously detract from the authentic spirit and feeling of the property. They also intrude the property's internal visual experience and dominate the outwards views from inside the property (Fig. 6).

4.3. Value analyses

The analysis (Table 2) indicated that the property satisfied 11 values, which are as follows:

- the identity value,
- the historic value,
- the esthetic value,
- the artistic value,
- the architectural value,
- the townscape and urban values,
- the landscape and ecological values,
- the functional value,
- the economic value,
- the educational value,
- and the political value.



Figure 5 The unsuccessful preservation works undertaken to the buildings in the art centre [19].



Figure 6 The visually intrusive new urban development in the immediate surrounding of the art centre [19].

The property was found to enjoy an identity value because of its traditional architectural style's capability in stimulating the local community's emotions of their cultural identity. The findings indicated that the property enjoys a historic value because of its retention of its original style and because of its historic association with an outstanding architect, who is Ramses Wissa Wassef. The historic value was indicated by the property's construction technology, which is building with earth. The property's ability in providing knowledge about the evolution of the early generation of the Egyptian architects and about the historic architectural styles and building techniques in Egypt also indicated its historic value.

The findings indicated that the property enjoys an esthetic value that stems from its exceptional visual qualities expressed by its architectural aspects and landscape elements. The property was found to meet the artistic value because of its retention of a variety of artworks enjoying exceptional quality. The findings also indicated that the property enjoys an exceptional architectural value. The property's efficient function and the delight aspects of its design indicated this architectural value. The architectural value of the property also stems from the sustainability qualities of its design represented by its efficient use of energy. The building material of the property, which is earth, and the various architectural elements, such as vaults and domes, used in the property emphasize the property's sustainability qualities.

The property was found to enjoy townscape and urban values. The harmonious visual relationship between the various buildings in the property and between the buildings and the spontaneously designed urban spaces in the property indicated the property's unified totality and its exceptional townscape value. The visual association of the buildings in the property with other buildings in Harrania Village, such as Fouad Riad and Casaroni Houses designed by Hassan Fathy [31], emphasized the property's exceptional townscape value. The property's inward views and landmark quality also indicated its townscape value. The results indicated that the property enjoys an exceptional landscape value that stems from the conformity of the spontaneous and traditional character of the various landscape elements to the property's vernacular style and to the Egyptian identity (Fig. 7).

The findings indicated that the property enjoys a functional value that is indicated by its retention of its original

Table 2 The analysis of the values that the property enjoys and their indicators [19].

The values		The indicators of the values
Emotional values	Identity value	The traditional architectural style of the property, as well as its traditional building material, contributes profoundly toward stimulating the local community's emotions of their unique cultural identity
Cultural values	Historic value	The property maintains its original architectural style. The property is the work of an outstanding Egyptian architect, who is Ramses Wissa Wassef. The property is also associated with the principles of another outstanding Egyptian architect, who is Hassan Fathy. The property's construction technology, which is building with earth, indicates its historic value. The property can provide knowledge about the past; in relation to the evolution of the early generation of the Egyptian architects, and the historic architectural styles and building technology in Egypt
Cultural values	Esthetic value	The property enjoys exceptional visual qualities that stem from its harmonious architectural features, as well as from its landscape qualities
Cultural values	Artistic value	The property retains a diversity of artworks that enjoy exceptional artistic qualities
Cultural values	Architectural value	The property enjoys an efficient function and responds to its surrounding climatic conditions. The property enjoys exceptional architectural qualities that stem from the delight aspects of its design. The property enjoys exceptional sustainability qualities that stem from its efficient use of energy
Cultural values	Townscape and urban values	The property is visually associated with other surrounding buildings in Harrania Village, particularly the other houses designed by Hassan Fathy. The various buildings and the various spontaneously designed urban spaces in the property are harmoniously associated together. The setting of the property enjoys exceptional inward views and landmark qualities
Cultural values	Landscape and ecological values	The landscape elements associated with the property; such as the various floral elements, palm trees and sculpture works, enjoy exceptional qualities
Use values	Functional value	The property efficiently retains its original function
Use values	Economic value	The property is capable of making significant contribution toward the economic development of the nearby Harrania Village by encouraging tourism, due to its tourism potentials and its proximity to the Pyramids Plateau. The youngsters' financially rewarded apprenticeship in the workshops also indicates the property's contribution toward the economic development of the village
Use values	Educational value	The property can provide sufficient educational opportunities for the youngsters working in the workshops. The property can also provide knowledge concerning the traditional construction techniques that are no longer communicated within the architectural practice nowadays in Egypt. The property can provide a means for new generations to understand their culture, which is embodied by the architectural style of the property
Use values	Political value	The property is capable of establishing the history of the nation in the people's mind, because of its visual association with the Medieval era in Egypt. The property is capable of re-establishing the nation's cultural and political identity, which is rooted down to its Medieval origins. The design of the property largely reflects those Medieval origins. The architect's interest in reviving the national identity in architecture and arts as a reaction against the foreign occupation in Egypt also indicates the property's political value

**Figure 7** The sculpture works that reflect the genuine Egyptian identity [19].

and efficient function. The property was found to enjoy an economic value that stems from its contribution to the social and economic development of the neighboring village of Harrania. The youngsters' financially rewarded apprenticeship in the art centre and the capability of the art centre in attracting tourists to visit the property, because of its proximity to the Pyramids Plateau, emphasize this economic value. The property was also found to enjoy an educational value that stems from its ability in providing educational opportunities to the youngsters apprenticing in the art centre. The results indicated that the property enjoys a political value. The property's ability in re-establishing the image of the medieval Egyptian history in the people's mind, which stems mainly from the property's visual association with the medieval era, indicated this political value.

The analysis of the values enjoyed by the property indicated that almost all the elements constituting the property

Table 3 The evaluation of the authenticity of the values that Ramses Wissa Wassef Art Centre enjoys and their attributes, and the contribution of the various attributes to the authenticity of each value. The overall authenticity of each value was evaluated based on the mode of the authenticity categories [19].

The values	The relevant elements	The attributes that express the value	The evaluation of authenticity of each attribute	The overall evaluation of authenticity of each value	The attributes that contribute to the authenticity of the various values
Identity value	The various buildings	Form and design Materials and substance Traditions, techniques ... Location and setting	Very genuine Very genuine Totally genuine Very genuine	Very genuine	Form and design Materials and substance Location and setting
Historic value	The various buildings The association of the art centre with Ramses Wissa Wassef	Form and design Materials and substance Traditions, techniques ... Location and setting Spirit and feeling Form and design Materials and substance Use and function Traditions, techniques ... Location and setting Spirit and feeling	Very genuine Very genuine Totally genuine Very genuine Totally genuine Very genuine Fairly genuine Totally genuine Totally genuine Very genuine Totally genuine	Very genuine, totally genuine	Form and design Materials and substance Traditions, techniques ... Location and setting Spirit and feeling Use and function
Esthetic value	The various buildings The urban spaces and their landscape elements	Form and design Location and setting Spirit and feeling Form and design Location and setting Spirit and feeling	Very genuine Very genuine Totally genuine Very genuine Very genuine Totally genuine	Very genuine	Form and design Location and setting
Artistic value	The various artworks	Form and design Materials and substance Traditions, techniques ...	Totally genuine Totally genuine Totally genuine	Totally genuine	Form and design Materials and substance Traditions, techniques ...
Architectural value	The various buildings	Form and design Materials and substance Use and function Traditions, techniques ... Location and setting Spirit and feeling	Very genuine Very genuine Totally genuine Totally genuine Very genuine Totally genuine	Very genuine, totally genuine	Form and design Materials and substance Use and function Traditions, techniques ... Location and setting Spirit and feeling
Townscape and urban values	The various buildings The urban spaces and their landscape elements	Form and design Materials and substance Location and setting Spirit and feeling Form and design Location and setting Spirit and feeling	Very genuine Very genuine Very genuine Totally genuine Very genuine Very genuine Totally genuine	Very genuine	Form and design Materials and substance Location and setting
Landscape and ecological values	The various landscape elements, such as the floral elements and some sculpture works	Form and design Location and setting Spirit and feeling	Very genuine Very genuine Totally genuine	Very genuine	Form and design Location and setting
Functional value	The various buildings	Use and function	Totally genuine	Totally genuine	Use and function
Economic value	The various buildings, particularly the workshops	Form and design Use and function Location and setting Spirit and feeling	Very genuine Totally genuine Very genuine Totally genuine	Very genuine, totally genuine	Form and design Use and function Location and setting Spirit and feeling
Educational value	The various buildings, particularly the workshops	Form and design Materials and substance Use and function Traditions, techniques ... Spirit and feeling	Very genuine Very genuine Totally genuine Totally genuine Totally genuine	Totally genuine	Use and function Traditions, techniques ... Spirit and feeling
Political value	The various buildings	Form and design Materials and substance Traditions, techniques ... Location and setting Spirit and feeling	Very genuine Very genuine Totally genuine Very genuine Totally genuine	Very genuine	Form and design Materials and substance Location and setting

contributed to its value. Those elements include the various buildings, the workshops, the urban spaces; the landscape elements, such as palm trees, floral elements, and the various artworks; and the property's historic association with the Egyptian architect Ramses Wissa Wassef. Apart from the "language and the intangible heritage" attribute, all the attributes of authenticity were found to express the satisfied values (Table 3).

4.4. Authenticity evaluation

All the 11 values that the property was found to enjoy were evaluated to meet the conditions of authenticity (Table 3) despite that many additions to the property have been constructed using stone instead of mud bricks. The property as whole was evaluated to enjoy an outstanding level of authenticity.

Only seven of those 11 values were expressed by attributes of authenticity including "materials and substance." Those seven values are the identity value, the historic value, the artistic value, the architectural value, the townscape and urban values, the educational value, and the political value. The elements that contributed to those seven values included three elements; which are the various buildings, the artworks, and the historic association of the property with Ramses Wissa Wassef. The materials and substance of the artworks contributed to the authenticity of the artistic value, while the materials and substance attribute that expressed the historic association with the designer contributed to the authenticity of the historic value. The previous finding indicated that although the "materials and substance" attribute contributed to the authenticity of seven values, the elements that contributed to those values, and whose relevant attributes involved the "materials and substance" attribute, were not limited to the earthen constructions.

The findings indicated that the materials of the various buildings in the property were evaluated as very genuine despite the construction of some modern elements using stone because of the relatively limited size of such alien elements. The results also indicated that the "materials and substance" attribute, in relation to the property's historic association with the designer, was evaluated as fairly genuine. The considerable material changes that occurred in the property, in relation to its material condition during the lifetime of its designer, and also the impacts of the aging factor and the subsequent decline in the property's integrity, seem to justify the previous evaluation. The materials of the various artworks were evaluated as totally genuine since the artworks collection does not seem to involve replicas.

The authenticity of the previous seven values was ascribed to the contribution of a group of attributes that involved "materials and substance." The findings revealed the more significant contribution of the attributes other than "materials and substance" to the authenticity of those seven values. The historic value represents the maximum contribution of the attributes other than "materials and substance." Five attributes other than "materials and substance" were found to contribute to the authenticity of the historic value. Those attributes include form and design; traditions, techniques and management systems; use and function, spirit and feeling, and location and setting. The authenticity of the architectural value was also ascribed to the contribution of five attributes

other than "materials and substance." The artistic and the townscape values were found to represent the minimum contribution of the attributes other than "materials and substance" to the authenticity of those seven values. Two attributes other than "materials and substance" were found to contribute to the authenticity of the artistic value. Those two attributes are form and design; and traditions, techniques and management systems.

The findings revealed that four of the 11 values that the property enjoys were expressed by attributes other than "materials and substance." Those values are the esthetic value, the landscape and ecological values, the functional value, and the economic value. Indicating their outstanding authenticity, those values were evaluated as either "very genuine" or "totally genuine." The previous finding indicated the limited contribution of the "materials and substance" attribute to the authenticity of the values, enjoyed by the property, and the overall authenticity of the property.

The results also revealed the significant contribution of the attributes other than "materials and substance" to the authenticity of the property. Those attributes include "use and function," "location and setting," and "spirit and feeling." The findings indicated that the authenticity of all the values enjoyed by the property, apart from the artistic value, was ascribed to the contribution of at least one of those attributes. The authenticity of three values was found to be largely ascribed to the contribution of those attributes. Those three values are the economic value, the functional value and the architectural value. Three of the four attributes that contributed to the authenticity of the economic value were found to be "use and function," "location and setting," and "spirit and feeling." "Use and function" was also found to be the only attribute that contributed to the authenticity of the functional value. The contribution of those attributes to the authenticity of the architectural value was found less significant. Those attributes represent half the attributes that contributed to the authenticity of the architectural value. The results also indicated that the three attributes; "use and function," "location and setting," and "spirit and feeling"; were evaluated as either "very genuine" or "totally genuine."

5. Conclusions

Earthen heritage represents a unique pattern of cultural heritage that is largely identified based on its construction material, which is earth. This unique nature seems to have led to the emergence of the perception that narrows the authenticity of this pattern of heritage to its material aspects and considers the other non-material aspects of authenticity of inferior significance. Refuting this perception, the findings seem to unveil the significant contribution of the non-material attributes, versus the contribution of the "materials and substance" attribute, toward the authenticity of earthen heritage.

The findings seem to indicate the authenticity of the various values that Ramses Wissa Wassef Art Centre enjoys despite the construction of many additions to the property using alien materials. The findings seem to indicate that the contribution of the "materials and substance" attribute to the authenticity of the various values is less significant than the contribution of the other attributes. Many of the values that the property enjoys, which were evaluated as authentic, have not been ex-

pressed by the “materials and substance attribute.” The authenticity of the other values, which have been expressed by attributes involving “materials and substance,” seems to have been more indebted to the contribution of the other relevant non-material attributes. The findings seem to reveal the significant contribution of attributes of authenticity; such as “use and function,” “location and setting,” and “spirit and feeling”; against the contribution of the “materials and substance” attribute, toward the authenticity of the various values.

The previous preview seems to indicate the authenticity of Ramses Wissa Wassef Art Centre, despite the construction of some additions to the property using alien materials. The property also enjoys an outstanding level of significance. The results suggest undertaking all the necessary measures to preserve the property and to list it on the Egyptian Tentative List. The findings suggest the need to widen the narrow perception that reduces the authenticity of earthen heritage to its material aspects and to take into account all the other non-material aspects of authenticity, such as function and spirit and feeling.

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