

**Restoration of Historical artifacts and made available for exhibition in museums**

Hatem Tawfik Ahmed

Dept. of Sculpture, Architecture Formation and Monument Conservation, Faculty of Applied Arts, Hellwan  
University, Egypt  
[egypt5000bc@yahoo.com](mailto:egypt5000bc@yahoo.com)

**Abstract.** Conservation – all measures and actions aimed at safeguarding tangible cultural heritage while ensuring its accessibility to both present and future generations. Conservation of intangible Cultural heritage demands target restoration actions in order to increase monuments' lifetime. Since a large part of the museum's collection was established during the nineteenth century, was great interest in restoration of ancient cultures for exhibit to public, lectures, tours, write articles, historical and scientific research as well as for school-aged children. The scope of work we were asked to perform in the museum laboratory restoration of an objects, includes mechanical and chemical cleaning, consolidation of damaged surface and restoring the objects with an emphasis on re-form of missing historical statue and of the existing fragments archeological excavation. The goal of this restoration was to stabilize the object and recover the aesthetical visual appearance in order to show how it looked before the breakage. It also tackles the decision of restoring the archeological fragments to making ready for both analysis and exhibition purposes, according to the conservation-restoration principles. The objects material are Restoration experimental was vary with different material, include, archeological fragment of carved soapstone utensil and different kinds of Ceramic includes, Low-fired pottery or earthenware, colored and glazed pottery which are exhibit at the museum of the collage of tourism and archaeology, King Saud University- Kingdom of Saudi Arabia. As well as the historical terracotta statue, which exhibit in the International Museum in Krakow – Poland.

[Hatem Tawfik Ahmed. **Restoration of Historical Artifacts and Made Available For Exhibition in Museums.** *Life Sci J* 2015;12(5):183-192]. (ISSN:1097-8135). <http://www.lifesciencesite.com>. 22

**Keywords:** conservation, Restoration, Cultural Heritage, Archaeology, Pottery, Ceramic, Soapstone, Terracotta, Museum, Monument, Artist, Saudi Arabia, Poland.

**1. Introduction**

Museums are where the great majority of people today experience art and history, and this point of encounter between the artifact object and the viewer is explored through a consideration of strategies of display, and the ways in which museums engage their publics (Rice 2004). Moreover, the cause of public outreach has recently produced a good deal of experimentation in the display of art and artifact, revealing enduring tensions between aesthetic and narrative models of exhibition. In particular archaeology has always been a dynamic field, with amazing discoveries about the past being reported to the public. Over time and Since a large part of the museum's collection was established during the nineteenth century, museums has a transformation in communicating archaeology to the public, (Nardi 2014). The identification of a heritage asset can be observed and described on different ways and from different points of view [Figure 1] (Žarnić *et al.*, 2012). Reconstructing an archaeological object made use of the available knowledge of the time. The interpretation of the artists themselves had an important influence on the final result (Dooijes 2007). Museum collections can contain of, Objects from Excavation of archaeological sites, Objects from churches, castles or temples, Objects from private

houses and collections which represent any period in human history. These collections are valuable sources of information about human activities and it is the evidence of the cultural values which can be regarded as primary documents of history and reflecting the ideas, beliefs and activities of that society, provides us with a picture of a group of people who and how lived in the past. In addition Given us information of technological methods and trade. (Sease2011) who made it or how it was used. This information help to interpret the technology and aesthetic style studies which use visual information to seek the significance of tangible attributes found in artifacts and art objects. In these times of greater awareness of cultural diversity and cultural preservation, many conservators are finding that the study and conservation of objects may include additional complex issues rather than based perspective that examines the physical structure of objects (Odegaard 1995). By restoring and studying these collections, we gain insight into the lives and worlds of those individuals and groups who previously inhabited this areas (NPS2006).

Since art history is based on the assumption that what the historian views in the museum and sites is what the human made, a theory of restoration is a necessary starting point for art history. Unless the artifact and artwork we see has been successfully

conserved, how can we accurately interpret it? (Goldie 2009). Activity of restoration is undertaken by a restorer, especially when dealing with object of cultural heritage, due to their fragility, damage and other factors. Restoration usually done for exhibit purposes, to increase the interpretive value of an artifact by restoring its missing parts. (Sease 2011, NPS 2013) or lost part of its significance or function through past alteration or deterioration, and they are based on respect for the original material and design, archaeological evidence, and authentic documents, its appreciation, understanding, and use. Most often, such actions modify the appearance of the item (Venice Charter, 1964, art. 4-5) (Jokilehto 1986, Nardi 2014). It can also be done to stabilize an artifact, for example, when missing portions render an artifact too fragile for handling and study (Sease 2011). as well as alleviate physical problems in the object such as fading, chipping, or breaks (Aripdjanov 2013). By this we mean antiquities, artwork and artifact, a group that UNESCO subdivides, with brash rationality, in two major categories, moveable and immovable objects (Daifuku, 1968 ;Plenderleith 1998). Which may be defined as the entire corpus of material signs – either artistic or symbolic – handed on by the past to each culture and therefore, to the whole of humankind (Jokilehto 2002).

The restorer has a particular responsibility in that treatment is performed on irreplaceable originals, which are often unique and of great artistic, religious, historic, scientific, cultural, social or economic value. The value of such objects lies in the character of their fabrication, its significant expression of the spiritual, religious, and artistic life of the past, in their evidence as historical documents, and consequently in their authenticity. whether they be work of the first rank or simply objects of everyday life, its construction,

aesthetic, it's use and associations, context and the present condition of the all these factors (ICOM 1984, Sidraba 2001). Our own concerning going to discuss the impact of archaeological scientific discipline and re-form archaeological fragments to outreach its historical and aesthetical messages. Trying to 'have it, in both ways': first as a scientific discipline involving systematic and often tedious work, and at the same time as an intangible object that can excite the imagination and attract people. This ambivalence is best illustrated with our restoration archaeology objects. Finally for archeological artifact objects and before we go on to the question of actual repair and restoration it is well to remember that the aesthetical views of the archeological objects, must be considered next (Brandi's 1963). The Low-fired pottery fragments an example of our study, have no aesthetic content, though they have historicity because they were produced at a certain chronological time

with a certain technology and were contemporaneous with all the events that occurred since their inception until the present time.

Our restoration work introduced, to be an examples made available for exhibition in museums carried out with an emphasis on re-form of fragments and missed parts on a different ceramic object and carved soapstone utensil and the Low-fired pottery from excavation annual program of archaeological department, King Saud University. The classical terracotta statue exhibit in the International Museum in Krakow – Poland. To our knowledge, terracotta statue back to the 19<sup>th</sup> century. Objects was restored to strength their structure and recover the aesthetical visual appearance. Where some of them are archeological fragments and with large areas of damage. After receiving the objects, document, photograph were made. Whole treatment was done with accent on re-form of missing parts using modelling, consolidating the crusts area and strengthen the form objects.

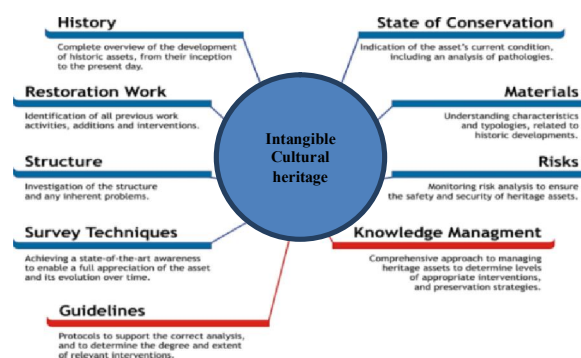


Figure 1. Initially identified groups of data to be covered by Cultural Heritage Identity – Adapted from (Žarnić *et al.* 2012).

## 2. Aim of Research

1- The goal of this restoration was to stabilize the structural object and recover the aesthetical visual appearance, to show how it looked before the breakage, consequently to be made available for exhibition in museums, to public, school-aged children, lectures, tours, write articles, study of Art History in all its complexities, scientific research.

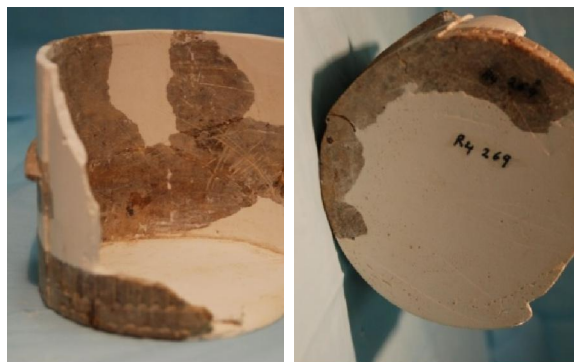
2- established the restoration necessity for close inter-relations between excavation and museum work

## 3. Material and Methods

Archeological and historical heritage it is in the nature materials eventually degrade and deteriorates as a result of the interaction between the environment or of the fabric and components that form the object including defect as result of poor forming design and construction. Furthermore manufacturing defect as in pottery. The major cause of physical degradation is

the environmental fluctuation factors. Chemical degradation of objects occurs not in the physical structure of the object but rather in at the chemical or compound level. Compounds begin to breakdown into simpler compounds and are often an undesired reaction.

The experimental restoration were performed based on respecting the interdisciplinary profession. The restoration of archeological artifacts objects and historical artwork were carried out using practical technique seems to have satisfied especially certain purists, who were concerned about making a difference from the original. The objects we have done our experimental was vary in material, include, archeological fragment of carved soapstone utensil [Plate 1], different kinds of Ceramic includes, Low-fired pottery or earthenware [Plate 2], colored Vessel [Plate 3] and glazed Plate [Plate 4] as well the historical terracotta statue [Plate 5]. The restoration work done to restore the shape of the missing parts on existed evidence and follow of what the shape should be. This work completed with Gypsum plaster [plates 8, 9, 10, 11] applied to be distinguish from original material. The purpose of using Gypsum plaster, potential for easy removal without any damage of the objects, and to obtain the structure strength more or less of the archeological fragments of Low-fired pottery or earthenware [Plate 8], the different kinds of Ceramic includes, the colored vessel [Plate 9] and the glazed plate [Plate 10] carved soapstone utensil [Plate 11]. In addition the terracotta statue [Plate 5] was moulded by Plasticine, then casted with plaster. The method done with aware of avoiding to harm the original surface, as the fills along the break lines can be easily remove mechanically in the future or soften with a compress dampened with de-ionised water. The filling was therefore apparent. Gypsum plaster was used in many places to fix parts of broken or replaced stones, and as a sealing material for roman cement precasted repairs (Kloppmann *et al.* 2011).



**Plate 1. Carved soapstone utensil before restoration**



**Plate 2. Low-fired pottery**



**Plate 3. The damaged Vessel after anastylis**



**Plate 4. Before removing the old restoration**

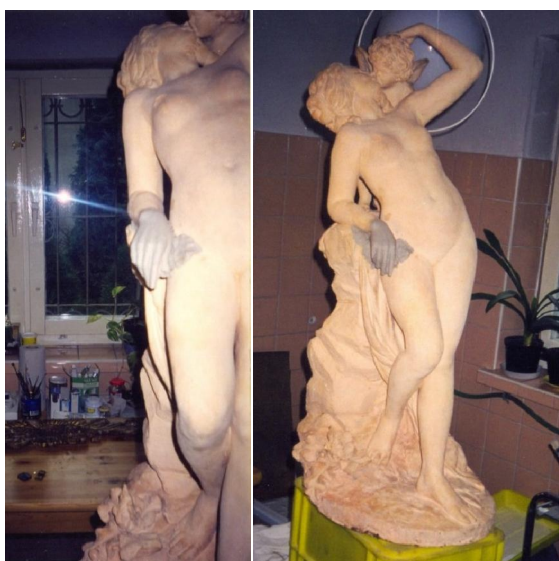
## 2.1. Soapstone Material

Soapstone carving is an ancient practice dating back for thousands of years. Is often the first type of stone carved by apprentices (Johanson 1950) It has been quarried, used and appreciated since the dawn of civilization. This metamorphic rock is very soft, can be easily carved, sawn or machined into various shapes, heat resistant and dense— properties. Commonly used as a carving material and ornaments of various kinds, vessels, cooking pots and all kinds of small utensils and sculpture, and for fireplaces and stoves. It is characterized by its softness (11 on Moh's scale of hardness), a fingernail can scratch soapstone, greasy feel, pearly lustre and perfect basal. It feels soapy or oily and can be found in a variety of colours such as white, gray, or grayish-green.

Probably the earliest known uses of soapstone were dependent upon the ease with which it could be cut. Early Egyptian scarabs and amulets were carved steatite coated with a blue vitreous glaze (Gerow 1991). Babylonians often carved raised stamps out of soapstone. These stamps made their mark when pressed into wet clay. India is known for cooking pots,



statues, and even palaces made of soapstone. The Chinese, while best known for their carve figurines. Soapstone and greenschist because of their content of chlorite and other phyllosilicate minerals. Unfinished soapstone often looks grey. The finished stone may look grey, black, green, yellow, orange, rust, pink, bluish, white or combinations of these colours. The causes of differences in colour, because of the presence of different minerals mixed with the talc (e.g. the reds often come from iron). The other minerals will sometimes cause the stone to be harder. It's no wonder that soapstone has become a popular medium, as a result of its variable mineralogical composition. Soapstone does not have definite physical and chemical properties. Individual soapstone have their own properties which must be evaluated for specific applications (Gerow 1991). In some countries, soapstone was used in architecture, mostly for decoration, and in Norway, as perhaps the only country in the world, also for structural purposes in the Middle Ages and later (Storemyr 2004). You can carve it with sticks and stones and polish it with stone dust and fat. That's what people did in ancient times. Nowadays we can get fairly inexpensive tools for the job, or we can buy all the neat power tools and really make the dust fly.



**Plate 5 19<sup>th</sup> statue in the national museum in Krakow – Poland after Re-form the missed hand**

Soapstone It is also known as steatite, is a soft rock, largely composed of the mineral talc. The term steatite is often used synonymously with soapstone. It was originally a mineralogical name applied to pure talc but is now commonly used to refer to the massive variety of talc (block talc) suitable for the manufacture of electrical insulators. Steatite is composed primarily of talc and contains less than 1.5 percent each of CaO

and  $\text{Fe}_2\text{O}_3$ , and less than 4 percent  $\text{Al}_2\text{O}_3$  in chemical composition. The mineral talc is a hydrous magnesium silicate with the theoretical formula  $\text{Mg}_3\text{SiO}_{10}(\text{OH})_2$  (Gerow 1991).

Surprisingly, and in spite of their low water uptake, the soapstone show swelling rates in the order of many sandstones (500 to more than 1000 mm/m), which have a much higher water uptake (Per Storemyr 2000). The maximum water-accessible porosity is in the range of 0.5–1.0 vol.%, whereas mercury porometry shows that there are usually no distinct pore classes in soapstone (Storemyr 2004).

## 2.2. Ceramic Material

Ceramic is a broad term covering all types of fired clay, including terracotta, earthenware, stoneware and porcelain. Ceramics can be roughly divided into four categories (ICON 2006):- Low-fired pottery or earthenware (soft, porous), High-fired pottery or stone wares (non-porous), Soft paste 'imitation' porcelain, Hard paste 'true' porcelain. Pottery also refers to the art or craft of a potter or the manufacture of pottery.

The availability of clay world-wide leads to the development of its use for improving man's quality of life. Pottery is one of the most ancient crafts in the world and have been found made by a wide variety of peoples across the world from as early as Neolithic times, Ancient Egypt, Greek, Roman and Chinese; tin-glazed Islamic and Hispano-Moresque, Italian maiolica, French faience, Dutch delft and English delftware. The development of ceramic glaze which makes it impermeable makes it a popular and practical form of pottery making. The addition of decoration has evolved throughout its history. The Pottery objects made depended upon the needs and beliefs of the culture that made them. The earliest forms of pottery, often grouped into several loose categories based on the temperature which they were fired. A general rule that were fired at low temperatures in pit-fires or in open bonfires. They were hand formed and undecorated form of earthenware, as a result is porous, and it has limited utility and will easily absorb water, while higher-fired ceramics will absorb little or no water.

Ceramic are usually the most abundant artifacts present at different sites. They are often found in large quantities and their analysis requires great patience and due attention. However, archeological ceramics can be very rewarding and can offer a great deal of useful information. For example, they can date a site or its phases, and provide evidence for different activities and purposes of a site or its smaller units. Ceramics sometimes indicate different routes of product exchange between various sites or regions. For these reasons, all excavated pottery should be kept and stored for documentation and further analysis

before the final publication of a site (Wodzińska 2009).

In Saudi Arabia the archeological material of colored pottery is found at numerous sites, as in the north-west Saudi Arabia and return back to late Bronze and the Iron ages, from the end of the second half of the second millennium BC to the second century BC. It's very important approach to know the history and the interference of civilization between the Arabian Peninsula parts, and its neighboring countries, due to the spread in the major sites, and its presence in various locations including cemeteries and settlements. The north-west of Saudi Arabia, one of the main parts that generously textured pottery decorated with colors from a number of sites of the most important as Al-Qurayyah, Taima and Khuraybah (Gazay 2013). The bichrome / polychrome pottery style and it dates as early as the 13<sup>th</sup> century B.C.; its rich by many geometric, human, and animal motifs are painted in browns and dark reds on a pinkish-tan slip. "Midianite" pottery is found in its largest quantities at metallurgical sites in the southern Levant, especially Timna (Tebes 2007).

Ceramic objects are subjected to various deterioration factors, starting in manufacturing process and passing through burial and excavation stages, in addition the cracks and broken from mishandling and packing, fluctuation in temperature combined with humidity. If the porous ceramics, the moisture getting into the pores, when the temperature freezes, there is an increase the amount of water and ceramic breaks. This process we are seeing on the ceramic vessels that remain open at atmospheric conditions.

In the realm of conservation there are two distinct practices: First, with non-interventive types of conservation, to control the surrounding environment such as light, humidity, and temperature. Second, active conservation is when a conservationist practices treatments to alleviate physical problems in the object such as fading, chipping, or breaks (Aripdjanov 2013).

### 2.3. Terracotta

The word terracotta is derived from the Latin word *terra-cocta*- literally, "cooked earth." Terra-cotta clays vary widely in color according to geography and types, ranging from red and brown to white (Tiller 1979). According to the Oxford English Dictionary type of earthenware, is a clay-based unglazed or glazed ceramic, where the fired body is porous. Its uses is various, in archaeology and art history, "terracotta" is often used to describe objects such as figurines, not made on a potter's wheel. The choice of term depends on the type of object rather than the material. Terracotta dates back to 3200 B.C., its use in North America began in the 1860s and continued through the 1930s. In its early stages, unglazed brown

structural terracotta was prevalent in load - bearing walls and some ornamentation.

Generically, the broadest definition of terracotta refers to a high grade of weathered or aged clay which, when mixed with sand or with pulverized fired clay, and composed of high quality clay that can be moulded into shapes and fired at a high temperature to a hardness and compactness not obtainable with brick. Simply put, terracotta is an enriched molded clay brick or block. (Tiller 1979, Szerelmey 2014). Terracotta was the only ceramic produced by Western and pre-Columbian people until the 14th century, when European higher fired stoneware began production. Terracotta has been used throughout history for sculpture and pottery as well as for bricks and roof shingles. In ancient times, the first clay sculptures were dried (baked) in the sun after being formed. They were later placed in the ashes of open hearths to harden, and finally kilns were used, similar to those used for pottery today. However, only after firing to high temperature would it be classed as a ceramic material. The typical firing temperature of terracotta, is around 1,000 °C (1,830 °F). The iron content gives the fired body a yellow, orange, red, "terracotta", pink, grey or brown color. Fired terracotta is not watertight, but surface-burnishing the body before firing can decrease its porousness and a layer of glaze can make it watertight. Terracotta became popular as a building material because they were a cheaper alternative to stone since many units could be produced from one mould. Causes of deterioration due to, poor manufacturing – glaze defects – water damage/surface spalling – salt crystallization – rusting staining – poor joints – stress/structural issues – poor repairs (Szerelmey 2014).

### 2.4. Cleaning

Cleaning is one of the first undertaking task (Winkler 1997) of the conservation processes used on conservation of artwork and artifact, even sometime done before an initial examination to remove any accumulated dirt to reveal the real state-owned of the object. Cleaning process for historical objects has to consider not only the effectiveness of the treatment but also the potential damage for the artwork and artifact objects. It is essential that cleaning is sympathetically undertaken to avoid serious, long-term damage to the objects. Cleaning is probably the most common of the treatment processes used on pottery objects, not only in the conservation studio but also in a domestic context. It was stated that a major objective of all conservation treatment is to increase the chemical stability of the object being treated (Allah *et al.*, 2010).

The experimental cleaning were performed based on respecting the material characteristic. Each object

assessed individually and in relation to its construction material. The cleaning start with hand tools as primary steps, using many different types of brushes which work well for cleaning including multiple sizes, on all objects to spin - off the dirt and weathered face. In pottery cleaning, many specialized studies on cleaning pottery and ceramics stated that mechanical methods still the most suitable for conducting cleaning pottery (Allah *et al.*, 2010).

The Colored Vessel and carved soapstone utensil [Figure 6] were carried out using practical technique seems to have satisfied especially to stabilize the object and prove the strength of objects structure

The pottery objects had been in storage for many years, this was sometimes reflected in the amount of

surface dirt they had accumulated [Plate 6]. The treatment was a temporary first aid to secure unstable cracks and surface fractures in order to prevent further damage during future handling. This involved bonding small strips of thin polyester fabric across the breaks.



Plate 6. The Colored Vessel and carved soapstone before cleaning and consolidating the cracks and crusts



Plate 7. The Low-fired pottery After Cleaning

The methods of cleaning we have choose were depend on the nature of both, the pottery manufacture and the kinds of dirt, therefore it was varies from one object to another. Removal object of low fired was

more problematical, than the object which has a glazed surface. However, removal of dirt that has simply become deposited on the surface of pottery is generally not difficult if the object is intact, sound and



has a glazed surface. Thoroughly cleaned by soft brushes to remove the nonstick dirt body of pottery. For pottery, immerse in de-ionized water and washed with soft brushes carefully to remove some dirt stain. Remove iron oxide stains with or 5 percent EDTA and rinse thoroughly.

## 2.5. Consolidation

Consolidation is the process that proving the strength of fabric material in by introducing a material into the fabric that will bind together (Oztiirk 1992). The employment of appropriate protective materials for consolidation is one of the most direct and effective methods to slow down the destruction of ancient silicate artifacts damaged (Zhao et al. 2013). According to accelerating deterioration of artwork and artifact, consolidation is considered to be one of the major conservation interventions in an attempt to preserve the external weathered layers and reduce their degradation rate (Karatasios et al. 2009). Therefore, it is generally suggested that the evaluation of different consolidation treatments is an essential step in every project and should be based on the systematic monitoring of quantitative and objective properties of treated specimens (Karatasios *et al.*, 2009) The most common ceramics that need consolidation are excavated pieces because they tend to lost their bonding fabrics due to leeching or have absorbed soluble salts or as result of manufacturing defect careless firing and poor forming design and construction. A consolidant works in two ways: it either links to the particles in the ceramic chemically or it may form a support system mechanically without reacting with the fabric itself.

In some cases, archaeological materials must be consolidated or stabilized before they can be transported. Materials should only be consolidated if they cannot be transported safely without treatment. Consolidation treatment should be reversible as it may have to be undone for future treatment. If in a damp environment, a water emulsion adhesive should be used (Gregonis 1984).

The consolidant Silica-acid-aester (Wacker-OH) ready to use, of 0.9793 density [ $\text{g}/\text{cm}^3$ ] and 2.8 viscosity [ $\text{mPas}$ ] (Ahmed, 2006), used to strengthen the crusted surface structure of coloured vessels to be handled safely and prevent the effect of moisture and relative humidity during the storage or exhibition. [Plate 6 ]. The products has a good result in conservation ceramic field tests and has good penetration because of its viscosity. In addition the Wacker - OH The advantage of Wacker-OH , doesn't change the colour apparent of colored vessel. The treatment applied with painting brushes on damaged surface only and was brushed several time to consolidate the peeled area.



Plate 8. The Low-fired pottery After Cleaning after restoration and strength the structure



Plate 9. The colored vessel after restoration and strength the structure



**Plate 10. The decorated plate after restoration.**



**Plate 11. Pieces of the beautiful carved- soapstone After Restoration**

#### 4. Result and Dissection

Many different narratives propose to represent the museum as an institution and to characterize "the museum experience." However, although the past two decades have seen a substantial increase in museological theory, the relationship between theory and practice is irrelevant to most theorists who see museums primarily as ideological symbols of the power relationships in today's culture (Rice 2004).

Over the worldwide, museums become as educational programs and exhibitions. Designed to communicate to the public the importance of archaeology, adopt a treasure hunt approach often inspired by emblematic mass culture (Argyropoulos *et al.*, 2014). "Artifacts can and do act as effective cultural ambassadors—potent communicators of ethnic traditions, artistic inspiration and fundamental to the intellectual and spiritual development of humanity" (Krieger 2014).

Therefore our objective to re-form and restore the historical fragments, is to revive the original concept of the object with the sustainable preservation. As well, the overall goal of our restoration work of the archeological and historical was to recreate and complete the forms of missed parts of artifact and artwork. This was done bearing in mind not only all the relevant information available and the technical aspects to be considered for the

restoration, but also character of their fabrication, its significant expression of the spiritual, religious, and artistic life of the past and the historical objects value.

In this sense, our restoration objects represents significant part of cultural heritage. In particular, the specific artwork and artifact was created for museum purposes, with the aim of increase the historical objects lifetime with respect to its type and to increase the interpretive value of an artifact by restoring its missing parts. this "additional value" as respect for the original material, its appreciation, understanding, and use plays an important role while deciding the techniques and methodology to be used throughout the restoration with the aim about making a difference from the original and possible in future to removing additions and or by replacing missing elements. Acceptance of filling of lacunae with new material and addition of missing parts or replacement of decayed parts must integrate harmoniously with the whole, but must be distinguishable on close inspection from the original so that the restoration does not falsify archaeological or historical evidence (Feilden 2003;Sease 2011;Sterflinge 2011). The development of an interest in artists' intent on the part of conservators is notable because the AIC *Guidelines for Practice* do not specifically identify artists' intent as an obligation or concern (Odegaard 1995).

In our case of restoration and re-form of different kinds of Archeological Ceramic includes, Low-fired pottery or earthenware, colored vessel and glazed plate and carved soapstone utensil, to strengthen their structure to be handled safely during the storage or exhibition in order to competently bring the object back to its former shape, appearance, function or extend its life in spite of the damage it sustained, without further damaging the object, synchronous with its significance which the historian and archeologist attributes. This principle guided various choices in methodology, taking into account what should be returned at the end of the project and how far the restoration should go in terms of reproduction of the lost components, considering that, the restoration of artifact may do not have any esthetics value, but can restore for the significance which the historian and archeologist attributes to it. A skilled and professional knowledgeable conservator-restorer should match the right materials and apply adequate treatments This modifies its relationship to time. Where, in a traditional work a will to endure was implicit, and the materials used were related to time by acknowledging it, to the degree that Brandi faced conservation problems as maintaining the "patina" of a work, the contemporary work of art does not always foresee its own decay and therefore it poses different requirements for the materials of which it is composed and to conservationists. The objects should, therefore,



be re-form from the ruin fragments, with the aim to be difference from the original as a historical object.

## 5. Conclusions

The restoration of archeological and historical objects is always provide a valuable sources in their evidence about human activities and cultural values.

The restoration work has looked the various phases of a complex restoration objects, focussing on restoring some value archeological fragments, storing in museums and historical statue to be exhibit in the museums and deliver of their messages to public, lectures, tours, write articles, historical scientific research as well as for school-aged children. The restoration objective studies shouldn't base on just aesthetical perspective, .we should figure out, by re-form the archeological and historical fragments can provide a valuable sources of information such as: scientific data, great artistic and crafts, what was going on in the artist's head and eye, religious, trade, cultural, social or economic value, characteristic of their fabrication, in their evidence as historical documents, and consequently in their authenticity.

The lack of artist-restorator experience working at the museum. It has been seen that this bias causes a parallel bias in the interpretation of restoring the archeological and historical objects. Indeed, the problem is even more acute in the collage of tourism and archaeology, King Saud University. The paper also suggested ways of overcoming this problem by restoring Several examples have been restored and re-formed with respecting to the object authenticity and original material The question of positive restoration was discussed and it was decided that in the long run this has a negative effect. objects will change in visual and strengthen the objects structures, reflecting his aesthetical values to the society already sees itself

In designing Conservation, rehabilitation or restoration of archeological and historical artwork and artifact it's a complexes, the greatest problem arises from pondering the components of the "monumental value", the importance of re-form and in which materials and manner the monument will repair, considering these factors and creation of an adequate equilibrium between them. These factors comprise:

- The historical value
- The aesthetical value
- Careful diagnosis of deteriorating factor.
- The selection of materials and methods for consolidation and structural fills must be tailored to the specifics of each treatment, type and Characteristics of object material, environmental concerns, and cultural context.
- Awareness of the development of new conservation techniques.

- Ethical value which must not be omitted either

Identifying 'values' have to be first step in conservation plan in order of priority. following the objective of a conservation project. In this way, the essential messages of the object will be respected and preserved.

## Acknowledgements

I would like to thank the following: museum of the collage of tourism and archaeology, King Saud University- Kingdom of Saudi Arabia for the Financial support, and the National museum in Krakow, Poland and his conservation laboratory Team for their supporting. As I would to thank Mr. Anoop D' Souza the Sales Manager of Wacker Chemicals Middle East in the Region Near & Middle East for his assistance with Wacker-OH consolidant

## References

1. Ahmed, H, Á. Török and J. Lócsei. 2006. "Performance of Some Commercial Consolidating Agents on Porous Limestones from Egypt 'Tura and Mokattam Quarry.'" In *Heritage, Weathering and Conservation: Proceedings of the International Heritage, Weathering and Conservation Conference (HWC-2006), 21-24 June 2006, 735-740*. Madrid, Spain.
2. Allah, Ramadan Abd, Zeidoun Muheisen, and Sohad Howadi. 2010. "Cleaning Strategies Of Pottery Objects Excavated From Khirbet Edh - Dharih And Hayyan Al - Mushref , Jordan : Four Case Studies" 10 (2): 97-110.
3. Argyropoulos, Vasilike, Eleni Aloupi-siotis, Kyriaki Polikreti, Rea Apostolides, Wafaa El, Raymund Gottschalk, Mona Abd, et al. 2014. "Museum Education and Archaeological Ethics : An Approach to the Illicit Trade of Antiquities" 12 (1): 1-8.
4. Aripdjanov, Otabek. 2013. "Research Of Basic Methods Of Conservation And Restoration Of Pottery." Vol. 2013.
5. Brandi's, Cesare. 1963. "Theory of Restoration and Azulejos": 1-9.
6. Dooijes, Renske. 2007. "Keeping Alive the History of Restoration : Nineteenth Century Repairs on Greek Ceramics from the National Museum of Antiquities in Leiden." In *ICOM-CC, 103-111*. Goriški muzej.
7. Feilden, Bernard M. 2003. *Conservation of Historic Buildings*. Third edit. Elsevier.
8. Gazay, Abdulaziz el. 2013. *Diagnosis and Dating Pottery Northwest Saudi Arabia*.
9. Goldie, Peter. 2009. "Conservation and Restoration The." In *A Companion to Aesthetics*, edited by and David E. Cooper Stephen Davies, Kathleen Marie Higgins, Robert Hopkins, Robert Stecker, Second, 205-207. A John Wiley & Sons, Ltd.
10. Gregonis, Linda. 1984. "Conservation of Archaeological Materials 1981.pdf." [http://www.historycolorado.org/sites/default/files/files/OAHP/crforms\\_edumat/pdfs/1546.pdf?bcsi\\_scan\\_db9](http://www.historycolorado.org/sites/default/files/files/OAHP/crforms_edumat/pdfs/1546.pdf?bcsi_scan_db9)

- 2c8a4f1a67bf4=34k5iD71LHzdgUw2I1qyb+Ji5TgCAAAAwLBAQ=&bcsi\_scan\_filename=1546.pdf.
11. Handbook, Nps Museum. 2013. "Chapter 3: Preservation: Getting Started." In *Part I Museum Collections*, 112.
  12. ICOM. 1984. "The Conservator - Restorer: A Definition of the Profession." *ICCM Bulletin* 10 (2): 33 – 37. <http://www.icom-cc.org/47/about-icom-cc/definition-of-profession/#.UDAT6KllSmN>.
  13. ICON. 2006. "E and Conservation of Ceramic and Glass."
  14. Johanson, Stephanie Ann. 1950. "Soapstone." <http://jfw.ca/images/docs/ProgramResources/SOAPSTONE.pdf>.
  15. Jokilehto, J. 1986. "Towards International Guidelines." *A History of Architectural Conservation*.
  16. Jokilehto, Jukka. 2002. *A History of Architectural Conservation*. 2nd Editio. Butterworth-Heinemann.
  17. Karatasios, I., P. Theoulakis, A. Kalagri, A. Sapalidis, and V. Kilikoglou. 2009. "Evaluation of Consolidation Treatments of Marly Limestones Used in Archaeological Monuments." *Construction and Building Materials* 23 (8) (August): 2803–2812. doi:10.1016/j.conbuildmat.2009.03.001. <http://linkinghub.elsevier.com/retrieve/pii/S0950061809000828>.
  18. Kloppmann, W, P Bromblet, J M Vallet, V Vergès-Belmin, O Rolland, C Guerrot, and C Gosselin. 2011. "Building Materials as Intrinsic Sources of Sulphate: A Hidden Face of Salt Weathering of Historical Monuments Investigated through Multi-Isotope Tracing (B, O, S)." *The Science of the Total Environment* 409 (9) (April 1): 1658–69. doi:10.1016/j.scitotenv.2011.01.008. <http://www.ncbi.nlm.nih.gov/pubmed/21329964>.
  19. M.C. Gerow, E.J. Sherlock and J.A Bellinger. 1991. "Soapstone In Ontario." Queen's Printer for Ontario.
  20. Museum, NPS. 2006. *Museum Handbook PART I Museum Collections. National Park Service*.
  21. Nardi, Roberto. 2014. "Conservation, Restoration, and Preservation in Classical Archaeology." In *Encyclopedia of Global Archaeology*, edited by Claire Smith, 1666–1674. New York, NY: Springer New York. doi:10.1007/978-1-4419-0465-2. <http://link.springer.com/10.1007/978-1-4419-0465-2>.
  22. Odegard, Nancy. 1995. "Artists' Intent: Material Culture Studies and Conservation." *Journal of the American Institute for Conservation*. doi:10.2307/3179539. <http://www.jstor.org/stable/3179539?origin=crossref>.
  23. Oziirk, Isil. 1992. "Alkoxysilanes Consolidation Of Stone And Earthen Building Materials." Pennsylvania.
  24. Per Storemyr, Eberhard Wendler & Konrad Zehnder. 2000. "Weathering and Conservation of Soapstone and Greenschist.pdf."
  25. Plenderleith, H. J. 1968. "Problems in the Preservation of Monuments." In *The Conservation of Cultural Property*, 124 –134. Rome, Italy: United Nations Educational, Scientific and Cultural Organization.
  26. Plenderleith, Harold J. 1998. "A HISTORY OF CONSERVATION." *Studies in Conservation* Volume 43 (Issue 3): pp. 129–143.
  27. Rice, Danielle. 2004. "Museums: Theory, Practice, and Illusion." In *Art and Its Publics Museum Studies at the Millennium*, edited by Andrew McClellan. Oxford, UK: Blackwell Publishing Ltd. doi:10.1002/9780470775936. <http://doi.wiley.com/10.1002/9780470775936>.
  28. Roko Žarnić, Vlatka Rajčić, and Antonia Moropoulou. 2012. "Identity Card of Cultural Heritage: How to Collect and Organize Data." In *Progress in Cultural Heritage Presevation*, 340–348. Limassol, Cyprus: 3.
  29. Sease, Catherine. 2011. "The Conservation Of Archaeological Materials." Daniel Doowy. [http://wps.prenhall.com/wps/media/objects/12330/12626747/myanthropologylibrary/PDF/NDS\\_105\\_Sease\\_114.pdf](http://wps.prenhall.com/wps/media/objects/12330/12626747/myanthropologylibrary/PDF/NDS_105_Sease_114.pdf).
  30. Sidraba, Inese. 2001. "New Materials for Conservation of Stone Monuments in Latvia."
  31. Sterflinge, R. Snethlage and K. 2011. "Stone Conservation." In *Stone in Architecture Properties, Durability*, edited by Siegfried Siegesmund & Rolf Snethlage, Fourth, 411 – 544. Springer.
  32. Storemyr, Per. 2004. "Weathering of Soapstone in a Historical Perspective." *Materials Characterization* 53 (2-4) (November): 191–207. doi:10.1016/j.matchar.2004.06.015. <http://linkinghub.elsevier.com/retrieve/pii/S1044580304001743>.
  33. Szerelmey. 2014. *Restoration and Conservation Guide Cleaning and Repair of Buildings*. Szerelmey.
  34. Tebes, J.M. 2007. "Pottery Makers and Premodern Exchange in the Fringes of Egypt: An Approximation to the Distribution of Iron Age Midianite Pottery." *Buried History* 43: 11–26.
  35. Tiller, de Teel Patterson. 1979. "The Preservation of Historic Glazed Architectural Terra-Cotta." <http://www.nps.gov/tps/how-to-preserve/preservedocs/preservation-briefs/07Preserve-Brief-Terra-Cotta.pdf>.
  36. Winkler, Erhard M. 1997. "Stone: Properties Durability in Man's Environment." In *Stone Conservation on Buildings and Monuments*, 264–275.
  37. Wodzińska, Anna. 2009. *A Manual of Egyptian Pottery*. Vol. 1. Ancient Egypt Research Associates, Inc.
  38. Zhao, Jing, Hongjie Luo, Liqin Wang, Weidong Li, Tie Zhou, and Bo Rong. 2013. "TEOS/PDMS-OH Hybrid Material for the Consolidation of Damaged Pottery." *Heritage Science* 1 (1): 12. doi:10.1186/2050-7445-1-12. <http://www.heritagesciencejournal.com/content/1/1/12>.