The Importance of Artist-Conservator in Conservation-Restoration Process

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Abstract: This presents work study on restoration object were carried out by restore of historical relief, the architectural ornaments and re-form of the missing parts of early Middle Ages church from the 13th century in the Jawor - Poland. The article provides a survey of the historical development of restoration practice Historical Monuments, with reference to both techniques and philosophy. The aim of this article is to indicate the relation between artist - restorer emotional—and conservation principles code within a work of art — conservation-restoration of three-dimensional artwork and artifact which involves historical and artistic value. The paper introduces the problem of retaining the idea throughout the proper restoration of the historical object while taking considerable care of its authenticity and complying with the rules of ethical restoration code according to the philosophy of 20th and 21th century in which conservation may specified as rather distant from traditional restoration disciplines of artworks. Restoring historical artifact and work of art which undergoes physical damage has a direct influence on its character, reading and meaning. connected with the retention of the idea behind and the material. as well as its role in exhibit purposes for visual and historian.

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1. Introduction

The role of the artist in the conservationrestoration process is a complex pattern of adjustment between the objective and the subjective, the informative and the enlightening. Artist - conservator is the enlargement of the experience. Hence I find it impossible to talk about "conservation - restoration" of cultural heritage" without stressing" artist experience," and I cannot discuss "artist experience" without somehow defining its significant role in conservation - restoration process. In most countries, the profession of the art-conservator-restorer is still undefined: whosoever conserves and restores is called a conservator or a restorer, regardless of extent and depth of training (ICOM, 1984). Reflection on the meaning and nature of our professional conservator, it is undoubtedly a multidimensional and difficult to define, by the variety of terms (Stec, 2000), among them: artist restorer, restorer of works of art, the artist conservator, restorer, art conservator, restorer qualified, certified restorer, and probably many others (Bożena, 2000).

From the early time until the early 20th century, artists were normally the ones called upon to conserve and restore damaged artworks. Over time, many artists have found their inspiration in conserving artwork.

The using scientific methods in study of historical monuments dates back to the late 18th century and during the 19th century, there is witnessed a growing collaboration between the fields of science and art, architecture, archaeology became increasingly

intertwined to study the damaging effects of the various factors of environment to works of art (Kabbani, 1997; Cechak *et al.*, 2000; Stoner 2003, Heron, 2008). In the second half of the 20th century up to the last decade of the 20th century with Dramatic transformations in the concept and practice of conservation (Szmelter, 2000) and expanded exponentially in the late 20th century.

Conservation -restoration principles has been developed into a large interdisciplinary scientific field where the demand for quantified information and values of tested precision and reliability rise more and more in recent years (Moropoulou, 2009), Includes the study of the original of monument analysis and any methods that prove effective in keeping that property in as close to its original condition as possible for as long as possible. As far as art conservation is concerned, many studies in the field of conservation traditionally have approached their objective from a materials-based perspective that examines the physical structure of objects. Whereas, preserving the artwork as the artist intended it to be seen and conserving what he made by restoring losses caused by aging or the effects of time (Goldie 2009), require, techniques and aesthetic style studies that focus on the description and identification of materials, structure, and methods of fabrication, use visual information to seek the significance of the tangible, attributes in artifacts and art objects. This because the condition of historical artworks and artifact is a result of human creative. Art and artifact has always been produced because an

artist and craftsman wanted to say something and chose a particular way of saying it. In order to gain some appreciation for the many forms of art and artifact, one must understand the basics of art from which they have grown. Analysing forms of art structure "Subject, form and content" is necessary in conservation of artwork and artifact areas to understand what is couldn't physical material examination clarify. And this process cannot achieves without art experience. Furthermore to study artworks and artifact using the methods of science, we imply that these works have significance quite outside any scientific considerations. Obviously the practicing conservator can never ignore it, and the scientist doing research on works of art, I think cannot ignore it either, even when the research appears to consist entirely of, say, solving problems of analysis and to be quite matter of fact in nature". Anything that we call artifact and work of art should being seen by definition from at least two points of view. One point of view sees it as a physical object, the other looks at whatever properties the object has that lead us to say that it is a work of art, and to attach value to it on this basis (Winter, 2003). So conservator should learn about the object in a dual system - emotionally and physically structure. For example, to identify distinctive features of works of sculpture, or our experience of them, that are non-trivially necessary and plausibly sufficient for their being sculptures. They have focused variously on the physical properties of work materials, the involvement of specific perceptual modes, or perceptual phenomena, or the relationship to sculpture of a distinctive sensibility. An alternative is to understand the art of sculpture in terms of the ways the use of materials features in practices of producing and appreciating. (Ribeiro 2009). It is the right recognition and understanding which serves as a key to getting to the nature of the changes in its material and concept sphere, from general to particular. The artistic meaning of a piece of art as well as the intentions of its author determine the way we interpret the transformation and assign the limit of our conservation intervening (Mikstal, 2011). Therefore the conservation-restoration of artwork and artifact, requiring comprehensive research, interdisciplinary consultation, history of art, technology and artistic approach, on the other hand, the organization and coordination of interdisciplinary team work. Each approach comes with a background of expertise, although individuals from any specific discipline tend to borrow from other fields [Figure1] (Pope, et al., 2002). Should be noted that the profession is derived in a straight line from the creators of artworks "revalue" professions: architects. Sculptors, painters, etc... it grew on the basis of a growing respect for the past, and also sentiment to its former glory days. for example, by changing or completing the (partially) on deteriorated artwork monument, not only consider the technical aspects but also the artistic expression of surface textures to suit the appropriate time (Bozena, 2000). According to the term "Kunstwollen" by AloisRiegl (1857-1905) which mean, each period and each culture has its particular conditions, within which artistic production achieves its character; there is mutual influence between artist and his society (Jokilehto, 2012). This aspect cannot be entirely ignored and this requires a degree of knowledge and sensitivity going far beyond the study of the technical history of artwork or an understanding of one or another theory of conservation or anastylosis (Plenderleith, 1968).

Interventions practically always involve some loss of a 'value' in cultural property, this is a fact, but we are justified in order to preserve the objects for the future. (Feilden, 2003). While restoration is generally an important aspect of archaeological conservation, there are times when it is appropriate. Restoration of irritating aesthetic damage of religious objects, as a destroyed face or other significant elements, to restore some important monuments is acceptable involves purposely changing the material and structure in order to present the object of veneration in a suitable condition to its function (Sterflinge, 2011). An example, the intervention on the Column of Marcus Aurelius [Plate 1], by Domenico Fontana In 1589 and in 1987, by Antonino Giuffrè because it was feared that the decay and fracturing of the material inserted during the 16th century intervention could compromise the safety of the abacus .Whatever the origins of the alarming conditions it was in at the end of the sixteenth century. the fact that the Column of Marcus Aurelius has survived intact to this day, along with Trajan's Column, is certainly due to the timely intervention of Domenico Fontana, who dealt with every part of the monument (Masiani, 2012).

As time goes on, more and more, research in conservation of historical monument encounter various fields such as historian, art history, chemistry, physics, petrography, microbiology, and others, depending on what the subject in the object of work. Hence the growing need for the existence and development of a separate group of specialists – conservators to be inherent in matter of the work is its creative character. Creating a team, depending on the course you have chosen works of various authors. Each conservator working as a team and is also the author on his area of responsibility. The chosen team should be work in harmonious and homogeneous. As a result, each case must be considered as a whole, and individually, taking all factors of artwork and artifact

into account. Consequently conservation involves making interventions at various scales according to the case of every object and levels of its decay intensity [Figure 2].

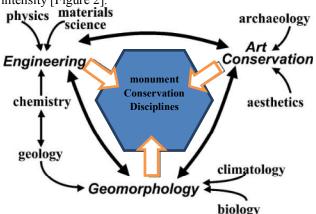


Figure 1. The disciplinary relationships of research regarding cultural stone weathering. adapted from (Pope *et al.*, 2002).

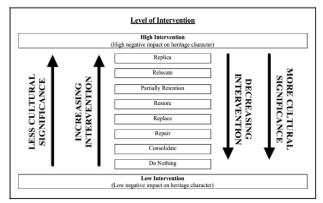


Figure 2. Level of conservation various scales and levels of intervention - adapted from (Sair, 2003)







Plate 1. The Column of Marcus Aurelius in Giovanni Dosio's drawing (1569) (Hülsen, 1921).

Aim of Research

- 1. Identify and describe the origin and development of artist-restoration practice in field of conservation-restoration of historical monuments and art works With different approaches, reference to both techniques and philosophy. Focusing on three dimensional ancient and historic monuments
- 2. Combine the artistic and scientific perspective in a frame of integrated conservation management, to looks at the relationships between conservation process and artist in cultural heritage artwork, and the present consequences world-wide.

1.1. Approaches to Artist-Restoration

Basically, all conservation-restoration consists of actions taken to prevent decay, and within this

objective it also includes management of change and presentation of the object so that the objects' messages are made comprehensible without distortion (Feilden, 2003). In addition its necessary to appreciate the nature of the basic materials of artwork and artifact used in its creation includes artistic, technical and craft activity with respect to the cultural context (Jokilehto, 2010). Followed by any further analytical studies deemed necessary, in order to understand the nature of ancient materials and how they have decayed, to make a correct diagnosis of its decay (Feilden, 2003; Dawson, 2007). Although restoration and conservation are concerns in every art, they are of special importance in visual art. In the visual arts the artist and craftsman traditionally creates a physical

thing. Unless the restorer can preserve that object, the artwork does not survive (Goldie 2009).

The study of ancient monuments and what is today considered as conservation of the physical cultural heritage results from long developments and traditional transfer of particular artistic conceptions, cultural inputs and science development. The need to restore or repair monument decay goes back to Roman times, for which we have evidence of replacement of decaying stone (Winkler 1997). An example of this early restoration during the French period concerned the second-century circular temple in the Forum Boarium, the cattle forum venalium of Ancient Rome on the banks of the Tiber, dedicated to Hercules Victor – but generally called the 'Temple of Vesta' (Jokilehto 2002). The other early restorations example were done in the classical workshops of craftsmen and artists of every great civilization, the repairing paper scrolls in fifth-century A.D. China, which described methods by Ku-Szu-Ksieh (Caldararo 1987).

In the past, there tended to be little distinction between conservation and restoration, some of which would nowadays be regarded as excessive (Dawson, 2007). The distinction started with develop of organisations International and Institute conservation as a profession; "restoration" acquired a negative meaning being associated with a concept of reconstruction and consequently falsity, while "conservation" was interpreted as protection of the original material whereas in the Renaissance and Baroque periods, conservation was assigned to artists whose job, was to see objects were kept in good repairs. Unfortunately, good repairs at that time meant good looks according to the taste of the period and damage to objects resulted from alteration. Conservation is continually changing, mirroring, the fact that cultures are constantly in flux from the local to the global scale (Erica et al., 2000). Now that we have reestablish the direct relation between restoration and the appreciation of materials and aesthetic of artwork and artifact used in its creation, with a view to transmitting it to the future.

"Conservation – restoration – renovation" are the three essential concepts in the field of preservation of historic/artistic objects (Sterflinge, 2011). They differ with respect to goals pursued with the measures undertaken on an object. The term "Conservation" derives from the Latin word "conservare", to keep, to 'conserve'. In today's experts English language there exist further terms like 'preservation', 'restoration', rehabilitation, redevelopment, anastylosis (Jansen 2004). The term conservation itself has varied meanings and connotations. It is a complex and demands the collaboration of qualified professionals. Definitions of the terms are given for instance by Petzet (1993) (Sterflinge, 2011) and in 2008 by

ICOM-CC(International Council of Museum Committee for Conservation conference, New Delhi). In particular, any project involving direct actions over cultural heritage requires a conservator/restorer. The ICOM-CC terminology was developed during a decade of consultation among conservation and restoration specialists (Nardi, 2014). Professionals working in the broader conservation field are drawn from the sciences, the arts, the social sciences, the humanities, and other areas reflecting the fact that heritage conservation is truly a multidisciplinary endeavor (Erica et al., 2000). Conservation aims is to preserve and stabilising the condition of monument in its present state and within the historic setting we have received it. In addition is to prevent further deterioration or damage from taking place (Sease, 2011) and avoids, wherever possible, any additions to complete missing parts, except those which are absolutely necessary for its future preservation (Sterflinge, 2011).

Restoration is generally understood as any kind of intervention, that permits a product of human activity to recover its function, as its relevant to works of art (Brandi, 1963). It follows that, the interventive treatment action taken to bring an object as close as possible to its original or former appearance by removing accretions and later additions and/or by replacing missing elements (NPS Museum Handbook 2013). Restoration can also be done to stabilize an artifact, for example, when missing portions render an artifact too fragile for handling and study (Sease, 2011). Whereas "Renovation" aims to recreate the "original appearance" by either totally over-working the surface or by completing all missing parts. Renovation can also refer to the replacement of the original by a new copy. Therefore, renovation cannot be considered in the spirit of conservation (Sterflinge, 2011).

According to Dictionaries' of Quatremèrede Quincy, the French archaeologist and architectural theorist, and influential writer on art, the word 'restoration' meant, first, the work carried out to repair an ancient monument, and secondly, a graphic illustration of a ruined monument in its original appearance. "What remains of their debris should only be restored with a view to conserving that which can offer models for art or precious references for the science of antiquity.

However in the relationship 'conservator-work of art', the well-being of the work of art, the subject of activities of conservators, is the priority. This principle is advocated by all conservators and professionals involved in the protection of cultural heritage (Stec, 2000).

As a result, the philosophy of conservation can be described with three successive approaches which were applied in restorations, with a number of variations according to the particular case. The first when Antonio Canova (1757 -1822) the famous Italian sculptor was asked to restore the Elgin marbles, and he refused out of respect for these works of the ancient masters. The second approach when Albert Thorwaldsen (1770– 1844) the distinguished Danish sculptor, agreed to restore the lost parts of the marbles from Aegina that Ludwig I of Bavaria had bought for Munich in 1813/1817. These two approaches represent the extreme dialectic basis for the treatment of historic buildings. A third, intermediate approach is represented by the restoration of the Arch of Titus [Plate 2], based by Stern on the recommendations of Gisors and completed by Valadier. Here, the original elements were conserved and the missing parts outlined in a way that made the original whole visible.

but clearly differentiated the new material from the genuine ancient elements. This technique and the one used in restoration of Arch of Titus, seems to have satisfied especially certain purists, who were concerned about making a didactic difference from the original, and it became perhaps the most applied solution for a long time – and well into the modern conservation philosophy

Referring further to the Arch of Titus [Plate 2], he indicated the guidelines according to which such classical monuments, decorated with friezes and sculptures, should be restored, and that 'it should suffice to reintegrate the missing parts of the whole, but leaving details aside, so that the spectator cannot be misled between the ancient work and the parts that have been rebuilt merely to complete the whole" (Jokilehto, 2002).





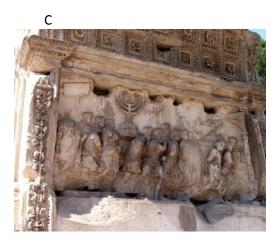


Plate 2. A- The Arch of Titus

- B The Arch in 1744, before restoration. Painting by Canaletto
- C Original relief from the Arch of Titus showing spoils from the siege of Jerusalem.

2. Experiment

2.1. Material and Methods

Materials and techniques play larger roles in three dimension artifact and artwork than in graphic art. Through thousands of years the range of materials has expanded from basic materials as stone, wood, and bronze to steel, plastic, glass, laser beams (holography), and so on. Such materials offer new relationships of subject, form and content, but also put limitations on the structures that can be created and the techniques that can be used. The critical state of restoration of the three dimension artwork and artifact, have long been incentives for various scientific and other investigations aimed primarily at finding solutions for the complex problems of conserving the deteriorated object. These endeavors have also

provided information on the original techniques and materials employed in the historical object.

The church is one of the early medieval Building [Plate 4], even with these ravages, still remains on of among the beautiful historic churches in Europe. combine into an architectural were founded in the early Middle Ages. The church unfortunately suffer from different various of weathering and deterioration forms.

The material used in this relief and architecture ornament are of fine-grained and hard sandstone. Sandstone is a group of rocks torches sludge is the result of cementation of rock fragments such as grains of quartz, feldspar, mica, etc. Sandstone rocks are a granular structure, texture dense random or ordered, are relatively easy in treatment and physico mechanical determined. The analysed rocks were

Polish sandstones built mainly of quartz (79–98%): other components are feldspars and muscovite (derived from different geological units of Poland), used for building purposes. The results enable the usefulness of sand- stone materials to building purposes. They could also be used for conservation procedures and for the reconstruction of existing buildings and monuments (Labus, 2008). Sandstone is quite soft and easy to form, which makes it both the perfect building and decorative material. It is used to make sculptures, relieves and other more complex ornaments. The Cretaceous and Paleogene flysch rocks of Polish Outer Carpathians comprise diverse sandstone and conglomerate series, but only part of them crop out directly on ground surface as rock forms in the ridges, highest parts of slopes or even above the terraces of stream and river valleys. The sandstones forming the natural rock landforms represent the particular series (formations, beds), characterized bv specific lithological, sedimentological and tectonic features (Alexandrowicz, 2008).

The experimental restoration were performed based on the International Charters of conservation as an interdisciplinary profession. The restoration artwork were carried out using practical technique seems to have satisfied especially certain purists, who were concerned about making a didactic difference from the original, and it became perhaps the most applied solution for a long time – and well into the 20th and 21th century. The result of visual description, show the stone have fine grain structure. The surfaces of the relief are covered by limewater painting to seems as same colour of the walls. The analysis of were done by Department of Conservation and Restoration Sculpture, Faculty of Conservation and Restoration of Works of Art in Krakow.

2.1.1. Descriptions the different forms of weathering on the relief

The following forms of decay can be observe on the surface of relief: [Plate 3]

- Superficial painting all over of the relief by limewater. These painted color are very hard and to remove from the stone surface need to using different mechanical cleaning process.
- damaged of the mortar around all the relief in addition of wall failing in some area, thus caused slip in some architectural ornament. In course of time they break away, often with the weakened stone pulp around the relief, thus prompting the additional damages. As a result serious weakening of ornamental stone solidity, its structure degradation in the place of contact of stone with wall

- Soil superficial deposits in various places
- fractures and of the surface injuries caused the serious damage for the stone monument

The relief, lost some different details as figures, noses of different Portrait and other architecture ornament fragments

2.1.2. Cleaning relief surface

The cleaning of stone monument should remove the soiling and leave the stone intact and unaltered. In a sense, the cleaning to reveal the aesthetic and historic value of the monument is also based on respect for original material and authentic documents (Jokilehto, 1986). The ideal would be a cleaning method which would operate selectively on the soiling alone. In reality, no such method exists but this should always be the aim of any cleaning operation. If it is in the best interest for a monument surface to be cleaned, this must be done by the gentlest possible method which has been selected on the basis of the individual needs of the relief. because sometimes extensive cleaning can cause damage to an artifact or remove historical evidence (Gregonis, 1984).

The first step we selected the most appropriate methods and more effective according to the type of stains and condition of the stone surface. Cleaning techniques used for stone objects in the site, mechanical method and was the most appropriate to our object to reveal the aesthetic and historic value of the monument without any feature deterioration on the surface or inherent of the sandstone relief.

Hand tools as chisels, and using many different types of brushes which work well for cleaning including multiple sizes, with various stiffness, of the bristles and non-ferrous or stainless steel wire and abrasive blocks are useful according to the substances that have to be removed as primary steps on sculpture and moldings surfaces with fine detail to spin - off the dirt and weathered face [Plate 5]. An artist conservator intervention based on respect for original material and authentic documents, is needed to avoid any damage with sculpture form and with the fine details. Following this step cleaning by using non - ionic detergent to remove different stains, the solution applied as poultice. The cleaning was carried out by poultice of small cotton wool over the surface of the sculpture and left dampened on absorbance of the stains and then following with brushing of water. As a result when the clearance have been done in the restoration process, the sculpture details uncovered and its artistic value arise in addition of the natural beauty of the sandstone is revealed.







Plate 3 The different characteristics of disrupted surfaces in stone wall around the relief monument

2.1.3. Restoration Process

The restoration of the historical relief and architectural ornament with re-form the missed parts were done to reveal the historical and religious messages. First we used drill to make a hole in the stone about 2cm deep that in the same diameter for the metal support of copper using dental drill. The function of this metal as support of reconstruction and utilized of this support bar of metal dowels for strength the figure and missed parts of the architecture ornaments [Plate 6]. The purpose of using powdered of fine sandstone and white cement as mortar to complete the damaged parts, potential for easy removal without any damage of the sculpture. And to obtain the porosity more or less similar to the porosity of the stone, as to allow the evaporation of water and salt solution as well as possibility of aesthetic characteristics as colour and texture to be quiet match with the sculpture [Plates, 7, 8]. The Cement Composition mortar is in the colour of white and grey. cement binder has got the high hydraulic index. As the filler there was used mainly high-silica sand, fine sand, coarse sand, grey grains, transparent, white, ochre and black.

3. Results and Discussion

Stone monument and artwork restoration is an ancient and vast discipline that encompasses the treatment of individual stone artwork, artifacts, outdoor and architecture monuments. In designing conservation, or restoration of stone artwork and of monumental complexes, the greatest problem arises from pondering the components of the "monumental historical and aesthetical value", and in which materials and manner the monument will conserve, considering these factors and creation of an adequate equilibrium between them.







Plate 4. General View of the church from outside, showing different various of damage in the wall



Plate 5. Before and through the primary cleaning process and removal of the old lime painting and the deteriorated mortar around the monument



Plate 6. Strengthen by Metal Support of Copper for restoring the damaged parts

The restoration of damaged part of our object were done with awareness of a physical, material consistency, as defined to distinguishes of the material structure and a material appearance, respecting of esthetical and a historical messages, holding in mind the intent of the artist, that which the artist wish to be seen. in the same way concerning the time that has passed since the production of the work and its entrance into our conscience [Plates 7, 8]. As a result, historic stone monuments of artifact and artwork often pose unique problems because they do not conform just the physical characteristic. The historical object lead us to say that it is a work of art, and attach aesthetical and historical value. Conservationrestoration of artwork and artifact, requires particular expertise and care because historic artworks are significant and invaluable heritage of culture that once lost or damaged cannot be replaced, the losses contain tangible and intangible. One should be careful about the fluid border of the extent of intervention, e.g. every active conservation treatment can be categorised according to purism and aestheticism. Even cleaning a surface of secondary accretions is stigmatised by aesthetic choices (Szmelter, 2000). So always bearing in mind the final aim, the principles and rules of Particularly conservation-restoration. minimum effective intervention is always the best. Whereas weathering and degradation processes are already at an advanced state, it becomes necessary to resort and extreme measures to avoid the total loss of a monument. Any restoration operation must be preceded by an exhaustive study of the deterioration processes.

Principles governing conservation-restoration have taken centuries of philosophical, aesthetic and technical progress to articulate. The field of conservation and its integration into art and science is not always an easy procedures as it is difficult to obtain agreement, as each professional has different objectives, and often his training has enclosed an expert's mind with too much specialization (Feilden, 2003). Furthermore the term art-conservation adherence and designed to the maintenance and preservation of artworks and their protection from future damage or decay. On the other hand, art restoration by contrast, denotes the repair or renovation of artworks and artifact that have already sustained injury or decayed.

Art conservators bring an expertise formed in a tradition of the humanities and aesthetic appreciation, and many are well trained (Pope *et al.*, 2002). In this way conservation can be seen as a combination of preservation and restoration. As a result, art conservation - restoration aims, is to repair, prolong and safeguard architecture, sculptures, paintings, drawings, prints, and objects of the decorative arts

(furniture, glassware, metalwork, textiles, ceramics, and any of man-made mainly work of art and artifact) with unswerving respect of the existing fabric of which the object is made and to clarify the artistic and historical messages therein without the loss of authenticity "aesthetic, historical and physical integrity of the cultural property and meaning". In practice it means to find a way of conserving the physical form of the material, which does the least damage to its qualities under protection (Lanka, 1993, Sidraba, 2001). As well as, restoring the artwork as the artist intended it to be seen. A "work of art" can mean a human artifact designated as such and made from an enormous variety of inorganic materials, as rocks, minerals, all kinds of metals, ceramics, and organic materials derived from plants and animals, or synthetically created the list goes on (Winter, 2003).

Training and knowledge of a variety of materials science and structure of artwork and artifacts from different time periods and locations, and how they deteriorate, experience of materials techniques, all of those will helps artist-restorator to recognize and identify the materials of which artifacts are made. Over time, we gain considerable experience in looking at a variety of materials and artifacts from different time periods and locations. Our training in chemistry and analytical techniques enables us to carry out simple tests to verify our identifications as well we will be able to communicate with scientists with different approaches. Consequently will restore the artwork and artifact as the artist or craftsman intended it to be seen, with respecting the important role of material science and conservation-restoration charters.

4. Conclusions

The Artist conservator must bear in mind that the preservation of an artifact is not necessarily restricted solely to its appearance or to the material of which it was originally made. Any technological information embodied in artwork or artifact is part of the total information that can be obtained from its study and must be preserved. The value of conservation research, the micro-examination of art work and artifact will add a great deal to artist interpretation of art objects. Examination can be regarded as a form of investigative work that over time enables us to develop a familiarity with and understanding of materials and the technology involved in the fabrication of artifacts. as it will prevent us from premature conclusions and will ensure respect not only for conservation principles but, above all, for the well- being of the object as the highest value. consequently it is the underlying purpose of this integration and collaboration in the protection and conservation of cultural heritage, therefore, to train

artist to perceive science not as an unwanted necessity

but as an artist conservator tool.



Plate 7. Through and after restoration processes according conservation charters and showing the different in Mach different in aesthetical apparent without affecting the authenticity of historical intent



Plate 8. After restoration processes of damaged noses, Figures and architectural ornament, before daring of the mortar

The objective studies from a materials in the field of conservation, shouldn't base on perspective examines the physical structure of objects only .we should figure out what was going on in the artist's head and eye. The scientist - conservator can talk about the physical characteristic, but the aim of the artist: to create a formative harmony, to give truth in the way of beauty. Therefore the conservation of historic artwork and artifact requires management of resources, sound judgement and aesthetic sensitivity. Restoring historic artwork and artifact requires creativity to respect the original design and materials. After that the skillfully restoration must be done with a clear distinction being made between what is original object and what is restoration and should be easy removal to prevent future damage and should done sensitively, without being a dominant element. As well as should not to appear to be in better condition than it actually is. We must be careful not to impose our own aesthetics, cultural values, or interpretations on them. The influence that this development has had on international collaboration in the protection and conservation of cultural heritage, and the present consequences worldwide perspective on conservation challenges some widely held, traditional notions, we in the conservation field have come to recognize that we must integrate and contextualize our work.

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References

- 1. Alexandrowicz, Zofia. 2008. "Sandstone Rocky Forms in Polish Carpathians Attractive for Education and Tourism." *Przegl*¹ d Geologiczny 56 (8/1).
- Antonia Moropoulou, Kyriaki Polikreti. 2009. "Principal Component Analysis in Monument Conservation: Three Application Examples." *Journal of Cultural Heritage* 10 (1): 73–81. doi:10.1016/j.culher.2008.03.007. http://linkinghub.elsevier.com/retrieve/pii/S1296 207408001593.
- 3. Bożena. 2000. "Rola Artysty Konserwatora W Interdyscyplinarnym Procesie Ochrony Dziedzictwa I Autorski Aspekt Jego Pracy." In *The International Conference on Conservation Krakow 2000*, 231–232. Krakow: Institute of History of Architecture and Monument Preservation Cracow University of Technology.

- 4. Brandi, Cesare. 1963. *Theory of Restoration I.* http://isites.harvard.edu/fs/docs/icb.topic822683. files/Brandi Theory of Restoration I sm.pdf.
- Cechak, T, J Gerndt, M Kubelik, L Musilek, and M Pavlik. 2000. "Radiation Methods in Research of Ancient Monuments." Applied Radiation and Isotopes: Including Data, Instrumentation and Methods for Use in Agriculture, Industry and Medicine 53 (4-5) (October): 565–70. http://www.ncbi.nlm.nih.gov/pubmed/11003492.
- 6. Davies, Stephen, Kathleen Marie Higgins, Robert Hopkins, Robert Stecker, and David E Cooper. 2009. *A Companion to Aesthetics*. Blackwell Ltd.
- 7. Dawson, T L. 2007. "Examination, Conservation and Restoration of Painted Art." *Coloration Technology* 23 (5): 281–292. doi:10.1111/j.1478-4408.2007.00096.x.
- 8. Erica Avrami, Randall Mason, Marta de la Torre. 2000. "Values and Heritage Conservation Research Report." *The Getty Conservation Institute, Los Angeles*.
- 9. Feilden, Bernard M. 2003. *Conservation of Historic Buildings*. Third edit. Elsevier.
- 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.
- 11. Gregonis, Linda. 1981. "Conservation Of Archaeological Materials": 1–19. http://www.historycolorado.org/sites/default/files/files/OAHP/crforms_edumat/pdfs/1546.pdf?bcsi_scan_db92c8a4f1a67bf4=34k5iD71LHzdgUw2_I1qyb+Ji5TgCAAAAWtLBAQ==&bcsi_scan_filename=1546.pdf.
- 12. Gregory A. Pope, Thomas C. Meierding, and Thomas R. Paradise. 2002. "Geomorphology's Role in the Study of Weathering of Cultural Stone." *Geomorphology* 1182: 1–15.
- 13. Handbook, NPS Museum. 2013. "Chapter 3: Preservation: Getting Started." In *PART I MUSEUM COLLECTIONS*, 112.
- 14. Heron, A. Mark Pollard and Carl. 2008. *Archaeological Chemistry*. Edited by Second Edition. Second Edi.
- 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/#.UDAT6KIlSmN.
- Jansen, Michael. 2004. "Ethics and Principles in Conservation by." In CONSERVATION AND MANAGEMENT OF ARCHAEOLOGICAL AND

- *EARTHEN STRUCTURES AND SITES*, 28–29. Otrar/Turkestan, Kazakhstan.
- 17. Jokilehto, J. 1986. "Towards International Guidelines." *A History of Architectural Conservation*.
- 18. Jokilehto, Jukka. 2002. *A History of Architectural Conservation*. 2nd Editio. Butterworth-Heinemann.
- 19. Jokilehto, Jukka. 2010. "Notes On The Definition And Safeguarding Of Hul." *Ceci* 4 (3): 41–51.
- 20. Jokilehto, Jukka. 2012. "Evolution Of The Conservation Approaches." In 1 ° THEM ATIC ATELIER ON "CONSERVATION AND RESTORATION" National Identity; Anastylosis in Athens. Atelier European Fortresses.
- 21. Kabbani, Raifah M. 1997. "Conservation A Collaboration Between Art and Science." *The Chemical Educator* 2 (1): 1–18.
- 22. Labus, Malgorzata. 2008. "Evaluation of Weathering-Resistance Classes in Clastic Rocks on the Example of Polish Sandstones." *Environmental Geology* 54 (2) (June 1): 283–289. doi:10.1007/s00254-007-0816-5. http://link.springer.com/10.1007/s00254-007-0816-5.
- 23. Lanka, Sri. 1993. "ICOMOS Guidelines for Education and Training in the Conservation of Monuments, Ensembles and Sites, Adopted by the ICOMOS General Assembly at Colombo,."
- 24. Masiani, Renato and Cesare Tocci. 2012. "ANCIENT AND MODERN RESTORATIONS": 1–32. http://research.arc.uniroma1.it/xmlui/bitstream/h andle/123456789/277/draft marco aurelio.pdf?sequence=1.
- 25. Mikstal, Katarzyna. 2011. "Self-Destruction of Three-Dimensional Modern Paintings Caused by Untypical Materials Finding Conservation Solutions." http://ceroart.revues.org/2622.
- Nardi, Roberto. 2014. "Conservation, Restoration, and Preservation in Classical Archaeology." In Encyclopedia of Global Archaeology, edited by Claire Smith. 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.
- 27. 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.
- Sair-ling, LAM. 2003. "Conservation of Historic Buildings in Hong Kong": 1–5. https://www.archsd.gov.hk/media/11768/c3121.p df.
- Schorsch, Deborah. 2014. "A Conservator's Perspective on Ancient Metallurgy." In Archaeometallurgy in Global Perspective Methods and Syntheses, edited by BenjaminW. Roberts Christopher P. Thornton, 269 301. Springer.
- 30. Sease, Catherine. 2011. "The Conservation Of Archaeological Materials." Daniel Doowy. http://wps.prenhall.com/wps/media/objects/1233 0/12626747/myanthropologylibrary/PDF/NDS_1 05_Sease_114.pdf.
- 31. Sidraba, Inese. 2001. "New Materials for Conservation of Stone Monuments in Latvia."
- 32. Stec, Mieczysław. 2000. "Design in the Optimisation of Outlays and the Improvement of Conservation Policy." *Conservator-Restorer's Bulletin* 11 (2).
- 33. Sterflinge, R. Snethlage and K. 2011. "Stone Conservation." In *Stone in Architecture Properties, Durability*, edited by Siegfried Siegesmund & Rolf Snethlage, Fourth, 411 544. Springer.
- 34. Stoner, Joyce Hill. 2003. "Changing Approaches in Art Conservation: 1925 to the Present." In Scientific Examination of Art- Modern Techniques in Conservation.
- 35. Szmelter, Iwona. 2000. "The Strategy of Project Decision Making." *Conservator-Restorer's Bulletin* 11 (40): 168–170.
- 36. Winter, John. 2003. "Overview." In Scientific Examination of Art: Modern Techniques in Conservation and Analysis, 3–11. Washington, D.C. 20001: National Academy of Sciences.

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