

REVALUATION OF ARCHAEOLOGICAL CERAMICS ASSETS UNDER GENERALLY ACCEPTED PRINCIPLES OF INTEGRATED SCIENTIFIC CONSERVATION

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Abstract

The paper present new aspects of the revaluation of prehistoric ceramic artifacts from Romanian archaeological sites, under current rules and concepts of integrated conservation science. We have outlined a number of research directions, which allowed the establishment of the position and role of the three ways or forms of enhancement (purposes), namely: ceramological and historiographical studies, museum displaying, trading and assemblance/enrichment of the collections by analyzing the involvement of various scientific activities of the integrated conservation for the main types or groups of interest.

Keywords: *prehistoric ceramics; integrated scientific conservation; ceramology; museum displaying; antiquities trade.*

Introduction

It is known that ceramic artefacts from archaeological sites occupies one of the main places of interest regarding their number, structural-functional complexity and historical-artistic value [1, 2].

Based on the concepts of modern scientific conservation of works of art, based on Cesare Brandi's studies developed within the Central Institute for Restoration (ICROM) in late 1960 [3 - 7] and studying the current systems of modern recovery of the artifacts in museums in the world, involving primarily the patrimonial elements and functions, but also a number of attributes of authenticity were taken in study new show/display systems and ways of recovery, with a high potential treasures.

Since the “A.I. Cuza” University at its 150-year jubilee since the foundation as the first modern university in Romania, our team had one of its targets the organization of a museum with two representations: *Academic Museum* (a history of the Romanian higher education in Iasi) and *Museum of Cucuteni Civilization*. In this respect, our research was especially polarized on the preservation of prehistoric ceramic artefacts and old teaching materials.

This created new opportunities to study recovery systems and access to the university store prehistoric ceramics, in different stages of representation (in the form of broken pieces or disparate fragments, objects restored by structural and chromatic reintegration or well-preserved objects).

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Regarding the aspects of the revaluation of prehistoric ceramic artifacts from archaeological sites in Romania, under current rules and concepts of integrated conservation science, we have outlined a number of research directions, which allowed the establishment of the position and role of the three ways or forms of enhancement (purposes), namely: ceramological and historiographical studies, museum displaying, trading and assemblance/enrichment of the collections by analyzing the involvement of various scientific activities of the integrated conservation for the main types or groups of interest in ceramic artifacts in general [2].

Specific activities of integrated scientific conservation of prehistoric ceramics

In Iași conservation school, developed after 1993, for the generic term of *conservation* has become established fully accepted formulation of *integrated scientific conservation* in the wide sense of *keeping cultural heritage* for an unlimited period, as close to original form, in conjunction with ambient and highlighting historical contexts [8-11].

This includes a series of specific activities such as: *discovery/acquisition/transfer; scientific investigation (typological classification and grouping, establishment of conservation status, authentication, asset evaluation, compatibility studies of preservation and restoration interventions, monitoring behavior of interventions during a fixed period of six months, a year or two years and ongoing monitoring of the conservation status); passive preservation (preventive) or acclimatization, active preservation (curative) or treatments to halt of deterioration and degradation evolutive processes, restoration (consolidation, structural, chromatic and environmental reintegration) mechanical and climatic protection, revaluation and hoarding through the museum display and maintenance* [12-14].

Of these activities, three have a particular importance, requiring a complex series of studies and research that is: *compatibilization of preservation, restoration and protection interventions* (by *artificial aging* of new materials, turned itself or not in artworks), monitoring intervention's behavior for a given period and respectively the continuous monitoring of developments in the state of conservation (both surveys are mandatory) [15].

The term *conservation* can not be substituted by any other to designate a specific activity included in it. For example, when you name the specializations in the field, in many European countries, *preservation* is replaced with the generic term *conservation*, thus committing a serious error in terminology [12, 14, 16], which is often pointed to major international confrontations or during experience exchanges. It is not fair, for example, to name a specialization *Conservation - Restoration*, but *Preservation - Restoration* or simply *Scientific Conservation* as preservation and restoration are specific activities, with different working approaches (involving materials, processes, operations, tools, devices, machines etc.), while *conservation* has the broad sense of keeping of a good whose conservation status or conservability is commensurable with the "degree" or "level" of conservation state [13-16].

Currently, most restoration schools in the world accept that specific activities in the field, presented above, be considered subfields of integrated scientific conservation [12-17].

Interventions on a work of art or any other property of cultural heritage must meet a number of widely accepted principles, among which the most important are: minimal intervention on material, convenience/advisability, reversibility, compatibility and readability/detectability. Always, the interventions are highly specific depending on the type of material or artwork, but in applications, beyond those two, are also taken into account the value (exchange rate), age and state of conservation [3 - 10, 16 - 18].

For ceramic artifacts, a consistent presentation of specific integrated conservation scientific activities, focusing on areas of interest and target through the three important directions for the revaluation (ceramological and historiographical studies, museum display and trading), in accordance with codes of ethics, is shown in Figure 1.

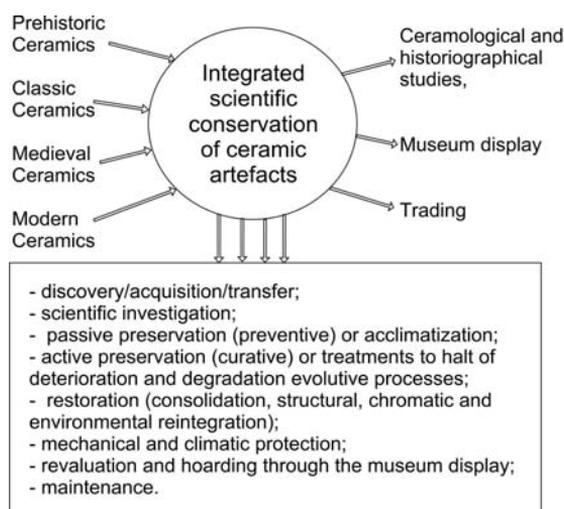


Fig. 1. Scheme of the areas of interest (left), goals (right) and specific integrated scientific conservation activities (bottom) of ancient ceramic artefacts.

For enhancement of a prehistoric ceramic from archaeological sites a series of principal stages to be followed, namely [18-23]:

- Excavation;
- Cleaning;
- Scientific investigation;
- The coherent reconstruction of the shape from fragments;
- Completion of form and ornament;
- Mechanical and climatic protection by coating;
- Display and maintenance.

Depending on the circumstances and purposes, these steps may be detailed or developed with other activities or interventions.

Integrated scientific conservation goals of the ceramic artifacts

Any intervention for the preservation and restoration should be completed in accordance with predefined procedures through a protocol based on objectives to be achieved. While, in general terms, preservation has always been intended to stop the deterioration and degradation evolutive processes (through action on the environment – preventive preservation and direct action on the object - curative preservation), restoration by structural, chromatic and environmental reintegration operations as rendering the object **shape, appearance and function** as close to the original [19, 20].

Very important is to know one set of data about the object, which can be obtained by involving *modern techniques of scientific investigation of the vitroc ceramic and its artistic components* (structural and functional), *historiography and research studies of experimental archeology*. These data are linked on one hand, to the authenticity, and secondly the state of conservation [2, 8, 13, 14]. They must allow one of the three goals of reevaluation by integrated scientific conservation and involvement of various specific activities shown in Figure 1.

The three goals of reevaluation of prehistoric ceramics by integrated scientific conservation, are [2, 14, 19, 20]:

- *Ceramologic and historiographical study* that should highlight the nature of the material, technology for the turning into artwork and artistic technique used, possibly at the expense of formal and aesthetic issues in the context of the historical era in which they were used;

- *Displaying in the museum*, which should provide maximum visibility of the morphological, structural, functional and aesthetic features of the object, while matters of material and technology may be overshadowed;

- *Trading in the antiques market*, which should highlight particularly issues related to aesthetic and those genuine linked to the authenticity able to meet the collectors needs and national standards on conservation of cultural heritage and archeology.

Although these three goals coexist to varying degrees, their order of presentation is not random, their importance decreasing from the first to the third [19, 20].

Regarding the last goal, is taken into consideration the *phenomenon of illegal trading* with high value goods or fakes and *encouraged the action of authentication by certified experts, their cataloging and acquisition by museums and collections of precious objects*.

Ceramologic and historiographical studies

Given the importance of ancient ceramics knowledge, any part found is a **valuable document** in its entirety by its **patrimonial elements and functions** and must be treated with the utmost attention [13, 17]. Researchers interested in pottery will be to understand the value of the object under examination, and curator and restorer must not change or losing parts of it. These things can be better made if those involved are professional, know well the artifact and are able to empathize with the subject of their work, without prejudice.

It is known that the effects of time have inevitably changed some features, in some degree the very essence of artifacts, but may be corrupted or damaged due to improper handling or storage, not to mention inappropriate restaurations or other unauthorized intervention respectively, a very serious one, vandalism [13, 14]. Besides all this damage can occur various risk factors too, which in a very short period of time can cause irreversible effects, leading them to close *precolaps*.

In order that interventions be made compatible and realized in optimal conditions, in addition to the curator and restorer high specializing there is necessary a good knowledge of the artifact and the era in which it was produced and used, namely the nature and structure of component materials, the state of degradation, the integrity and degree of deterioration of structural-functional elements, the technology of turning into artwork and artistic techniques.

Regarding the ceramic artifacts, it is necessary that specialist who have some intervention to have a good knowledge of the technological characteristics of different types of ceramics, at least those that fall within the scope of its specializations.

In this case, it is just him who will only be able to make a correct interpretation of a structural element or functional deterioration and degradation of component materials, doing everything possible to avoid the slightest injury or new damage during the intake of new interventions. Also, the curator and restorer should know very well the materials (cleaning agents, surfactants, adhesives, reinforcing agents etc.), devices and machines for intervention, in order to select the most appropriate for the subject in the study. In practice, will always opt for ceramic materials that are compatible with the respective ceramic [18].

As noted, in addition to technical knowledge about ceramics and its structural and functional integrity, is necessary the diagnosing of the "pathological" state, linked to the alteration of component materials and destruction of structural, functional or artistic elements, which must necessarily taken into account. These effects are a direct witness to what happened to the artifacts over time, since their implementation until the restoration.

Even the phase of making ceramic artefacts can produce "pathological" states, which prove so-named "making mistakes", whose identification by ceramologic studies is of fundamental importance for the *reconstruction of ancient technologies* through *experimental archeology* and local specific definition. Unfortunately, there is no universally accepted system of indexing in the form of classified product catalogs to identify the characteristics of the areas, times, types of pottery etc. Based on these systematic codification, any activity related to integrated scientific conservation would have a well documented support [15, 18, 21, 24].

Lack of knowledge of ceramic technology has a negative effect on the work of the curator and restorer in deciding whether an intervention is appropriate and on the investigator or the analyst in the interpretation of the object, especially when they have not had direct contact with manufacturing technology ceramics. In the absence of such data appear the temptation to give greater attention to aesthetics than to the scientific rigors of the interventions [15, 17].

Another aspect related to the reevaluation of ancient ceramic artefacts in terms of ceramologic and historiographical studies that holds more on historiographical studies, is the identification of some *patrimonial elements and functions*. Among patrimonial elements, along with component materials, art technique and technology of making the artwork, the most interested is the patina [25], especially in terms of historical tracks (which also include the preservation and restoration previous interventions), then the origin of raw materials, time and zone of manufacturing, the spreading area, conservation status (assessed in terms of effects and phenomena of deterioration and degradation) and, not finally, the quality of work (share value) [13, 15, 24, 25].

Regarding the patrimonial functions of an ancient artifact of ceramic that are considered for the reevaluation, are: aesthetico-artistic, historical-documentary, scientific-technical, socio-economic and spiritual (degree of novelty, originality, cultic function etc.) [15].

Museum displaying

To an appropriate reevaluation by museum display, as in the case of ceramologic and historiographical studies, a series of artifact data are interesting, particularly those related to the conservation status, studies of compatibility of traditional techniques with new materials and processes of preservation and restoration and monitoring behavior interventions for a given period, with continuous monitoring of developments of the conservation state and achieving optimal display [9, 10, 15].

In addition, the museum displaying has a teaching function, so that the curator and restorer may face requests for presentation of the artifact trail from commissioning work to the museum, the using aspects and systems involved in the preservation and restoration. To achieve this goal, we use the ambient reintegration by creating an *iconographic decor* (dioramas, artistic and photographic montages with adequate ambient sound effects to recreate the historical background containing films and slideshows with presentation guide in several languages and and music background) or *background images* (drawings, photographs, paintings, etc.). These systems must provide interactive presentation on data archaeological discovery context (lying position, neighborhoods, etc.), time of manufacturing (materials, technical equipment, technological flow stages, data on culture and civilization of the period etc.), period of using up to abandon moment (the using ways, exchange and transhumance, trading, rituals and collections), other moments, such as the marking of events (breaking bottles at the wedding and funeral, donations/bribing, purposes, gifts).

Also, interactive activities can be organized within traditional creativity workshops involving the public in various stages of practical completion of ceramics. In these activities, the restorer has an essential role to explain and illustrate replicas making, remaking of missing parts from original artifacts or counterfeit and other structural or chromatic reintegration linked to the shape of the object, the ornaments, the monochrome or polychrome.

It is clear that any reintegration is always a transaction based on substantiated data, and solutions must respect the principles of professional ethics codes. In practice are applied mainly the five principles: minimal intervention on material, convenience/advisability, reversibility, compatibility and readability/detectability, all subordinated to the original piece. To meet these requirements, in part contradictory, since the mid-70s has been used increasingly more for archaeological ceramics, low surface rehabilitation technique and not all the artifacts. Indeed, this approach allows removal of the foreground of the original artifact, without decreasing its perception by the minimum readability of interventions [13, 15]. This is why the color of the remade parts is usually restored as close as possible to the original background (the fresh broken pottery color).

Antiquities trade

The scientific conservation of antiquities for the trading is generally interpreted as an operation designed primarily to restore their aesthetic appearance, which is approved also by collectors. Most times, they are more interested in a restored piece, than in a fragmented one.

Antiquities market is often affected by the presence of fakes, now aging and repatination processes are so advanced that only modern authentication techniques can distinguish the original from the fake.

Very often, full structural and chromatic reintegration can hide the existence of cracks and gaps that may cause irreversible changes, which can cause great harm to the objects.

For these reasons, scientific replicas must bear the copyright mark ©, applied by punching inside, on the back or at the base and measuring $\pm 10\%$ from the original, otherwise being considered illegal fakes [8].

To attend the auction, the original artifact should usually be restored and possess property and authentication certificates issued by individuals or legal certifiers. In general, the state controls in many countries the antiques market, which requires the ranking and registration of the object in the National Register of Cultural Heritage Items.

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