

Critical review of the specialized literature in mosaic conservation.

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The critical review of the specialized literature here enclosed is the result of a study carried out during the preparation for the first International Course on the Safeguard of Archaeological Mosaicsⁱ. Basing ourselves on the presupposition that technical texts on conservation as well as in any other professional field, are a working and updating tool which different technicians can use regardless of regional distinctions, and that they are also the bases on which new generations of professionals will train, it was decided to analyze this "tool" more in depth. For this we relied upon the availability of the library at ICCROM which listed, 1988 inclusive, under the heading "Mosaics" about 400 titlesⁱⁱ. It is the intention of the writer to amplify the work, once the minutes from the present conference become available, to include 1990 and to draw up a bibliographical guide on mosaic conservation. It is important to stress, therefore, that this study has a preliminary aspect in so far as it does not include the last two years, years in which important variations of course from the ethical-theoretical guidelines and on the technical methodologies of intervention took place. It will therefore be my duty to fill this gap as soon as possible and to produce an updated analysis of the situation.

The method used in this research was to carry out an analysis of the texts by emphasizing certain characteristics such as the author, its context, the topics it treats, and the areas of application. The first part devoted to more general themes such as date of publication, language of the text, professional qualifications of the author, general characteristics of the text, was followed by a more descriptive analysis of the actual mosaic such as the type, size, the geographical position, and the causes of deterioration. The study ends with a detailed revision of the operations described and of the technical solutions adopted.

A first general fact derived from our analysis concerns the language of the texts and perhaps this is information which is taken for granted as a majority of texts is in English (123), followed by Italian (87), French (85), Spanish (25) and German (19), and others.

As for the number of articles, one notices that considerably more texts were published in the 80's, almost tripling the amount with respect to the preceding decade.

If one compares the language and the date of publication, we see a large increase in the production of Italian texts in the last decade. Ironically this increase would seem to correspond, at least statistically, to a decided regional rise in interest concerning the mosaic subject.

In conclusion of this first part dedicated to general aspects, let us analyze the professional qualifications of the authors: almost contradicting those who believe that conservators/restorers are reluctant to publish their work, we found that 65% of the texts is actually written by technicians while the remaining 35% is divided among archaeologists (19%), art historians (9%) and architects (7%). This throws new light on a sector, conservators/restorers, which is still not well known.

The above mentioned datum is confirmed by what follows, always taking into account the general characteristics of the text: 64% of the articles are of a technical nature, that is they present operational

problems and solutions which can be used positively but perhaps even negatively in defining technical intervention. The remaining 36% deals with topics of a theoretical nature.

With the following data we will move on to analyze characteristics related more closely to mosaics: 69% of the texts deal with floor structures while 31% is divided between wall and vault mosaics.

The datum corresponds also to the actual type of mosaic. 68% of the texts deal with archaeological mosaics; the remaining 32% is to be divided among ecclesiastical mosaics (26%) and modern mosaics. Things change if we sum the extension of the mosaics treated in square meters: as much as 56% refers to ecclesiastical mosaics, while the archaeological mosaics drops to 41%, proving that while more is written about archaeological mosaics, these monuments cover a smaller area.

A datum which we believe is important, because it shows a certain tendency to write without specifying simple but determining data, is the one concerning the description of the area of the treated mosaic: only 14% of the authors specify the superficial development of the monument of which they are speaking. Just as if the extension factor were of no importance to judge, from the readers point of view, the feasibility of the intervention presented, the quality of the procedures and techniques, and the costs.

This part devoted to the description of mosaics treated in literature ends with the analysis of the mechanisms of deterioration resulting from the texts studied.

The data collected in this way has been compared with a questionnaire filled out by those working in the field to compare actual problems of those who work with mosaics and that which is presented in the literature. In other words, to verify the degree of usage technical-literature represents for those who work in the field and who need comparisons with parallel experiences.

If we can discern a certain relationship among various of the items treated - humidity, salts, fire, pollution - others show alternate discrepancies since they are at times given greater emphasis than reality calls for - earthquakes, war, riots - while others receive less attention than the professionals would like - such as climatic agents, ground settling, biological agents, incorrect interventions. These are in fact two clamorous cases: damages deriving from agricultural activities and lack of maintenance; these are analyzed in the pertinent literature exactly twice. Professionals all recognize these as the main causes of the deterioration of mosaics.

The detailed revision of the operations described and the technical solutions adopted in the texts stems from the observation that, as was seen earlier, 36% of the articles is of a theoretical nature. Of these we will only mention the topics thus leaving the detailed analysis of the operations to the remaining 64% of the texts which are of a technical nature. Of this 36% of the total number of texts written on mosaics we find that theoretical topics treated are historical-ichnographical analysis (41%), archaeology (7%), old technology of intervention (14%), the methodology of intervention in conservation and restoration (19%), the documentation of the interventions (1%) and other varied topics (18%).

Getting into the heart of the analysis of the contents of that group of texts of a technical nature, the first observation is a comparison of the main topics which are treated. A graph gives a first and immediate sum of the interest of the authors. Another thing, and we will try to define this in this study, is how much does this interest really correspond to the actual needs of mosaics heritage and the technicians in the field.

The most treated topics are in order of priority: lifting, replacing in situ, replacing on panels meant for storage or for display in a museum, scientific tests, cleaning. Only at the bottom of the scale, and perhaps this is the sensational and alarming datum of this study, does one encounter in situ-consolidation, protection, reburying and maintenance as treated topics.

A more immediate way perhaps of deciphering the meaning of this data is to gather the general themes treated in three categories: the first concerns all those interventions related to lifting mosaics (67%), the second deals with consolidation in situ (28%), and the third involves protection and maintenance (5%). Here we see that the general picture of the topics treated in literature is beginning to be clearly defined describing the actual reality which we will now discuss in its deepest values.

Before starting this analysis it would perhaps be interesting to observe each intervention treated in order to analyze certain technical details.

The operations involved lifting a mosaic basically lead to three techniques: lifting in blocks which is by far the most used with 61% of the cases, followed by lifting in small pieces (21%), and lifting with the use of a roller (18%).

By studying techniques and especially the materials used in replacing the detached pieces, one notices that in the case of replacement in situ, reinforced concrete is still the system used the most with 58% of the cases, followed by replacement on synthetic sandwiches in 15% of the cases and 27% of the cases where the mosaic is replaced on a slab of lime mortar.

In the case of replacements on panels the great majority of cases refers to replacements on synthetic sandwiches with 88% of the cases, 12% are replaced on reinforced concrete.

Among the techniques and materials used in consolidation in situ, one finds that the most common method uses synthetic resins, followed by methods based on the use of lime and finally cases which use a combination of the previously mentioned methods.

Reviewing the data presented in the graphs, one can draw up a conclusive synthesis of those which offer a greater subject for discussion.

Let us start with deterioration. The datum which gives us some thought is the lack of correspondence between the values taken from the literature and those collected by field workers (see diagram). More specifically it appears obvious that the mechanism determining publication, does not correspond to an actual every day need derived from facing most diffused problems and hence more important ones, but rather to a

personal interest for a particular case. Therefore, if one wishes to state once again that technical literature should be a working, updating, tool of comparison for technicians in the field, in this case we erroneously defined the objectives and usage of this tool. It is far too easy to say that where everyone's experience shows that the main cause of deterioration of mosaics is the lack of maintenance and when we find that in the literature this cause of deterioration is treated in only 2 cases, here one asks what practical use can be made of this tool and most of all what hope of improvement do we have for the future if the new generations of conservators are trained with this kind of literature.

Let us take a look at the practical value of the interventions treated in literature. Once again we are facing an alarming datum, that the large majority of the interventions presented, that is 67%, refers to interventions linked to lifting mosaics (see diagram). This is an extremely inflated topic on which discussion has been barren. How many recommendations have been made at the end of international meetings on this theme; how many methodological comments have been heard and read; for all mention will be made of Paolo Mora's introduction to *Mosaics N°2* in 1980: "Although we believe that, in general, every effort should be made to conserve a mosaic in situ and not detach it, certain conditions sometimes make such action necessary."

But in the reality those "certain conditions" are still the norm. It is sufficient to simply look at the content of the previous triennial meetings, and analyze them with a good dose of objectivity. The official theme of these meetings is always the same: the conservation in situ of mosaics. Here is what happened at Aquileia: of the articles which gave information of a technical nature, 7 dealt with in situ/non-detached mosaics, and 10 dealt with the detachment of mosaics; at Soria the case is even more evident: 6 articles referred to mosaics in situ and as many as 17 related to detachments of mosaics. And how many interventions deal with themes such as the in situ-consolidation, or maintenance or the planning and the management of the sites?

This is exactly the picture which more generally reflects the technical literature. Hence, once again, we ask ourselves, how can we expect a change of course if practically the information and training tools always move decisively in the opposite direction?

And the same applies to the methods for lifting: for one well carried out pilot intervention hundred of careless, even catastrophic operations are effected, legitimized by the "good example" of what has been published; or with respect to materials used, since the fad of using reinforced concrete and epoxy resins continues .

All of this when everyone agrees that the main enemies of mosaics are administrations and their inability for planning and managing; the chronic lack of maintenance and protection of sites and monuments; the undaunted progress of archaeological digs without plans for taking conservation measures; the faulty interventions of restorers in good faith (at times in bad faith); the market for antiques. But instead the literature ignores ordinary topics working only on extraordinary cases which in one way or another can tie one's name to a brilliant undertaking.

Here if we wanted to make some suggestions, the first would be a statement of objectives; a good dose of humility is required, to concern ourselves with those "simple" cases of every day management of the cultural heritage for which we are responsible.

This in a way contains the inspiring themes of the 1st International Course on the Safeguard of Archaeological Mosaics, themes which can be summarized as follows: - to set up a plan for the recovery of

mosaics lifted in the past and stored in museums or elsewhere; - to establish a programme for the protection of the entire area of mosaics during excavation as well as temporary protection as the mosaics are brought to light; - to establish a long-term programme for the management of an archaeological site with mosaics (conservation, restoration, maintenance) to ensure its preservation as a whole.

And it reflects the way in which we worked with a group of conservators while preparing this meeting and which has produced several interventions presented in this same conference.

The themes treated all refer to measures of protection, prevention and maintenance in situ of the mosaics. All these are very distant from those exceptional examples to which the literature has accustomed us in the dozens of costly and unique interventions which we have seen so far and which have been indicated as models to imitate. The themes are instead all very close to those "simple" themes - prevention, protection and maintenance - that should become daily-tools for operators and administrators of the mosaics.

And in conclusion an observation on the quality of the texts, or better on the form of how technical reports are usually produced and presented. The main characteristic is the general abstractness with which these themes are treated and the interventions described. No accurate description, for example, of the mosaic which is mentioned, almost as if this were a negligible detail. As far as I am concerned, I find the fact that only 14% of the cases offers to describe and specify the exact extension of the mosaic in discussion, rather emblematic. The same for the description of the causes of the deterioration, the methods used, those which might have been possible but which were set aside, or even the costs and finally the results at the end of the intervention and following a lapse of time.

For this, and because we would like the literature to appear in a simple but clearer form, for it to be comprehensible and allow for comparisons, at least the following information should be included in every technical text:

1. description of the mosaic;
2. presentation of the problem;
3. solution examined;
4. solution adopted;
5. reasons;
6. techniques;
7. cost and time of intervention;
8. general observations following the intervention;
9. conclusions;

Various considerations that have resulted from the meeting in Palencia '90 should be added to this paper. We would particularly like to express some "contained optimism" since we have seen the definition of a change of approach and due recognition has been given it.

This change of tendency became visible as a particular cultural attitude grew stronger, linked to prevention, in situ consolidation, protection and maintenance. Interesting interventions based on research, experiment and application was produced and the first results were presented at Palencia.

This new approach was shown by the fact that the 20 technical papers, 7 referred to lifting of mosaics, while 14 treated in situ consolidation and protection, radically overturning the relative proportions from previous meetings (see diagrams 7-8). Ironically this happened during the Palencia meeting which, as opposed to the previous ones, no longer included "in situ conservation" in its title.

This brings to mind the attitude regarding "wall paintings" that was current 20 years ago. At that time some technicians set aside lifting as the single possible solution for the conservation of mural paintings. Although it may be early to draw a similar parallel, this change must be given serious consideration. It is certainly not an isolated coincidence, but rather the first fruit of years of long and systematic work. It should give us greater encouragement to continue in this direction, toward prevention, in situ consolidation, protection and maintenance.

The 1st International Course for the Safeguard of Archaeological Mosaics was held in Rome, 19 September - 13 October 1990, was organized by ICCROM and ICR. Coordinators were A.Melucco, G.de Guichen, R.Nardi; Assistants were R.Colombi, E.Bonasera.

ICCROM's library provides the "Conservation Information Network" a system which allows you to have access to the libraries of the Canadian Conservation Institute in Ottawa and The Getty Conservation Institute in Los Angeles.

Of the many publications found on this argument, one will be enough among the others, concerning the restoration of the facade of the Basilica of San Paolo in Rome, published by the review "Rassegna dei Beni Culturali" in 1989: "...the mosaics have been lifted and the substrata demolished till the nude structure...and then the mosaics have been relied on a good bed of mortar of cement prepared with a semi-liquid solution of water and cement. A good wash of water and acid ended the operations"