SURVEYING AS A MEANS FOR THE DEVELOPMENT OF A NATIONAL STRATEGY FOR THE CONSERVATION AND MANAGEMENT OF THE MOSAICS OF GREECE

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ABSTRACT

Two surveys, which examine the condition of lifted and in situ mosaics in Greece, are aiming to be the initial phase of long-term planning for the conservation of mosaics in Greece and the development of a national strategy. This paper reports the results of the first survey, implemented in 2010, concerning lifted mosaics that are stored and/or exhibited at Greek museums and storage depots. The survey was based on a questionnaire developed by ICCROM in the framework of the MOSAIKON program. The analysis of the data proves that the qualified staff that is currently employed by the museums and archaeological services is not analogous to the large amount of mosaics that has accumulated over several years of archaeological research. Furthermore, financial issues and the complexity of the administration system prolong the problems. A first account of the major problems that have been recorded through the survey, leads to a better understanding of the weaknesses that exist at operational /managerial level and gives insights for the development of strategies that are feasible and can be effective in preventing further damage to Greek mosaics, taking into account the administrative structure, as well as the human and financial resources that are available in the country.

INTRODUCTION

Mosaics are amongst the most outstanding form of cultural material for which Greece is renowned and several of them are linked to high visitor rates at Greek museums and sites such as the Hellenistic mosaics of Pella and Delos, or the Byzantine mosaics in Thessaloniki. The pebble mosaics or opus lapilli with organized compositions of geometric and pictorial designs appear in Greece in the middle of the 5th century BC, and are the earliest known examples of this form of art (Dunbabin 1990, 1, 5-17). Towards the end of the 4th century mosaics of exceptional pictorial quality were produced in Pella, the Macedonian capital, the finest examples of which are now exhibited at the museum of Pella (Lilibaki-Akamati et al. 2011). The mosaic tradition continued for several centuries in Greece and gave numerous examples of high quality mosaics such as the pavements of Delos and the wall mosaics of the Byzantine monastery of Daphni. Despite the long and continuing tradition of mosaic art in Greece there is no corpus of the Greek mosaics and therefore we do not know how many mosaics there are, where they are kept and what condition they are in. Nevertheless, there are some major publications, which give a detailed record of the mosaics of specific chronological periods, such as the three volumes of the corpus of the early Christian mosaics of Greece (Pelekanidis and Arzaka 1974; Asimakopoulou-Arzaka and Pelekanidou 1987; Asimakopoulou-Arzaka 1998) or single sites such as the mosaics of Delos (Bruneau 1972).
Lifting mosaics as a conservation method was common in Greece as in most Mediterranean countries. Some of these mosaics were reinstalled on site on new bedding while others were exhibited in museums. Furthermore, a large number of rescue excavations all over the country, led the majority of the mosaics found into storage. This resulted in the accumulation of a large number of lifted mosaics in the museums of Greece at a time that professional conservators and conservation resources in the country were limited. Over the last two decades there has been a remarkable progress in the field of conservation in Greece, and especially on methodology and philosophical issues, and the general approach towards the conservation and protection of cultural heritage. Conservation professionals are now trying to highlight the problems and seek solutions. The conditions under which archaeology is practiced in Greece are also changing. An overview of recently undertaken initiatives and research projects, demonstrates that a more inclusive and public approach to the protection and management of archaeological heritage is adopted (Lekakis 2008; Sakelariadi 2008). The assessment and documentation of the condition of cultural material is today recognized as an essential tool for the development of a strategy that aims at the conservation and long-term protection of cultural property, which was the motive for initiating these surveys.

The present survey, undertaken by the Directorate for the Conservation of Ancient and Modern Monuments of Greece (DCAMM), is the first national survey which attempts the documentation and assessment of the lifted mosaics, and the first step towards the development of a strategy for their conservation. The survey was realized by means of written questionnaires, which were distributed to all the archaeological services and museums of Greece. The questionnaires, which were provided by ICCROM, were initially designed for the research undertaken in the framework of the MOSAIKON program (http://www.getty.edu/conservation/our_projects/education/mosaikon/). A second survey, currently (2011) in progress, explores the problems of the in situ mosaics, aiming at a first evaluation of the condition of the mosaics and of the prominent priorities in the field.

THE GREEK ARCHAEOLOGICAL SERVICE MANAGEMENT STRUCTURE

Archaeological heritage management in Greece is regulated exclusively by the State. The so-called “Archaeological Service” was established in the public sector in 1833, just three years after the foundation of the independent Hellenic State in 1830, aiming at the protection of antiquities (Kokkou 1977, 70). This body is nowadays one of the major sectors of the Ministry of Culture and Tourism. Its structure is totally hierarchical, and it more or less retains its administrative system since the late 1970s (Sakellariadi 2008).

There are two General Directorates related to cultural heritage, the General Directorate of Antiquities and Cultural Heritage and the General Directorate for Restoration, Museums and Technical Works, which coordinate and supervise the works of the central, regional and special departments. The Directorate of Conservation of
Ancient and Modern Monuments is one of the central services under the General Directorate of Antiquities and Cultural Heritage and it is engaged with the supervision of all conservation works conducted in Greece, either by the Ministry of Culture or by private bodies. The Regional Services, the so-called Ephorates, are specialized in three different chronological periods: there are 39 Ephorates of Prehistoric and Classical Antiquities (that is antiquities from the Prehistoric to the Hellenistic and Roman periods), 28 Ephorates of Byzantine Antiquities (from the Early Christian to the Post-Byzantine periods), 15 for Modern and Contemporary Monuments and several special services (underwater, caves, etc.). The majority of museums and all archaeological sites in Greece are run and supervised by one of the aforementioned regional services, except for eight major museums, which operate independently as special departments. The main advisory council and instrument for planning in archaeological policy is the Central Archaeological Council, which consists of academics, heads of central and peripheral services, and the General Secretary of the Ministry, all appointed by the Minister of Culture and Tourism. This tight structure aims to provide protection for antiquities because every decision involves many different levels of control but, on the other hand, it is a strongly bureaucratic model that lacks flexibility and decelerates the decision-making process (Government Gazette no 153).

THE SURVEY

The questionnaire of ICCROM was made available to us in English and was translated into Greek and then submitted to the Directorate of Conservation of Ancient and Modern Monuments (DCAMM) with the invitation to participate in the survey. Following the official procedures, the survey was approved by the Director of DCAMM, then by the General Director of Antiquities, and, finally, the questionnaire was sent to all relevant ephorates and to the major museums, which operate independently.

The questionnaire was sent in July 2010 in order to be completed during the summer, when extra seasonal personnel are usually employed. A two-month period was allowed for the completion of the survey with an one-month extension at the end.

The questionnaire included nine questions targeting the following information:

- Number and total surface of lifted mosaics
- Location of the mosaics (floor, wall or movable)
- Principal materials and methods used for mounting
- Condition of the mosaics
- International programs undertaken or in progress
- Relevant publications
- Professionals in charge of the collection and their level of education
- Members of staff
- Professionals engaged with mosaic conservation and their level of education; and
- Mosaic conservation facilities

39 Ephorates of Prehistoric and Classical Antiquities, 28 Ephorates of Byzantine Antiquities, and six independent museums were contacted (Fig. 1). Questionnaires were sent to a total of 73 departments.
PROBLEMS Encountered in Collecting and Analysing the Data

The questionnaire that was used in this survey was designed to meet the needs of a regional survey in the South Eastern Mediterranean region. However, translating in Greek and distributing a questionnaire that was designed by an international organization was not as suitable as thought to be. As a result, various questions were not understood or misinterpreted. This can be attributed to different factors:

a. First of all, 37% of the questionnaires were completed by archaeologists, while in another 8%, the profession of the person in charge of the survey is not specified. This means that conservators were involved only in 55% of the survey (Fig. 2). As a result, various mistakes were made in the description of the materials and the methods used for mounting the mosaics. It was also observed that the questionnaires that were completed by conservators were more detailed and often included additional descriptions of the mosaics and the conditions to which they are exposed, i.e. high humidity, superimposed mechanical stresses etc. Their assessment

Fig. 1. Map of Greece: spatial distribution of the data
on the general condition of mosaics also tended to be stricter and probably more objective than that of the archaeologists, and seems to be leaning towards moderate to bad rating.

b. Other mistakes can be attributed to the translation. Some departments included the in situ mosaics of their region in the fields concerned with mosaics ‘exhibited outdoors’, considering the sites, which are open to the public, as outdoor exhibition areas. This problem was realized as soon as the analysis of the data started, which meant that we had to figure out how many of these were recorded in order to subtract them from the total number so as to be able to use the rest of the data.

c. Some mistakes are also attributed to the design of the questionnaire, where not all fields were suitable for Greece. The questionnaire was designed for a single museum, and although we sent an explanatory note for filling it in, the fields concerning staff and responsibilities were misinterpreted due to the structure of the archaeological service. Another example is the questions concerning mounting, where the choices do not represent the common practices that are used in Greece, hence the fields could not be completed properly.

d. A few of the regional archaeological services, especially those which include islands, noted that there are not enough personnel to undertake the survey. These departments completed the questionnaires by consulting their records, without giving specific information such as dimensions, number of mosaic panels or sections of mosaic. This information although useful, could not be quantified and added to the main data and therefore the completion of the full data in these departments is pending.

e. A large number of the mosaics in storage come from rescue excavations. They were lifted and stored in sections for a long time, as the regional services could not fund their conservation and do not have appropriate space for future exhibition or proper storage. In most cases, mosaics in storage were inaccessible and their examination for this survey was impossible. As a result several sections of lifted mosaics were reported, which, either because of lack of records or because of lack of personnel, were not linked to individual mosaic panels.

In order to verify unclear or non-logical data the personnel of the DCAMM, contacted by phone each of the departments that had presented problematic or unclear answers to the questionnaire.

The data and the outcome of the survey

The majority of the data comes from the 39 Regional Services of Prehistoric and Classical Antiquities: 30 of them completed 44 questionnaires, as they often oversee more than one museums and/or storage depots, 3 replied that they have no mosaics and another 6 did not respond (Fig. 1).

From the 28 Regional Services of Byzantine and Post Byzantine Antiquities, 15 completed an equal number of questionnaires, 7 replied that they have no mosaics and 6 did not respond (Fig. 1). Of the 6 major museums 4 completed an equal number of questionnaires, 1 replied that they have no mosaics and 1 did not respond (Fig. 1). In total, 48 departments completed questionnaires, 12 replied that
they have no mosaics in their collections while another 13 did not respond. Overall, there was a very good response from all the regional departments and we were able to collect a large sample of data with a good spatial distribution (Fig. 1). Of the contacted services, 82% responded to the survey either by completing questionnaires (66%) or replying that there are no mosaics in their collections (16%).

In total, 62 questionnaires were collected and analysed. The analysis of the data allows us to speak in numbers about the lifted mosaics of Greece and points out the prominent priorities in this field (Fig. 3). There are 658 mosaics and 1865 unidentified sections with a total surface of 12112 m². The majority of the mosaics on display, 167 mosaics with a total surface of 2308 m², are exhibited indoors in 37 museums. Another 35 mosaics, with a total surface of 1549 m², are exhibited outdoors in 19 museums and 456 mosaics are found in 38 depots. The 1865 unidentified sections of mosaic are found in ten depots. Of these, 1531 sections measure 1745 m², and 334 sections (from one depot) are reported without surface measurements (Fig. 4). Therefore, around 24% of the mosaics in storage were unidentified in our survey. It should be noted that for the purpose of this survey we called “unidentified” all sections of mosaics not corresponding to the number of mosaics they belong to.

The total number and surface of mosaics represent the minimum values. A few museums reported mosaics without surface measurements and others reported the sur-
face without specifying the number of mosaics. In addition, the number of mosaics at the departments, which did not respond to the survey, remains unknown. However, absolute values are not expected to be much higher, as there was a very good response to the survey. Apart from the quantity of detached mosaics and their location, we were able to answer a series of questions which are of vital importance for planning and adopting a conservation policy. The most significant ones are presented below:

a. **Where and how are the mosaics installed?**
The mosaics that are exhibited indoors and outdoors are mostly fixed to the floor and less on movable supports, while the great majority of the mosaics in storage are found on movable supports, including the non-mounted mosaics, which are supported by the facing fabric and are placed on movable boards (Fig. 5).

b. **What are the principal methods of mounting used?**
The principal materials used for the mounting of mosaics in indoor and outdoor exhibitions are cement and various mixtures of lime mortars or cement-lime mortars. The same applies in storage where less than half of the mosaics are mounted (Fig. 6).

c. **What is the condition of the mosaics?**
The condition of the mosaics exhibited indoors is predominantly very good, while the condition of the mosaics kept outdoors is mostly good. Mosaics in very good and very bad condition also exist. In storage,
roughly one third of the mosaics are in a moderate condition, the second third in very good to good, and the last third in bad to very bad condition (Fig. 7). As expected, the mosaics on exhibition are in a much better condition than those in storage as they are maintained more often although not regularly. On the contrary, the mosaics in storage, which are rarely inspected and often inaccessible, are in a worse condition.

d. How many of the regional services have mosaic conservation laboratory?
There are only nine organized mosaic conservation laboratories, two of which are found in major museums and seven in large ephorates.

e. Who is engaged in mosaic conservation?
In 24 departments there are professional conservators with a higher education degree who are in charge of mosaic conservation, representing 40% of the departments who responded to the survey. In another 12 departments, representing 20% of the total, the professionals in charge of mosaic conservation are conservation technicians from vocational schools. In eight departments, representing 13% of the total, mosaic conservation is undertaken by conservators in collaboration with technicians, in one department by a technician, in two departments by short-contract conservators and finally another three departments have reported that they are assisted by the
How and where are the mounted mosaics installed or stored?

Directorate of Conservation of Ancient and Modern Monuments for the conservation of their mosaics. It is not negligible that ten departments, representing 17% of the total gave no answer to this question, a fact that can be interpreted in different ways and needs further clarification.

**DISCUSSION**

Despite the problems encountered in the completion of this survey, the data that was collected has definitely helped us to track down the problems, to prioritize the needs and to start developing a strategy for the protection of these mosaics. The account of the problems that have been recorded also leads to a better understanding of the weaknesses that exist at an operational/managerial level and gives insights for adopting feasible and effective solutions in order to prevent further damage to the mosaics of Greece, taking into account the administrative structure, the human and financial resources that are available in the country. It is apparent that there are problems in the depots of the museums and other buildings of the regional departments, where a considerable number of mosaics could not be accessed, identified and recorded. More than half of the mosaics in storage are not mounted and their cond...
tion is graded from moderate to bad (Fig. 6 and 7). Since the mosaics in storage represent almost 70% of the lifted mosaics, it means that the problem concerns a large number of lifted mosaics in Greece. It is clearly pointed out that priority should be given to the documentation of the mosaics in the departments which had no personnel to undertake the survey, or the mosaics were inaccessible due to inappropriate storage conditions and lack of space for their examination and documentation. At the same time, the analysis of the data also indicates that the qualified staff that is currently employed by the museums and archaeological services is not proportionate to the large amount of cultural material that has accumulated over several years of archaeological research and rescue excavations. This can be explained to a certain extent by the fact that conservation as a scientific discipline is relatively recent in Greece. The first conservation department at the level of higher education was established in 1985. Since then, almost a thousand conservators have graduated, many of whom have also continued their studies at a postgraduate level. However, they are mostly employed in the central service or in major ephorates and museums in the capital cities, while in smaller departments there is a lack of specialized personnel. Furthermore, few of these highly specialized conservators have positions to enable them to take part in the decision-making process. The lack of specialized personnel, lack

### Table: Materials and Methods Used for Mounting

<table>
<thead>
<tr>
<th>Method</th>
<th>Exhibited Indoors</th>
<th>Exhibited Outdoors</th>
<th>In Storage</th>
<th>No Mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement</td>
<td>1351</td>
<td>1041.86</td>
<td>2639.01</td>
<td>4461.44</td>
</tr>
<tr>
<td>Lime</td>
<td>726.97</td>
<td>841.31</td>
<td>534.44</td>
<td></td>
</tr>
<tr>
<td>Honeycomb panels</td>
<td>0</td>
<td>15.03</td>
<td>440</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>88.34</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 6. The main materials used for mounting mosaics are lime and white cement in various mixtures and reinforced with aluminum and stainless steel frames. Honeycomb panels have not been used at all and the mosaics in storage are not mounted.
of infrastructure, financial issues and the tight and introvert administrative structure are the main weaknesses in the operational capacity of the Greek system. The present prolonged recession in the Greek economy and the current reformation in the public sector services, does not really allow for much planning, and certainly no conservation programs can be initiated except for emergencies and the few large on-going projects. A number of projects are also implemented with the financial support of the European Union, through the Community Support Frameworks and the National Strategic Reference Framework. The administrative structure of the Ministry of Culture and Tourism is now being revised into a more decentralized and flexible scheme, but still there are no recourses at present for the employment of conservation professionals.

The results of this first survey lead us towards a better understanding not only of the problems evident in the condition of the mosaics, but also of the needs of the conservators and the infrastructures, that would enable us to develop of a strategy for the protection of the mosaics. Simple solutions such as the setup of an open network between the central conservation service and the conservators in the regional services will first of all enable the continuation and improvement of the first survey and the in-depth examination and assessment of the problems. This would also act as an advisory network for sharing knowledge.

Fig. 7. The mosaics, which are displayed either indoors or outdoors, are in a better condition than those in storage, as most of them are regularly maintained.
and experience. The specialization of the personnel was also a need that was highlighted through the survey. A great interest for educational seminars specially designed for the maintenance of mosaics was expressed by most services we contacted and not only by conservators and conservation technicians, but other employees as well. The voluntary participation of students from the Conservation School of the TEI of Athens, or other educational institutions, in collaboration projects between the central conservation directorate and a school of conservation is considered as low cost solution that can be beneficial to both parties for achieving their goals. Students are offered the opportunity to build their experience in museum or field conservation projects during their studies while the archaeological services can make some progress towards the conservation and maintenance of mosaic sites which lack funding or the proper organization of storage depots. Financial recourses are even more limited for research and the only means of investigating and improving materials and methodologies is through academic studies such as Master or PhD level theses. The results of the present survey can be used in several ways and definitely for putting pressure on the decision-makers for allocating funding and initiating rescue conservation programs. Furthermore, the results of this survey demonstrate the real needs of each region and can be used in raising public awareness and advocacy, as well as raising funds from local, national and international sources. Public involvement and volunteer programs can be successfully incorporated in site-maintenance projects and the protection of sites, and are on the frontline of our efforts. Since we now have all these data in our hands we are able to put together proposals with close estimations of budget, which target the real problems, in the hope that we will be able to seek funding in all possible directions in order to secure the mosaics in storage and to prevent further damage of those in situ. We are also moving forward to the second survey, which explores the problems of the in situ mosaics, aiming at a first evaluation of their condition and the prominent priorities in the field. As this is expected to be a more lengthy and difficult survey to undertake, we are carefully designing and testing the questionnaire before it can be sent to all these departments. The experience we gained from the first survey is really valuable as it helps us to foresee and resolve the potential problems in the completion of the survey of in situ mosaics, which is a much more complicated case.

Acknowledgments

The survey was an initiative of Stefania Chlouveraki, member of the ICCM Board. It could never have been completed without the support of N. Minos, Director of DCAAM, and the approval of M. Vlazaki, General Director of Antiquities, to whom we are grateful. We would also like to thank Katerina Ftikou, conservator of DCAMM, for her assistance for collecting further data by contacting several departments.

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