Project for the Arch of Septimius Severus, Rome

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FIG. 1. Roman coin representing the monument. The acroterial figures crowning the monument are shown here. There is a central chariot with six horses driven by a figure and two horseriders on each side. Furthermore one can see a stylized criss-cross motif at the base of the attic; it probably represented a protective and decorative balustrade on the accessible cornice that surrounds the arch.

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The Arch of Septimius Severus is one of the Roman monuments included in the conservation programme under the auspices of the law for the archaeologico-monumental heritage of Rome.[1] The plan concerns the major examples of triumphal imperial architecture: the Columns of Trajan and Antoninius, the Arch of Constantine, the Forum of Nerva and others.

The intervention on the Arch of Septimius Severus began in 1979 and is being directed by the author and the *Centro di Conservazione Archeologica* (Centre for Archaeological Conservation), a private firm involved in the study, restoration, and maintenance of ancient monuments, of which the author is the director. The current programme focuses on the study of the artifact, the planning and execution of the restoration intervention, and the planning and execution of the maintenance procedures.

The premise for such a definition is quite precise: in Roman monuments (and often not only with these), there is no clear separation between the material, the object itself, and the historical significance of the artifact, that is, the information collected concerning it. The Arch of Septimius Severus was created according to precise architectural rules—the result of a delicate compromise between aesthetico-political norms, and functional demands. Subsequently, it was subjected to a long journey through time, which marked its slow passage with a stratification of events. Some were inflicted suddenly and traumatically, others through very extended processes of chemical exchange. The monument that has reached us today is all of this—an ensemble of different information, recorded on a worn object in an extremely delicate equilibrium stubbornly threatened by man's race toward evolution.

It is necessary to clarify the above to introduce a basic concept in the methodology employed by the *Centro di Conservazione Archeologica* in this intervention: conservation intervention is understood as the healing of the artifact and the preservation of the information contained therein. This presupposes that the information itself will provide useful knowledge for the planning of the actual intervention.

This concept was put into practice by means of scaled drawings of the surfaces of the monument to 1:10 and 1:20 scale (*Figs 2, 3*).

It was in this first stage that we appreciated the complexity of the condition of the monument surfaces; we came up with a range of horizontal strata incredibly rich in information which had been marked on the artifact in the most disparate of forms. Just as, in a stratigraphic excavation, the archaeologist identifies certain sets, records them, interprets them, and then removes them, so in the intervention on the monument the conservator fixes the group categories, records them according to a specific methodology, interprets their meaning and draws from them the information necessary to continue the intervention. Only then does he proceed to operate directly on the surfaces, modifying (hopefully for the better) the present condition of the material.

[1] Law 92/81 for the protection of the archaeological and monumental heritage of Rome. The director is the architect Giangiacomo Martines from the Archaeological Superintendency of Rome.

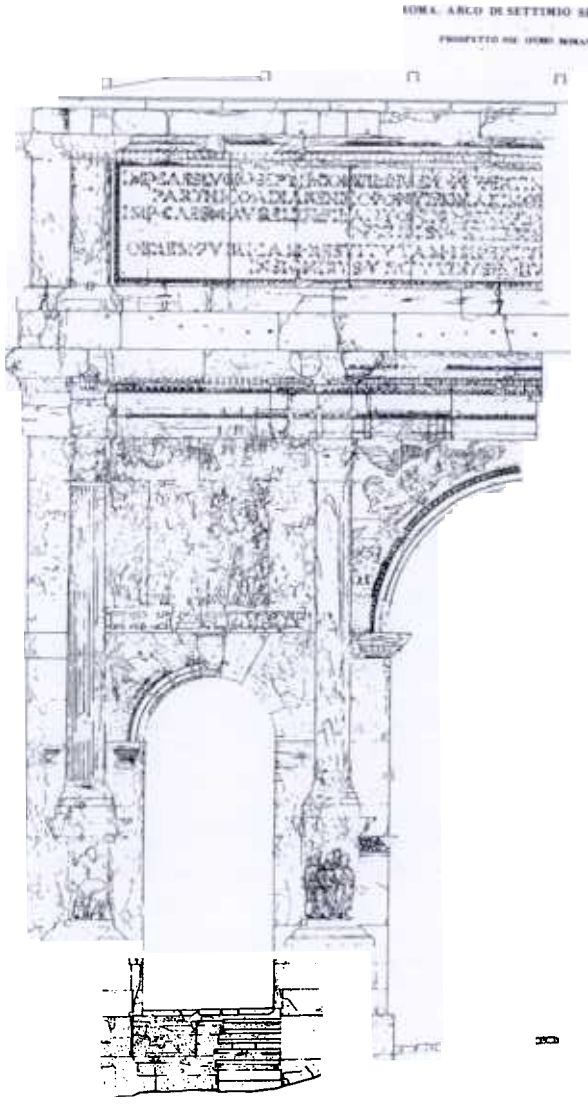
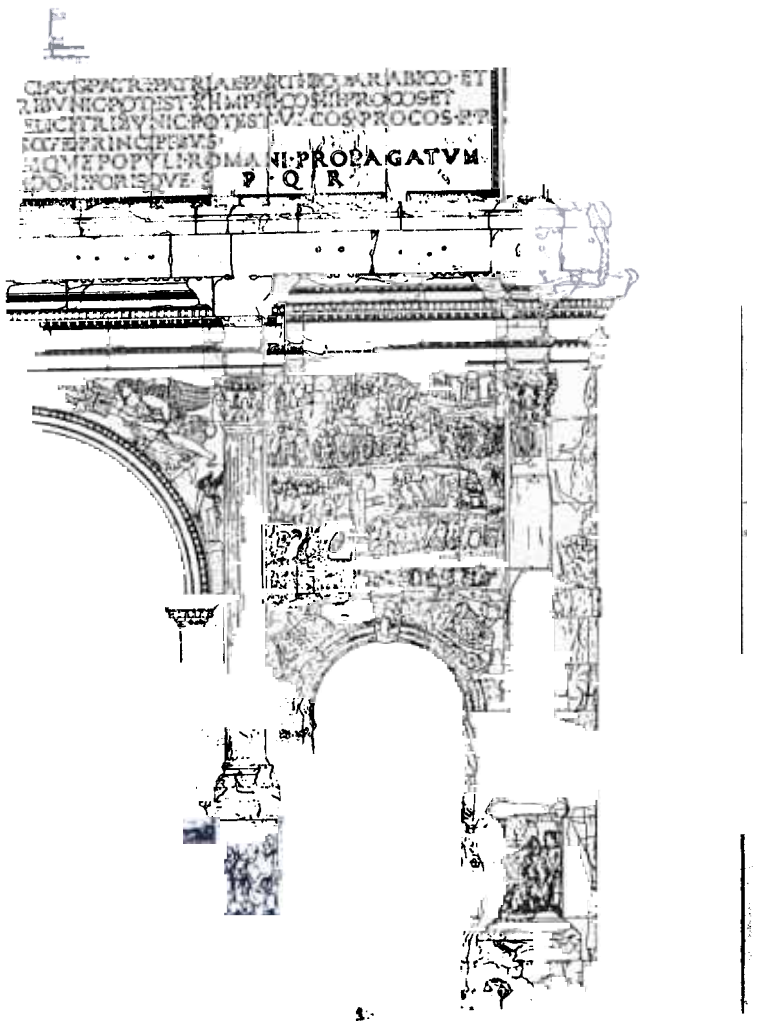


Fig. 2. The Arch of Septimius Severus on the forum side (S-SE).

. The Arch of Septi
Severus on the Capi
ı side (N-NO).



Thus the traditional opening ceremonies of the restoration intervention, such as the preliminary general cleaning of the surface, are replaced by a slow, laborious, and undramatic task of surveying and studying, as well as a detailed process of diagnosis and planning.

Having established the above, the problem became that of acquiring an appropriate methodology. Thus we had to test an actual technique for the stratigraphic reading of the surfaces. After a number of attempts, we obtained results which, although presently being used on other Roman monuments, are still experimental, and therefore still being modified and perfected.

The main principle employed was that of a direct, close-up examination, transferring the information on to scale drawings. Using the scale drawings made earlier as a base, we drew up topographical maps analyzing the state of the surface of the monument. All the elements which, with a complex play of interrelations or through simple overlapping, accounted for the condition of the monument were grouped in categories according to criteria of similarity. They were then marked graphically indicating their exact placement.

Thus we completed what we termed 'the diagram of the state of conservation', divided into various plates to 1:10 and 1:20 scales, illustrated in colour and black and white. We have included the section relative to the southern half of the arch on the forum side (S–SE). The two reduction scales used were chosen according to the use intended and the type of surface being represented. For decorated or sculpted architectural surfaces, or for detailed studies referring to sample areas, it was considered appropriate not to use a reduction higher than 1:10. For general plates relative to extended surfaces or full views, we used a 1:20 scale, considered an appropriate compromise between a sufficient view of the detail and a good overall prospect.

The copies in colour and in black and white met different needs; the former made for an easy and immediate reading, while the latter was simpler and less expensive to reproduce.

The diagram in *Fig. 4* represents the state of conservation related to the previous restoration and the metal parts on the surface of the monument. The different types of metals (iron, lead and bronze) are identified, and the original ones are marked.

Fig. 5 indicates diagrammatically the sections where the original surface has fallen off. A distinction is made for parts which involve a structural alteration such as cracks or broken-off fragments of the cornices. This distinction is very helpful in the planning of the intervention because it allows the differentiations between damage which, from the conservator's point of view, is defined as inert (the breaking off of a figured surface) and the damage which is still active (the falling of a fragment of the cornice creates an irregular flow of rainwater setting off extremely active processes of alteration).

[2] There is a reason for the choice to perform this manually, when other methods could produce the same graphical result in less time and with less money. The illustrative plates are only one of the desired results and not even the most important. The true objective of this operation was to develop a close relationship with the surfaces of the monument. This helped to identify difficulties which we would later attempt to resolve by other means. Thus it was not an intervention to confront problems as yet unknown, but rather a stage of reconnaissance to identify the problems as well as to suggest further directions for analysis, and design the methods of study to be employed.

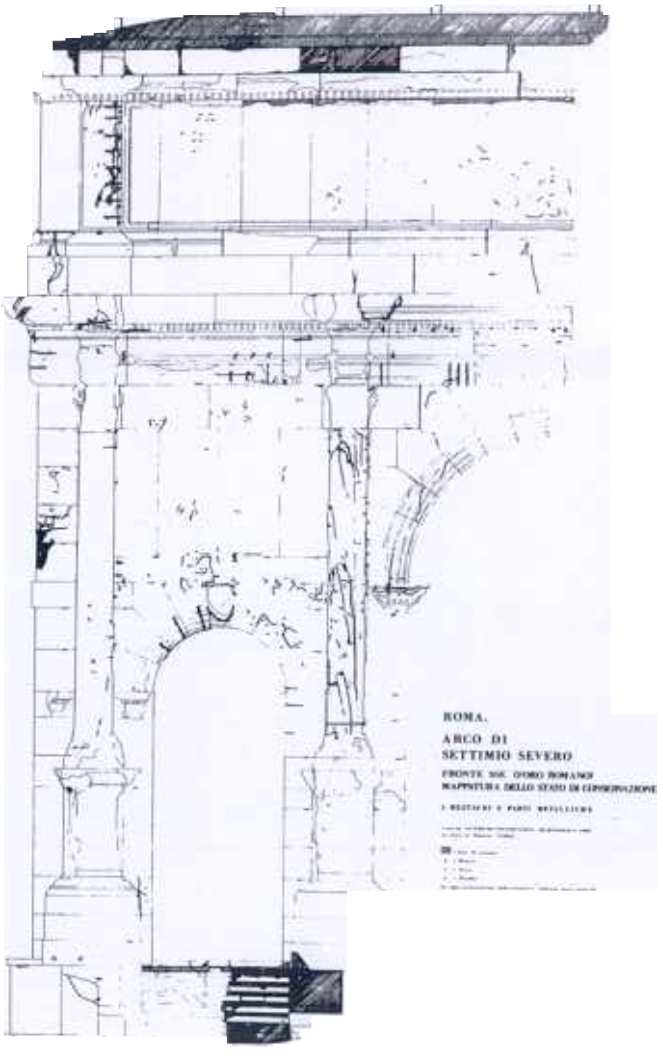


FIG. 4. Diagram of the state of conservation. Restorations and metal pieces.

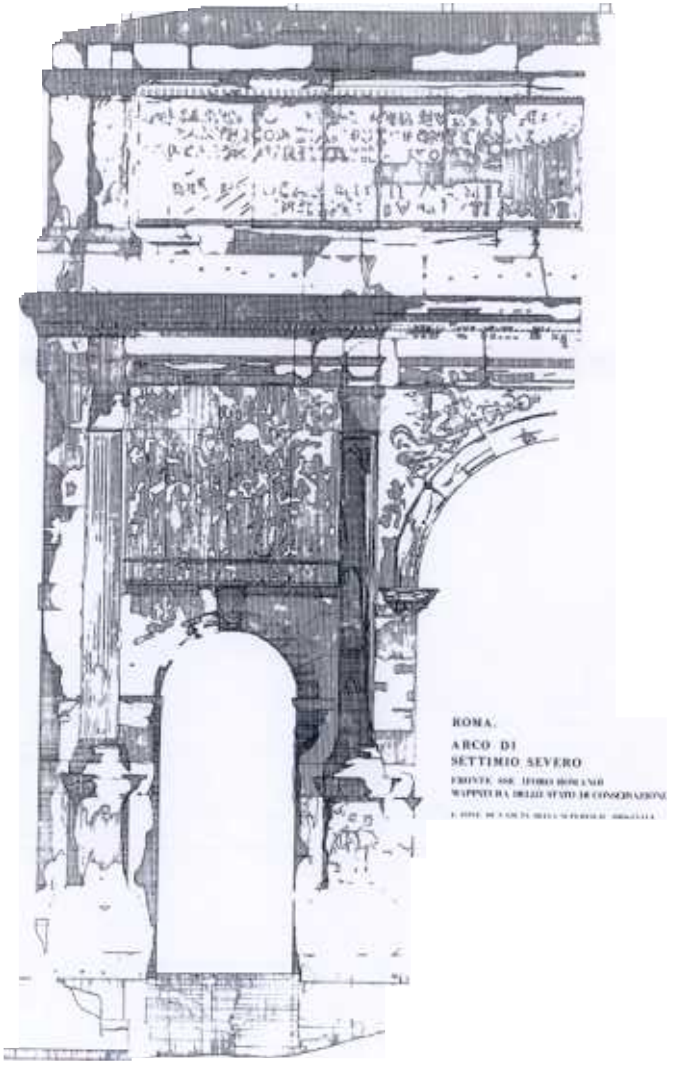


FIG. 5. Diagram of the state of conservation. Loss of original stone with or without structural alteration.

This figure, with its whole picture of data, allows a precise estimate of the irretrievable damage suffered by the surfaces due to the loss of original material. In the case of the southern side (forum side) shown by the diagram we are faced with damage involving almost 90% of the entire stone surface.

The diagrammatic representation in *Fig. 6* is concerned with the presence on the surfaces of black crust and coloured protective coating. The black crust[3] is the product of the chemical reaction between the stone and acid substances contained in the atmosphere. It is an extremely mobile and unstable element, which then grows (with the continued reactions with the stone and with the accumulated atmospheric particles), and then falls off (either because of wind action or rainwater) causing a continuous loss of original material.

In drafting this diagram as well as those following, we used an extremely useful tool: the standardized symbols for portraying forms of alteration of stone. This convention, as well as allowing a theoretical synthesis of the innumerable forms in which the same type of alteration may manifest itself, also made it possible to extend the present methodology to other monuments and made our report accessible to other scholars.[4]

The so-called coloured protective coatings are extremely thin coats, primarily made up of calcium oxalates and carbonates. They often overlap on the stone surfaces and range in colour between straw-white and dark-brown. At the moment they are still the object of studies which are followed with great attention due to the frequency with which the layers are found on Roman monuments and the implications of a conservation nature attached to them (*Fig. 6*).

Fig. 7 illustrates the various forms of deterioration of the marble which characterized the surfaces. These forms are created by varied types of alteration which, in combination, mark the extent of the deterioration.

In the case of the southern face of the Arch of Septimius Severus we find exfoliation, disintegration, and pulverization.[5]

In general, the causes of these types of decay are by now well known. For example, we know that there is no single agent of decay and that instead it is an ensemble of factors responsible for such disasters. Factors range from neglect to atmospheric pollution, from climatic factors to biological damage, including man himself, and many more.

Fig. 8 shows the surface movement of rainwater, taking into consideration the areas hit directly by rainfall; those that are subject to an altered run-off (as compared to the original state of the monument); and the areas hit by constant dripping.

In the introduction the instrumental value of the figures was mentioned, this transcends the role of simply recording the condition of the surfaces of the monument. The type of information deduced from an analysis of the panels and from the experience acquired in the process of

[3] Normal 1/80, *Alterazioni macroscopiche dei materiali lapidei: lessico*. CNR–ICR, Istituto Centrale del Restauro, Roma, 1980. 'Black Crust: the product of a superficial transformation of the material. It is visibly distinguishable from parts below due to its morphological characteristics and often due to its colour. (An example is black crust that includes powders and carbon products from pollution). The chemical and mineralogical characteristics are totally, or in part, different from those of the material from which the crust is derived and from which it can detach itself.'

[4] Normal 1/80, *op. cit.*

[5] Normal 1/80, *op. cit.*: 'Exfoliation: deterioration which manifests itself in a rising, followed by a detachment, of one or more thin superficial parallel layers called leaves. The single leafs are of uniform width, generally around 1 mm thick. They are made of both apparently intact as well as altered material.' 'Disintegration: an advanced stage of decohesion, characterized by a detachment of granules and crystals under minimal mechanical pressure; it involves a notable worsening of the original mechanical characteristics and a notable increase in porosity.' 'Pulverization: deterioration which manifests itself in the falling, even spontaneously, of material in the form of powder.'

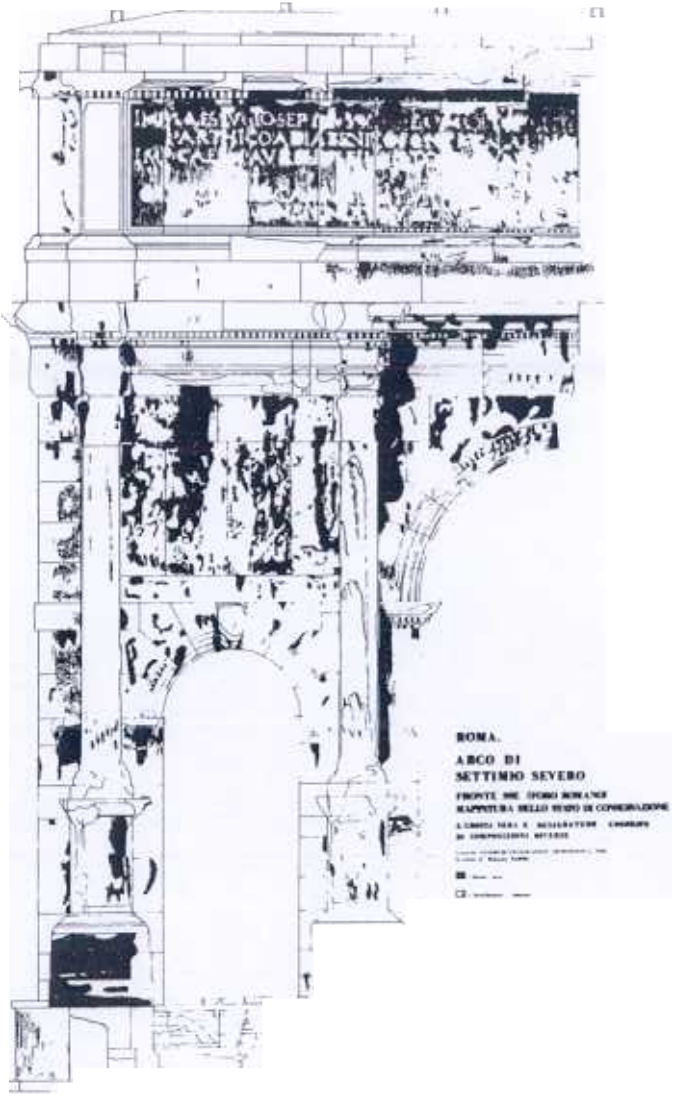
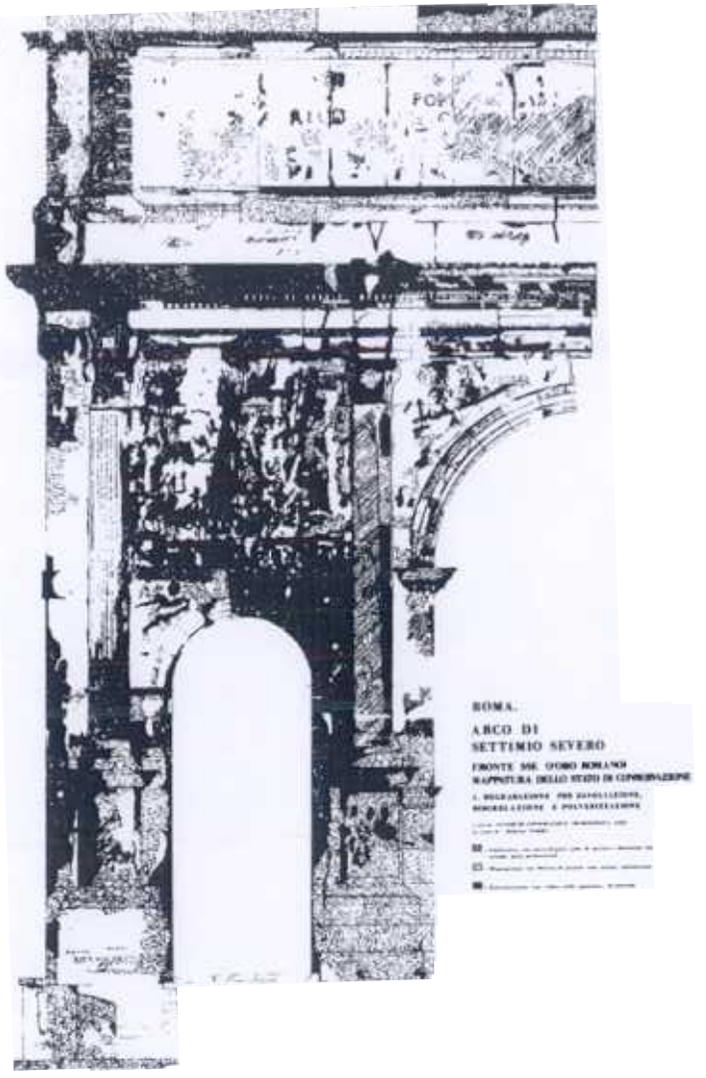


FIG. 6. Diagram of the state of conservation. Black crust and coloured protective coating.

FIG. 7. Diagram of the state of conservation. Damage by exfoliation, disgregation and pulverisation.



8. Diagram
of conservati
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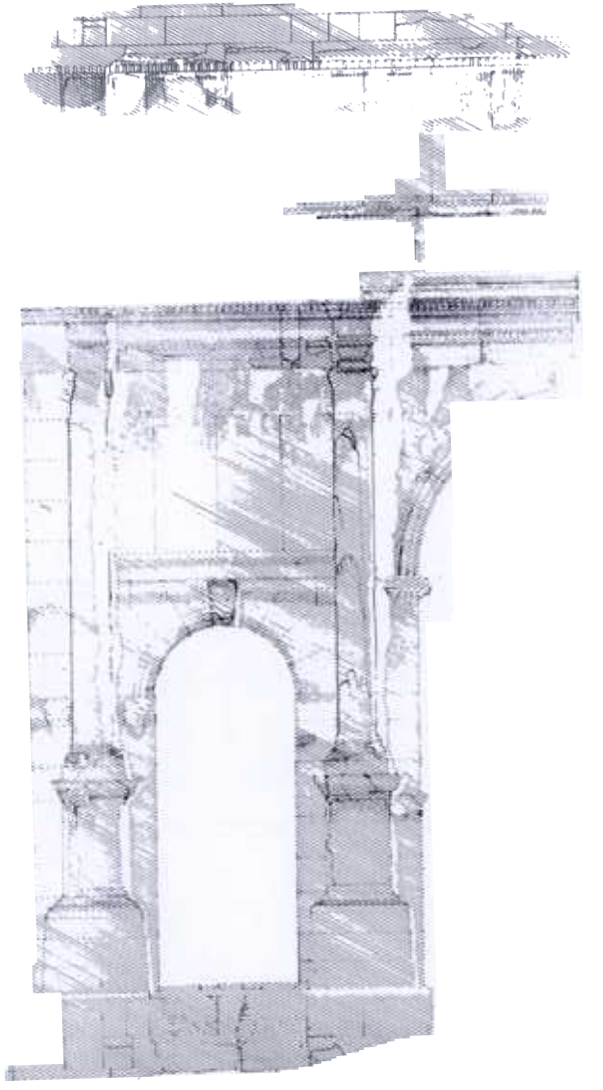

recording them is outlined. This information can be of use in understanding the monument and in planning the restoration intervention.

First, however, we would like to mention the parallel work which took place in libraries and archives. We are referring to the systematic collection of available historical, documentary, and illustrative information. The results were varied—while we were able to collect illustrative documentation (prints and drawings from the fifteenth century on) of great value, very little was found in the historical field and even less in the documentary. The purpose of such research is self-evident: it is to serve as an aid to the interpretation of the indications taken directly from the surfaces of the monument. However it often proved of no help, as in the case of *Fig. 4* where the almost total absence of precise and detailed documents denied us any possibility of interpreting and dating directly the accumulated restoration interventions of the past. Thus we had to make do with the little information drawn from the iconography and with having to operate directly in relation to the present materials. Such was the case with the metals; hence the division into different types from which to plan different types of interventions (removal and replacement of the parts, or else leaving in situ and stabilizing the materials).

From the residues of original metallic pieces we gathered knowledge of the construction techniques (the methods and the order in which the blocks and the structures were erected) and information on the original decorative superstructures (acroterial figures).[6]

Two elements help us to understand the meaning of this structure. The first is the stylized motif of cross lines which is similar to classical Roman metal balustrades shown (at the height in question) on the coins of Septimius Severus and Caracalla (*Fig. 1*). The second is the observation that the cornice can be reached from the ground through a long interior passageway which connects it with the interior areas and with the system of stairs connecting the terrace of the attic to the base of the southern pylon. Thus it seems clear that the designer intended to make the upper surfaces of the monument accessible, both through the terrace on the attic and by means of a cornice (accessible and with a balustrade) at the foot of the inscription. This was important because, in the case of special restoration interventions, or with normal maintenance operations, the height of an eventual temporary scaffold was reduced by almost 30%. This represented a saving of almost 50% in scaffolding.

This is not intended to suggest that the terrace and the cornice around the attic be restored to their original use, since the level of technology achieved now allows us easy movement over the external surfaces of the monument for any maintenance. Instead we wish to underline how this concept of maintenance was well-rooted in ancient practice and how it should be restored today to historical culture and forcefully reintroduced into modern conservation practice.

Fig. 5 not only allows an immediate estimation of the quantity of damage on the surfaces but also provides an interpretative key for the following figures.

[6] This last point provided an unexpected development in the interpretation of some apparently secondary structural functions. On the external edge of the large cornice which circles the monument at the base of the attic, and, correspondingly, on the vertical surface above it, there are numerous holes filled with residues of bronze and lead, creating a continuous series which circles the outside of the cornice and surrounds the whole monument.

An example of this is the relation between *Figs 5* and *8*. The recurring relationship between areas of irregular rain run-off and areas where a structural element has fallen off (such as a cornice) suggests the existence of an original system for rainwater disposal. Such a system was made up of various cornices arranged by the designer to regulate the quantity of water present on the surfaces and to prevent it from collecting on the lower sections of the monument. In fact, each facade is divided into three horizontal sections, separated by protruding cornices. Thus the one above the inscription directs the accumulated water from the terrace on to the cornice below at the foot of the attic (the one we discussed earlier in relation to the balustrade); this cornice then collects the water fallen from the surface of the inscription and again channels it below, and so forth. Thus, at every level of the surface there was an equal amount of water, and dangerous accumulation and dripping was avoided.

Today the situation is quite altered. Precisely because of the alteration of the original drainage system we find in the lower section of the monument a quantity of water equivalent to the sum of all the water gathered in the higher sections; this causes serious chemical and mechanical damage to the stone surfaces.

This information is an important reference point in designing the restoration and maintenance plans, and should be tackled precisely. The purpose of this study is to identify the causes behind the disastrous condition of the arch's surfaces, and act accordingly.

Fig. 6 illustrating the presence of black crust and coloured protective coating, shows us (cf *Fig. 8*) how the black crust appears repeatedly in areas not affected by an altered run-off, and (cf *Fig. 5*) how the crust is present where there has not been a loss causing structural alterations. The phenomenon seems contradictory: intact cornices (therefore healthy original structures) = black crust (therefore decay). This is explained by the fact that areas without black crust are not necessarily more stable; in fact they indicate the contrary. These areas are actually deteriorating more actively. Although the surface conditions of decay (sulphurization) are the same, in these areas the process is taking place more rapidly and not allowing for relative slowing-down which is responsible for the formation of the black crust. The elements that create the crust are immediately removed (by run-off water, wind action, and other causes) exposing the surface to new and unending deterioration.

The coloured protective coating has been a considerable historico-interpretive problem in recent years. A complete explanation as to what these differently pigmented thin layers might be is still a long way off. The only certainty is that the documentary sources once again were of little help, and thus no great surprises are expected from that approach.

For our part, we tried to provide an explanation by direct field work.

We carried out parallel studies on two monuments with similar historico-topographical situations: the Arch of Septimius Severus and the Temple of Vespasian. Although we cannot speak of definitive results, we can outline the present state of information nevertheless.

Fig. 6 allowed a chronological comparison with the recorded burial of the monument, drawn up from direct observation of surface marks and from illustrative sources. This was supplemented by the recording of datable marks (graffiti, drawings, interventions) which could be related to the protective layers themselves. All this allowed the drafting of a chronology which, although approximate, has yielded interesting information: we learned that at some point before 1669 one, or both, monuments were completely coated with a light coloured straw-white layer; later they were painted red; finally before the nineteenth century they were once again coated with one or two layers of straw-white, slightly darker than the first one.

It is evident that such information will always remain generic. Therefore we will approach the problem from another angle—is it possible to distinguish between layers placed directly on to the marble and those which were laid on top of other coats? If this can be done, is it possible to observe the condition of the marble at the time that the coating was applied?

All this can be done with the help of analytical techniques (cross sections), as well as simple close-up direct observation with a magnifying glass.

The results were interesting: all the above-mentioned cases were found to be present; among others, there was a layer painted on to finished marble, perfectly conserved; it even still had tool marks and measuring lines on the surface (*Fig. 9*).

Thus the question of assigning these layers to the Middle Ages, the Renaissance, or the end of the nineteenth century should be replaced by another question; that is, whether these interventions were the product of a new practice created at some time in the second millenium or whether they were simply a copy of some ancient practice intrinsic to the very idea of Roman architecture. This issue will continue to be discussed but as far as we are concerned we already believe we have an answer, or rather we think that we have acquired the necessary information for our restoration programmes.

In relation to this a few words are necessary about the conservative function served by these protective layers on the surfaces of the monuments. Through direct observation, photographic comparisons, and from an analysis of the relevant figures, some areas of the stone surfaces can be identified which, thanks to the presences of the coloured coatings, have been conserved in a relatively intact condition. The explanation is in fact very simple: the coating, inserted between the marble and the environment brings upon itself the process of chemical

FIG. 9. Trajan's Column. A thin coating is still present on the surface of many Roman monuments, preserving ancient measuring and tool marks. This is the case with some loricated figures on Trajan's Column; the sharpness of the tool marks and the perfection with which the details are rendered prove that the coating was layered over at a time when the carved marble surface was still perfectly intact, almost fresh from the sculptor's hands. Whether this was a definitive form or just a preparation coat before an eventual colored painting of the surfaces, is a question that cannot be answered due to the total absence of secure evidence.

exchange. It absorbs the physical stresses (climatic changes, rain, wind, sunlight, etc.) and the chemical reactions (the result of an exchange between highly reactive unstable substances present in the atmosphere and the artefact immersed in the environment).

This is what is termed the 'sacrificial surface',[7] i.e. a surface which reacts to the environment and deteriorates, thus preserving the underlying marble; once there is none left, this material is then re-applied. It is useful to emphasize that in the case of the Arch of Septimius Severus, as with many other Roman monuments, the sacrificial surfaces operated with very great discretion. In fact very few people noticed that part of the monument's surfaces normally held to be 'naked marble' were actually

[7] Giovanni Urbani, 'La scienza e l'arte della conservazione dei beni culturali,' in *Ricerche di Storia dell'Arte*, n. 16, 1982, 7–10.

covered with these layers. For instance, with the arch, it took the construction of scaffolding to reveal that a large part of the attic's surfaces (the inscription) did not have the proconnesian marble exposed to view but were instead covered by a very thin light-coloured coat which had protected the underlying marble.

Here we have more evidence that would be difficult to ignore at the outset of the practical conservation intervention. When we reach this point we will finally be faced with forced choices, dictated by the obligation to operate with efficient and long-lasting interventions. This should break the custom of piling one partial and temporary intervention over another. Instead it should reintroduce practices, such as the constant maintenance of the surfaces, the ancient origins of which had been temporarily forgotten.

In relation to *Fig. 7* we mentioned that the causes of the deterioration of stone surfaces exposed to the elements are well enough known. Yet the microscopic mechanisms regulating these phenomena are not yet sufficiently understood; above all the time spans in which the processes evolve are not clear. An understanding of these time spans is extremely important if we wish to programme any efficient plan to follow up on the actual restoration intervention.

Help in this area came from photographic documents dating from the mid-nineteenth century up to the present. Although limited to general observations only rarely well-defined, it is possible to draw valuable information from these documents, such as, for example, the fall of marble fragments (figured reliefs or cornices), the presence of black crusts and protective layers, the movements of rainwater, and so forth (*Figs 10, 11*).

However, the true interpretative key for these mechanisms is actually *Fig. 7* or rather the corresponding diagrams that will be recorded a few years from now. In this way it will be possible to follow the evolution of the categories of deterioration and study single behaviours in addition to the interrelations and the time spans; the external related parameters (environmental values, levels of air pollution, normal mechanical considerations, and unusual vibrations, seismic waves, and others) will also be kept in mind and will be fully recorded.

With this procedure we believe we have overcome one of the major obstacles threatening not so much definitive comprehension of the above phenomena but rather the very possibility of a scientific investigation. We are speaking of the habit, or rather the custom of approaching works of art, ancient artifacts, and monuments with purely subjective judgements and completely abstract evaluations, even though we are faced with extremely tangible entities such as the state of conservation, or rather the state of deterioration, of an artifact.

With the diagram of the state of conservation we tried to replace all this with an objective calculation of the forms of alterations present on the

FIG. 10. Askew Collection. Arch of Septimius Severus. Southern figured panel, S-SE face. 1935. From photographs such as these it is possible to study, with a certain amount of approximation, the ways and the time-spans in which forms of deterioration manifested themselves over the last forty years.

FIG. 11. Arch of Septimius Severus. Southern panel, S-SE face. Present reproduction (*photo by Mecci, 1983*) of the area shown in *Fig. 10*. Besides more minute observations one can identify, from this photographic comparison, even microscopic damage, such as, for example, the fall of the head of the man up in the left (compare with *Fig. 10*). This is a small example of how short the life-expectancy is of sculptures on exposed Roman monuments unless we intervene immediately.

surfaces of the monument. This was made possible by the mathematical development of a 'topographical map' of the deterioration, recorded and put in graphic form.

However, all that has been said so far is limited by the difficulty of managing such a large quantity of information and further efforts will be needed to research and acquire new methodologies. We are referring to the mechanization of the system by recording the data on computers. Some experience has already been acquired in this field, attempting to focus the real demands of the case and to see what possibilities were offered by the sophisticated machines now available.

One result has been the creation of a program which permitted the recording of topographical references by means of direct and automatic numerical transformations. This allows for management, elaboration (calculations, comparisons and analysis) and visual return always in special dimensions.

Thus in the field of archaeological and monumental conservation the possibility of making a technological leap exists. There is no choice but to keep progressing, notwithstanding the large economic and scientific burdens involved.

We have seen how long and tedious the process of acquiring information concerning a monument that is to be conserved can be. The intention of this article was to emphasize this difficulty and especially to stress the importance of such information in the planning of a restoration intervention. Any reader expecting to know how we shall clean the surfaces or what restoration project we have on the drawing board or simply what the much touted restoration programme is, will be disappointed. Such a project is indeed ready, but only in a theoretical form. The experimental applied practice is still missing, and this is fundamental to verify the actual correspondence between diagnosis, project, and intervention, and finally to test the effective applicability with guaranteed results of the programme established.

All this is presently being worked towards by beginning an initial section of restoration involving a limited surface (approximately 60 m^2). Therefore, depending on the results of this experience, we will be able to judge objectively how much of what has been theoretically planned can be effectively put into practice. Only then will it be advantageous to discuss and comment on the results. Until then we will continue working, hoping to be able to communicate as soon as possible our progress and any new results reached.

The drawings mentioned in the article were carried out with help from Andreina Costanzi Cobau.
Translated from Italian by Tom Rockwell.

Resumen

El Arco de Septimio Severo es uno de los monumentos romanos incluidos en el programa de conservación bajo los auspicios de la ley del legado arqueológico-monumental de Roma. Los trabajos relacionados con el Arco se empezaron en 1979 y se dirigen por el autor y por el *Centro di Conservazione Archeologica*, empresa particular relacionada con el estudio, restauración y mantenimiento de monumentos antiguos. El programa actual se centra en el estudio de la estructura, la planificación y ejecución de la restauración, y la planificación y ejecucuión de los procedimientos de mantenimiento.

Las premisas para esta definición son precisas: en los monumentos romanos, no existe separación clara entre el material, el propio objeto y el significado histórico de la estructura; es decir, la información reunida a su respecto. El monumento que ha llegado hasta nosotros es un conjunto de informes diversos, conservados en un objeto desgastado y en equilibrio extremadamente delicado que se ve amenazado por la carrera del Hombre hacia la 'evolución'. Este es el concepto básico en el enfoque actual; la conservación se entiende en el sentido de sanear la estructura y mantener la información que contiene. Esto presupone que la propia información facilitará datos útiles para la planificación de la intervención.

Este concepto se llevó a la práctica mediante dibujos a escala de la superficie del monumento, empleando una escala de 1:10 y 1:20. Con ellas trazamos mapas topográficos analizando el estado de la superficie del monumento. Todos los elementos que, por medio de un complejo juego de interrelaciones o mediante simple yuxtaposición, estaban relacionados con la condición del monumento se agruparon en categorías según criterios de semejanza. A continuación se marcaron gráficamente, indicando su posición exacta. Completamos así lo que llamamos 'diagrama del estado de conservación', dividido en cinco láminas, cada una de las cuales indicaba una de las siguientes características:

1. Restauraciones anteriores y placas metálicas en la superficie.
2. Secciones que han perdido la superficie original.
3. Costra negra y capas protectoras colorantes en la superficie.
4. Diversas formas de degradación de la superficie: exfoliación, desintegración y pulverización.
5. Movimiento superficial de la lluvia.

El proceso de la adquisición de datos como éstos referentes a un monumento resulta largo y tedioso. El propósito del presente artículo (aparte de mencionar parte de la información obtenida) es el de subrayarlo, especialmente la importancia de los datos para la planificación de un programa de restauración.

Résumé

L'Arc de Septime Seévère est l'un des monuments romains inclus dans le programme de conservation découlant de la loi de protection du patrimoine archéologique de Rome. Les travaux pour sa sauvegarde ont commencé en 1979 sous la direction de l'auteur et du *Centro di Conservazione Archeologica*, une entreprise privée spécialisée dans l'étude, la restauration et l'entretien des monuments anciens. Le programme en cours comprend l'étude de l'Arc, la planification et l'exécution des travaux de restauration et la planification et l'exécution des travaux de maintenance.

L'argument pour une telle définition est parfaitement précis; en effet, lorsqu'il s'agit de monuments romains, il n'y a pas de séparation précise entre le matériau, la construction elle-même et sa signification historique, c'est à dire la somme des renseignements que nous avons sur elle. Le monument tel que nous le voyons aujourd'hui représente un ensemble d'informations variées, sur un support usé qui forment un équilibre extrêmement précaire sans cesse menacé par la course de l'Homme vers 'le progrès'. C'est là le concept de base de l'intervention en cours: ici la conservation est entendue comme la cicatrisation de l'objet et la sauvegarde de l'information qu'il révèle; ceci suppose donc que l'information recueillie fournira ell-même des connaissances utiles pour la planification des travaux.

Pour traduire ce concept dans la pratique, des relevés à une échelle de 1 : 10 et 1 : 20 de toute la surface du monument furent établis. Ceux-ci servirent à faire des cartes topographiques de l'état de la surface du monument. Puis, tous les éléments qui, dans un jeu complexe de relations ou par simple chevauchement, influent sur l'état du monument, furent groupés en catégories. Ils furent ensuite notés graphiquement dans leur position exacte. Nous obtinrent ainsi ce que nous avons appelé 'le diagramme de l'état de conservation', qui est divisé en cinq plans, chacun donant l'ensemble des informations dans les catégories suivantes:

1. Restaurations antérieures et plaques de métal en surface
2. Sections d'où la surface originale est tombée
3. Croûte noire et enduits de protection colorés sur la surface
4. Formes variées de la dégradation de la surface: exfoliation, désintégration et pulvérisation
5. Les mouvements en surface de l'eau de pluie.

Le processus d'acquisition de tels renseignements sur un monument est long et ennuyeux. Le but de cet article (en plus du commentaire sur certains des renseignements obtenus) est de souligner ce fait et surtout l'importance d'une telle information pour la planification de travaux de restauration.