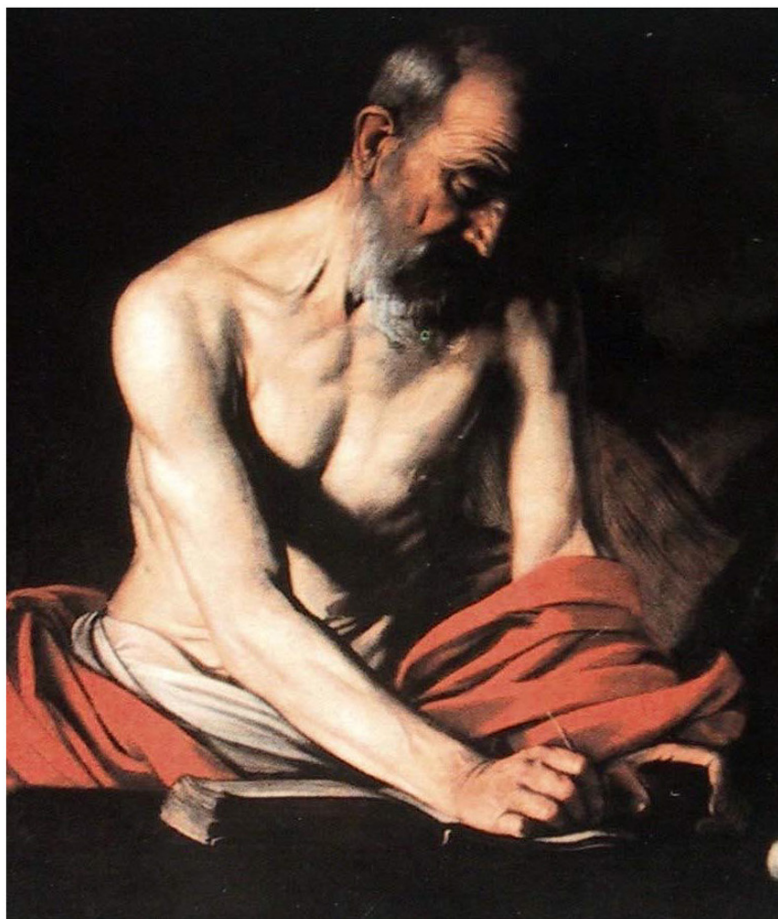


Cesare Brandi

*RESTORATION
THEORY AND PRACTICE*



Edited by Giuseppe Basile



History of restoration and restorers

This book contains material that is protected by copyright and cannot be copied, reproduced, transferred, distributed, rented, licensed or broadcast in public, or used in any other way except for what is specifically authorised by the publisher, under the terms and conditions of purchase or whatever is explicitly required by applicable laws.

Any unauthorised distribution or utilisation of this text violates the publisher's and author's rights, and will be prosecuted under civil and penal law according to the provisions of law no. 633/1941 and subsequent modifications.

Cesare Brandi

RESTORATION
THEORY AND PRACTICE

Edited by Giuseppe Basile



CESARE BRANDI
RESTORATION. THEORY AND PRACTICE
Edited by Giuseppe Basile

ISBN 978-88-98957-01-9
Digital edition

© 2013 F. Provenzani & C. Editore S.r.l. - Palermo - www.provenzanieditore.it
© 2013 Istituto Superiore per la Conservazione ed il Restauro (ISCR) – Rome (photos)
© 2015 Associazione Internazionale per la storia e l'attualità del restauro – per Cesare Brandi
(AISAR – Palermo – www.aisarweb.com)

Cover: Malta, Chapel of Italy: Caravaggio, St. Jerome reading (after restoration)

TRANSLATION: *Dara Jokilehto*
COVER AND TEXT LAYOUT: *Francesco Provenzani*

Since it is impossible to contact all copyright holders, the publisher undertakes to deal with any commitments regarding claims relating to the illustrations.

INDICE

Who's afraid of Cesare Brandi?

Giuseppe Basile pag. 9

GENERAL ISSUES AND PRINCIPLES

Restoration pag. 15

Restoration Today pag. 37

Restoration and Scientific Investigations pag. 42

Investigations and Reversibility of Restoration pag. 55

Sicilian Archaeology pag. 59

The New on the Old pag. 73

The protection of the traditional figurative values
of the Italian landscape pag. 82

OPERATIONAL EXPERIENCES

The Icon of the Madonna della Clemenza pag. 92

The Restoration of the Madonna del Bordone by Coppo
di Marcovaldo in the Chiesa dei Servi in Siena pag. 96

The Restoration of the Basilica Superiore of
S. Francesco in Assisi pag. 108

The Maestà by Duccio di Buoninsegna pag. 112

Restorations of Piero della Francesca pag. 114

The Crowning of the Virgin Mary by Giovanni Bellini
at the Museo di Pesaro pag. 131

The reconstruction of the frescoes of Lorenzo
da Viterbo pag. 135

The *Annunciation* by Antonello da Messina pag. 142

The Beheading of Saint John the Baptist by Caravaggio
in St John's Co-Cathedral of Valletta, Malta pag. 144

The Burial of Santa Lucia by Caravaggio pag. 148

Saint Sophie of Ohrid pag. 150

REFLECTIONS AND EVALUATIONS

Note on the marbles of the Parthenon	<i>pag. 163</i>
More on the marbles of the Parthenon	<i>pag. 171</i>
Regarding the Plasters of the Parthenon	<i>pag. 175</i>

The proposal of reconstruction of the Temple of Zeus

in Selinunte	<i>pag. 181</i>
The Recovery of the Zisa in Palermo	<i>pag. 185</i>
Restoration in Florence	<i>pag. 189</i>
The Restoration of the “Adoration of the Mystic Lamb” by Van Eyck	<i>pag. 193</i>

APPENDIX

Regio Istituto Centrale del Restauro	<i>pag. 206</i>
The Institute as an organisational unit	<i>pag. 210</i>

ILLUSTRATIONS

Who's afraid of Cesare Brandi?

Prior to this edition in English, a selection of Brandi's writings on restoration, collected in 1994 by Michele Cordaro, was published in Italian under the title "*Il restauro. Teoria e pratica*". Subsequently they were published with more or less the same title, first in French (*La restauration: Méthode et études de cas*, Paris, INP – Stratis, 2007) and then in Spanish (*La restauración. Teoría y aplicación práctica* , Editores Pilar Roig Picazo y Pablo González Tornel, Editorial Universidad Politécnica de Valencia, 2008). Since these writings date from after the publication of the *Teoria del restauro*, they were not included in it.

The current selection, made by the writer of this article, meets the basic criterion of the representative nature of the chosen "cases" at an international level, so as to obtain a more flexible instrument and, at the same time, a less dispersive one – without in any way diminishing the depth and complexity of Brandi's contribution over so many years of uninterrupted concentration on the most pressing problems in the fields of conservation and restoration.

In practical terms, the curators of the French and Spanish editions mentioned above took the same decisions and followed the same path ¹, albeit with occasional variants, sometimes of

1

The selection is a sort of practical demonstration, with examples, of the principles contained in the *Teoria del restauro*, as confirmation of the main characteristic of the *Teoria* – that is, the continuous interaction between theory and practice.

For this reason, the chosen texts have been gathered into three main groups corresponding to the "theoretical definition of restoration" ("General principles and problems") and Brandi's practical experience during the years when he ran the ICR ("Tangible experience of restoration") and the critical

considerable significance and, importantly, making some essential adaptations to local requirements.

The same thing was not possible for this English edition, produced by an Italian publisher, as had previously happened with the *Teoria del restauro*, and with the proceedings of the seminar in London and more recently with the proceedings of the study day in New York ².

At any rate, the signs of a radical divergence between the neo-Latin tradition and the English language tradition in the approach to problems of restoration had become evident much earlier, dating back to the notorious spat about the cleaning of some of the paintings at London's National Gallery; and the situation has hardly changed since then, even though the sharp tones of that occasion have no longer been used. One could say that all signs of open "belligerence" have disappeared, not surprisingly since, at the time of the dispute, the English-speaking parties turned down Brandi's repeated invitations for a meeting which would certainly have been lively but also useful for the progress of restoration culture.

This attempt to keep a "low profile" is not entirely disinterested since, at a distance of so many years, Brandi's position seems to be objectively unassailable (and in some cases, even recognised by authoritative figures in the English-speaking

activity concerning what was taking place in Italy in the field of protection and restoration, during the years 1945-1986 ("Diary and critique of restoration").

2

Theory of restoration, edited by Giuseppe Basile, Florence, Nardini, 2005; *Cesare Brandi and the conservation of our Cultural Heritage*, in *Cesare Brandi's thought from theory to practice*, proceedings of seminars in Munich, Hildesheim, Valencia, Lisbon, London, Warsaw, Brussels, Paris, edited by Giuseppe Basile, Padua, *Associazione Secco Suardo - Il Prato*, 2009, pp. 171-220; *Cesare Brandi and the Development of Modern Conservation Theory*, International Symposium, edited by Giuseppe Basile and Silvia Cecchini, Padua, *Associazione Secco Suardo - Il Prato*, 2011

world)³.

The only exception (as far as I know, and obviously at a high level of commitment, but with the aim of burying Brandi's theory and practice of restoration) is the slim volume recently published by Salvador Munoz Vinas, first in Spanish then in English, which once again demonstrates not merely a "total inability to grasp Brandi's theory" in terms of its critical value at the highest level⁴, but rather a prejudicial closure against the values of the humanist tradition, accused of effective subjectivity, compared to the presumed objectivity of the world of science and technology.

At the start of the 21st century, such a position is incredibly "ingenuous" and, apart from all other considerations, does not provide a full solution in practical terms, which should in fact be its main aim.

But, regarding the subject of this note, even more incredible is that the speakers at the above-mentioned meetings in London and New York clearly showed that they have no direct knowledge of the *Teoria del restauro* even though the English edition has been available for more than two years.

Needless to say, at a time when science and technology are increasingly present, it seems that every reference to them must always lead to an advantage.

However, it's not by chance that in recent years the rate of translation of Brandi's *Teoria* into other languages is increasing, and involving cultural traditions that are far removed from European humanistic values; but what is more important, setting up a useful dialogue on methodology or even forms of sharing

3

Licia Borrelli Vlad, *The Elgin Marbles and the "patina controversy" sixty years on* (in *Cesare Brandi and the conservation of our Cultural Heritage*, cit. , pp. 172-181)

4

Marco Ciatti, *Appunti per un manuale di storia e di teoria del restauro*. Notes for students, Florence, Edifir, 2009, pp. 440-441

and collaboration in the most advanced cases, not only at the operational level but also in terms of professional and vocational training (in China, Serbia, Egypt, Morocco, Afghanistan, Iraq, Peru, India) – much more than a mere agreement on a particular chemical formula, behind which one can often spot the hand of powerful western industries.

To end this brief note, I would like to point out the inclusion of a paper dealing with the organisation of work – an aspect of the life of the Institute during the first ten years, with Brandi as director, that is often ignored.

Due to space restrictions, it was not possible to publish the whole paper on the sociology of work by Giancarlo Buzzanca and Patrizia Cinti⁵, but the extract I have included is enough to explain why Brandi's invention seventy years ago still constitutes the only organisational model that is truly functional in the field of conservation and restoration, going well beyond the different cultural traditions with which we come into contact from time to time.

Giuseppe Basile

5

Giancarlo Buzzanca, Patrizia Cinti: *L'Istituto Centrale del Restauro di Roma*, in *L'emozione e la regola. I gruppi creativi in Europa dal 1850 al 1950*, edited by Domenico De Masi, Bari, Laterza, 1989, pp. 281-314

GENERAL ISSUES AND PRINCIPLES

Restoration

As an activity that is, in the end, carried out to prolong the life of a work of art and to partially reintegrate its vision and enjoyment, restoration represents a fundamental aspect of historical-artistic culture and studies. It has practically always existed, in the form of empirical experiences and the artisans' and artists' techniques. In modern times, with the development of critique and technique, restoration has acquired a much more defined awareness of its own means and goals, founding itself greatly on technical-scientific bases, in addition, obviously, to a critical-aesthetic methodology, also linked with the ideals and the cognitions of the various cultural monuments. This has received the contribution of museums, specialised institutes, organisations involved in the protection of monuments, whose work in this sector has assumed a determinant breadth.

The concept of restoration

Generally, what is meant by restoration is any intervention aimed at restoring to efficiency a product of human activity. There will therefore be a restoration relating to industrial artefacts and a restoration relating to works of art: but while the former ends up imposing itself as a synonym of compensation or restoring to a pristine state, the latter will differ from this qualitatively, since the former will consist in the re-establishing of the product's functionality, while the latter, though such a re-establishing may be relevant in certain cases such as with architecture, in the secondary or concomitant goals of restoration, primary restoration is that concerning the work of art *per se*.

But the special product of human activity referred to as a

work of art is thus described due to the fact of a singular recognition which takes place in the consciousness , and only after this recognition can it be considered to differ from other products. This is a feature that is peculiar to the work of art, inasmuch as one does not inquire into its essence, but rather it becomes part of the world of life, hence enters the field of individual experience.

From this premise rises a basic corollary: any behaviour toward a work of art, including restoration intervention, depends on whether the work of art has been recognised as such. Therefore, the quality and the modality of the restoration intervention will also be closely linked to the recognition, and even the restoration phase, which a work of art may have in common with other products of human activity, is no more than a supplementary phase with respect to the qualification that the intervention receives due to its being carried out on a work of art. From here, there is the opportunity to except restoration, as restoration of the work of art, from the common exception of restoration, and to articulate its concept not on the basis of the practical procedures in which it is carried out, but in relation to the work of art as such from which it receives its qualification.

Nonetheless, the work of art, though an exception from all other products of human activity, always maintains the characteristic, with respect to things of nature, of being a product of human activity. And as a work of art and as a product, it poses a twofold instance: the aesthetic instance, which consists in the basic fact of artistry for which the oeuvre is a work of art; the historical instance which reflects its emergence as a human product at a certain time and in a certain place. Furthermore, the fact that it is presented to the recognition of a consciousness at a certain time and in a certain place confers the work of art a second historicity which is transferred gradually over time.

At this point, one can give the definition of restoration, as restoration of a work of art, in the following terms: restoration

constitutes the methodological moment of recognition of the work of art in its physical consistence and in the twofold historical-aesthetic polarity, in view of its transmission to posterity.

From this definition it emerges that the imperative of restoration, like the more general one of conservation, (which nonetheless presents itself as a preventive restoration,) turns firstly to the material consistence in which the image manifests itself. It then poses the first and fundamental axiom: one only restores the physical matter of the work of art.

But the physical means by which the transmission of the image occurs are not side-by-side with this; they are, rather, coextensive with it: one does not have matter on one side and image on the other. But however coextensive it may be to the image, this coextensiveness cannot proclaim itself to be wholly intrinsic to the image. A certain part of these physical means will function as a support, for example, as do the foundations for architecture or the board, canvas or wall for a painting.

If then the conditions of the work of art reveal themselves to require, for its conservation, the sacrifice or replacement of a certain portion of the physical means with which it was extrinsicated, the intervention must be carried out in accordance to the demands of the aesthetic instance. On the other hand, however, the historical instance cannot be underestimated and this, in most cases, does not halt at the first historicity, meaning that which was founded in the act of formulating the oeuvre, but must also take into account the second historicity, which begins immediately after the act of formulation and extends up to the moment and the place in which the recognition takes place in the consciousness.

The contemperance between these two instances constitutes the dialectal nature of restoration namely as the methodological moment of recognition of the work of art as such, whence the second principle of restoration: restoration must aim to re-

establish the potential unity of the work of art, as long as it is achievable without creating an artistic or historical counterfeit and without deleting all trace of the work of art's passage through time.

General problems

The matter of the work of art

If one subjectively only restores the matter of the work of art, as postulated in the first axiom, the matter, representing at the same time both the time and the place of restoration, will require a definition which cannot be lent to natural science, but must, rather, be arrived at via a phenomenological route. In this regard, matter is understood as “that which is needed for the epiphany of the image”. Considered in the context of the epiphany of the image, it expresses the separation of structure and appearance.

If one looks at the example of a painting on wood where the support has been so consumed by woodworm that it can no longer offer convenient support: the painting will then be the matter as appearance and the board as structure, yet the division may be even more distinct, since due to its being painted on the board, the painting possesses certain characteristics which could be lost were it to be transferred to another support. Hence the distinction between appearance and structure is much more subtle than one might believe at a first glance, nor will it in practice always be possible to keep them rigidly separate. Let us look at another example: a building is torn down by an earthquake and despite the quantity of surviving elements and authentic testimony, a reconstruction, or anastylosis, is carried out. In this case, the appearance cannot be considered to be a mere external surface of the stone blocks, but these will have to remain stone blocks, not only on the surface. The internal wall structure, however, may be changed to better resist future seismic

shocks, as well as the columns' internal structure, if these are present, or the beams. Such was the case of the reconstruction of the church of S. Pietro in Alba Fucens. The case of the Temple of Hera in Selinunte was the polar opposite of this, where the remains of the columns had been lying on the ground for more than a millennium, worn in a manner completely different to the way they would have been had they still been standing; this made it impossible to put the surviving parts into their original positions. In fact, the remains, corroded and with the part lying on the ground a different colour to that exposed to the sun and the atmosphere, cannot reform the monolithic unity that postulates the column, even though the structure appears to have remained that of old.

In reality, the structure even had to be violently altered with reinforced concrete, thus satisfying neither the aesthetic instance nor the historical, for which the monument should have been conserved in its ruins and in the state it was transmitted in through time.

Many grave and destructive errors were made because the matter of the work of art was not studied in its bipolarity of appearance and structure. So a rooted illusion which, artistically, could be called an illusion of immanence, made it so that marble not yet cut away in a given quarry and marble from the same quarry that had been made a statue were considered identical: though the unquarried marble merely possesses an identical chemical composition, the statue's marble had undergone a radical transformation into being the vehicle of an image, historicised by human intervention, and between its persistence as marble and its being an image, it opened itself to an overwhelming discontinuity. The fact that it is the same material is not sufficient to authorise us to complete an unfinished monument or one that has been tampered with, since the historicisation the matter would acquire in its new use must not be backdated, lest a historical and artistic counterfeit be created.

It is evident that, on the basis of this clarification, reconstructing the Stoa of Attalos in Athens with the same marble the original was constructed aggravates the mistake, while the 19th century reconstruction of some of the parts of the Colosseum in brick merely in order to guarantee the solidity of the surviving parts is a worth intervention abiding fully to the historical instance, though, with regard to the artistic instance, the colour used is too strong. Valadier's solution for the missing parts of the Arch of Titus, however, can be considered to be perfect, chromatically in harmony with the surviving parts and with the use of a different material (travertine rather than marble).

Thus the matter of the work of art is never unique even when the oeuvre is made of a homogeneous material — wood, marble, bronze — but should be studied as structure and as appearance, and in such a case should restoration be planned and carried out.

The work of art as a unity

The second principle postulated for restoration concerns the re-establishment of the work of art's potential unity. Therefore, the concept of unity, with reference to the work of art, demands a substantial clarification. So, given that the work of art should be recognised as unity, what unity should this be: the internal or the total? And if it were the unity of the whole, will this be conceived as the organic-functional unity which characterises the physical world from the nucleus of atom to the man?

First of all, it should be noted that even though the first question appears to concern the essence of the work of art, it actually is a question which is set only *a posteriori*, when the oeuvre is in the world and it is acknowledged by a consciousness. Only then, especially due to having to carry out a technical intervention such as restoration, that the problem arises of whether the work of art should be attributed the unity of the

whole, the true unity or the unity of the total. If the work of art were indeed not to be conceived as a whole, it should be considered as a total, and consequently be made of parts: this would be equivalent to repositing the geometric concept for the work of art, which was refuted by Plotinus with regard to Beauty. But the work of art may indeed present itself as being made up of parts and, as with polyptychs, the parts may even be physically separated from each other, as they were originally conceived as being separate. But, in this case, one must inevitably come to the conclusion that the parts are not truly autonomous, that their partition has a value of rhythm and that, in the context, the individual value is lost and the parts are merged and reabsorbed into a single oeuvre. Otherwise, if the parts all remained on their own, being only physically adjacent, the resulting oeuvre would be a sylloge, and the assemblage will merely have a historical value, but no aesthetic validity.

It then seems necessary to mention that the special attraction the work of art exercises on its parts, when it is composed of parts, is already an implicit negation of the parts as constituents of the work of art. But let us consider a work of art which, much more than a polyptych or an article of jewellery, is composed of parts which have no particular value in their form when considered individually, but are merely, at the best, source of a generic hedonism linked to the beauty of the material, the quality of the cutting, etc. Let us look at the most extreme example, i.e., mosaic tesserae, and the stone blocks of a construction. Without now going into the rhythmic value, which would be a return to the essence, what remains, from the station point assumed that is that of the reception of the work of art, is the mosaic tesserae and the stone blocks are just as inert and hold no trace, or perhaps barely the faintest trace, of the unity in which they were cemented by the artist. Therefore, the mosaic and the construction made of stone blocks, the case which most eloquently show the impossibility of the work of art to be

conceived as a total, when it should realise a whole.

And yet, this unity of the whole, which must be attributed to the work of art, cannot be further conceived along the lines of functional or organic unity in the world of nature, which can be tested and linked to universal laws, as the work of art is every time closed in on itself and cannot be tested but only contemplated. Thus, if an animal is missing a limb, or is mutilated or deformed, it is only the image that is seen. A Turkish Angora may, in reality, have a blue eye and a green one, and only when it is seen from the side may one assume, based on statistics, that the other eye's colour is the same as the visible one's, but the other eye of a painted profile of a Turkish Angora will not be the same colour or a different colour, it simply does not have the other eye, because in the painted image, the cat persists merely as a semantic value the image conveys, not in its organic-functional unity by which a cat has two eyes.

The above propositions take on a fundamental importance namely for restoration, as they establish the insurmountable limits for the very intervention of restoration and guarantee at the same time the extension of legitimate intervention.

It can, in fact, be deduced that if the unity which is due to the work of art is that of the whole and not that of the total, even though it is physically shattered, it will have to continue to exist potentially as a whole in each of its fragments, and this potential may be demanded in direct proportion to the surviving formal trace of the fragment.

Secondly, if the form of every single work of art is indivisible, where the work of art is materially divided, one may attempt to develop the original potential unity each of the fragments holds in proportion to the formal survival which can still be recovered from them.

With these two corollaries, one denies the possibility of intervening "by analogy" on a work of art that has been mutilated and reduced into fragments, because the process by

analogy would demand, as a principle, the equiparation of the intuitive unity of the work of art to the organic or functional unity with which one thinks of existential reality based on experience.

Consequently, the restoration intervention aimed at finding the original unity, developing the potential unity immanent in the fragments, must be contained to carry out only the suggestions implicit in the fragments themselves or elected by authentic testimonies of the original state of the oeuvre. But such an integrative intervention naturally falls under the aesthetic instance and under the historical one, which, in the reciprocal contemperance, must determine the moment in which the intervention will have to be stopped and the way to temperate it in order to avoid both an aesthetic offence and a historical counterfeit.

On the necessity of this contemperance, three fundamental principles are founded. With the first of these, it is demanded that the integration must always be easily recognisable. Therefore, the integration must appear invisible at the distance at which the work of art should be viewed, but immediately recognisable, without the use of special equipment, as soon as one moves closer to the oeuvre. The second principle links back to what was said of the matter of the work of art, that is, that this is irreplaceable only when it directly collaborates for the figurativity of the image, inasmuch as it is aspect and is not entirely structure. Lastly, in the third principle, one prescribes that no restoration interventions must render impossible, but rather facilitate any future intervention. There remains, however, one case which is not automatically subsumed by the three aforementioned principles, inasmuch as it is the case in which, or for an oeuvre's state of extreme fragmentation, or for a prevalence of the historical interest over the aesthetic, one prefers not to arrive at any completion. In other words, one considers the issue of lacunae. It is evident, in fact, that even

forgoing the development of the residual figurativity of the image, it is unlikely that a mutilated work of art could be left in the state in which it was delivered by the tradition of the years. Thus one poses, outside the re-establishment of the potential unity of the image, the problem of lacunae.

The problem of lacunae

This problem, too, is only applicable with regard to the fruitor of the work of art, or rather, it is specifically the problem of the historical reception of the work of art, without modern intervention, or minimum intervention.

A lacuna, for a work of art, is, phenomenologically speaking, an interruption of the figurative fabric, as the interruption in the text of an oeuvre that has not been wholly translated. But the difference a lacuna in a work of art and a lacuna in a text is that the lacuna in the work of art takes on an importance of its own, like a negative figurativity. In fact, the lacuna will have a shape, though accidental, and may also have a colour, if it is an interruption only with regard to appearance. For example, if it is merely the falling off of the pictorial surface or the marble surface of a building. As such, with the conformation (or even with the colour) which is exhibited, the lacuna enters the figurative fabric as a figure with respect to a background and instantly pushes the figurative fabric into the background. Here the mutilation of the image is joined by a devaluation intrinsic to the image making even the intact parts suffer for it. From having confusedly intuited that which here is exhibited in terms of *Gestalt-Psychologie* derived the first empirical solution of the “neutral tint”, when, in other words, imaginative or analogical integrations were rejected. With the neutral tint, there was an attempt to extinguish the front row emergence of the lacuna and an attempt to mute it with a tint as devoid of timbre as possible. The makeshift solution was honest, but empirical and

insufficient.

It was, in fact, easy to object that there is no such thing as a neutral tint, that any presumed neutral tint would actually influence the chromatic distribution of the painting, in which any colour is not valuable on its own for its own sake, but in the chromatic context it is inserted in. The solution could not start by choosing a colour, but should be based on the spatiality of the painting, as in the relegation of the painting to the background, which would determine the lacuna, it was necessary to make it so that the lacuna became perceived to be in the background of the painting.

It wasn't therefore a matter of extinguishing the lacuna or diluting its margins, which was the worst solution of them all, in which one would dilute the whole surviving painting, but there was a necessity of choosing, with respect to the chromatic context the lacuna was set in, a tint which would not push forward, but rather move back and, where the statics of colour allows, set a lower level to the lacuna with respect to the surface of the painting. In this way, without the deception of abolishing the lacuna, one makes it so that the lacuna is not projected to the front and does not have place in the pictorial context: it symbolically remains as the white space of the verse on which the word lies. The solution, on the other hand, with which one re-establishes the figurative continuity of the pictorial context, a solution which must always be recognisable to the naked eye, is similar to the work or the words in square brackets, with which literary philology proposes to re-establish the continuity of meaning in a mutilated text.

The justness and the convenience to perception of the method then suggests which are from time to time extremely simple and fitting, such as the highlighting of the canvas or the original wood in a painting, of the wall structures or the plaster for a fresco, of the warp for a carpet or tapestry.

In which of the phases of the work of art should restoration interventions be carried out

It has already been clarified that the duplicity is the historicity of the work of art, and may now be punctualised more precisely that there are three phases which must be considered for the restoration intervention to be carried out legitimately on the work of art.

The first phase consists in the duration of the extrinsicisation of the work of art when it is formulated by the artist. The second phase encloses the interval which intercedes from the end of the creative process (without prejudices on the point, finished or unfinished, at which the work is abandoned by its author) and the reception of the work of art by our consciousness. Lastly, the third phase consists in the same reception by the consciousness.

In this case, too, the failure of clearly defining the relative moments of the work of art has caused presumptuous, inopportune and damaging restoration interventions to take place. The easiest perplexity to encounter is that which aims to interpret the moment of the work of art with the historical present, in which the artist, the perceiver or both inhabit.

But once the temporality of the work of art has been distinguished into its three phases, due to its being now part of the world of life, such a perplexity becomes impossible. Thus it is clear that in no way can a restoration intervention be reinserted in the moment of the formulation of the oeuvre, backdate itself and mutate from restoration to creation. Such is a “restoration of fancy”. Subtle issues are, on the other hand, raised in the second moment of the work of art's temporality, i.e., when considering the interval between the end of the creative process and the reception of the oeuvre. It would, in fact, appear that this span of time may be incompatible when considering the work of art as an aesthetic object, as it has now become immutable and invariable, but, arguing this point, one would neglect the basic fact of the

physicality of the work of art: such a physicality may be minimal but may never be absent. With regard to the restoration intervention, it is namely this physicality which may undergo particular alterations. But besides this scenario, there is the fact of the alterations and modifications the oeuvre may have been subjected at various stages of its transmission through time.

Both the first and later alterations must be considered in the light of the two instances, the historical and the aesthetic, but they cannot allow the restoration intervention to take place in this second moment, still prior to the present reception. Naturally, it would thus resolve itself in an absurd pretence, as time is irreversible, yet it is the notion at the basis of 19th century ripristinations.

Excluding thus the first and the second moment for the restoration intervention, the only legitimate moment for restoration action is that of the very present of the receiving consciousness. In order to be legitimate, a restoration operation may neither presume time to be reversible, nor demand the abolition of history. Furthermore, restoration action and, for the same need which demands the respect of the complex historicity a work of art features, it must not be secret and out of time, but rather allow itself to be punctualised as the historic event it is, due to its being the product of human artifice and its insertion into the process of the work of art's transmission to posterity. In its implementation in practice, this historical necessity must entail not only the difference of integrated zones, but also respect for the patina and the conservation of samples of the condition prior to restoration.

Restoration issues with regard to the historical instance

While the contemperance of the historical instance and the aesthetic instance constitutes the dialecticity of restoration, nor

can this be legitimately implemented without that contemperance, it is nonetheless necessary to identify the particular problems encountered on both sides in order to evaluate how far the contemperance can take place without arbitration or overpowerment. From the point of view of the historical instance, it will then be necessary to initiate the consideration from the extreme end, i.e., from when the formal seal impressed on the matter has virtually disappeared, and the very monument is almost reduced to a mere residue of the material it was composed of.

The first degree to be considered in the work of art with regard to the historical instance is provided by the ruins. It would, however, be a mistake to believe that the actual norms for the conservation of the ruins could be drawn from the effective reality of the ruins; one does not define a true empirical reality from these, but rather expresses a qualification from the point of view of both history and conservation, that is, one does not merely look at its present consistency, but rather in its past, from which the current presence draws the only value, in itself devoid or extremely poor in value, and in the future, to which it is to be entrusted: as a vestige or testimony of human artifice and as a starting point for conservation action. Ruins will therefore be all that which is a testimony to human history, but under quite a different aspect and bearing almost no resemblance to the original.

This is the only case in which, due to the degradation of the work of art in the ruins, the ruins of something that never was a work of art, nor even a man-made artefact, but which, though a natural element, is linked to a historical testimony, may be assimilated together with the ruins of the work of art: an example of this is the dry trunk of Tasso's oak at S. Onofrio in Rome which is bequeathed to posterity as if it were the ruins of a wooden sculpture.

It is evident that restoration, when carried out on the ruins,

may consist only in the consolidation and the conservation of the material composing the ruins. But one mustn't take for granted the evaluation of when the work of art disappears to become ruins – like the *meta sudans* in Rome – or when the formal surviving vestiges redeem it from being defined as ruins, and allow a restoration intervention not limited to pure conservation. It is debatable, for example, whether it would have been better for the church of S. Chiara in Naples, which was completely destroyed in its marvellous 18th century recreation (not restoration, let that be clear), reappearing, after the bombardments, as an Angevin Gothic church, with extremely grave and irreparable mutilations which could no longer rely even on the survival of analogous architectural solutions, to be conserved as ruins, rather than be made into the form, which can now be seen after the innovative intervention, (neither restoration nor recreation,) it certainly never had. Conservation in the form of ruins would have maintained an infinitely richer evocative efficacy than is possible with the schematics and rigid integrations it was subjected to, that much is certain.

But the crucial problem, according to the historical instance, consists in the conservation or removal of additions and, secondly, in the conservation or the removal of reconstructions. Naturally, while with the ruins one would almost every time refer to the historical instance, in the case of additions and reconstructions, the problem is not just historical but also aesthetic. In any case, the problem must first be looked at from the historical perspective.

From the historical point of view, additions and interpolations on a work of art as simply a new testimony of human action and the transition of the work of art through time: in this view, the addition is not essentially different to that which is the original branch and has the same rights to its conservation. Removal, on the other hand, though is equally an act carried out at a certain moment and is equally part of its history, actually

destroys a document and does not leave visible documentation of itself, and hence could lead to the destruction and therefore the obliteration of an important historical passage to the future and, in any case, the falsification of data.

Hence, based on the above considerations, it follows that the conservation of additions must be considered acceptable, excepting removals. This is the complete opposite of what 19th century empiricism and the ever-returning vandals (see, for example, the recent so-called restoration of S. Domenico in Siena) would advise for restoration.

The patina according to the historical instance

There is, however, one case in which the addition found on the work of art may not necessarily present itself as the product of artifice, that is, that alteration or coating that has received the name *patina*.

The patina does not constitute a romantic conception inserted in the 1800s into tastes for ancient paintings; it is already found as an articulate and clearly-defined notion in the 1600s in Baldinucci's *Vocabolario delle arti del disegno*, [sic, ref. *Vocabolario toscano dell'arte e del disegno*, Florence 1681, reprinted 1976] where it found a natural welcome from artists' studies and workshops. Even prior to the 1600s, it would be arbitrary to assert it was unheard of and that artists did not rely on the changes, ever familiar but never exactly predictable, that the passage of time would subject a work of art to. In some cases, such as with Greek sculpture and painting, some historically documented procedures, albeit unknown "in re", testify that the lowering of tones, the dulling of an overly bright material, was intended, without awaiting the actions of time, in the procedures of the *atramentum* of Apelle and in the *ganosis* of the statues. But having to examine the patina with regard to its

legitimacy or lack thereof for restoration, and not already within certain historical and artistic traditions, from the historical point of view, one must recognise that it is a way of falsifying history in its testimonies, (as are also the works of art,) if these are depured of their antiquity, that is, if the matter is constrained to acquire a freshness, a clear cut, a vehemence that contradicts the antiquity the oeuvre claims to.

No privilege of the matter on the action of the man that created it can be admitted by the historical consciousness, seen as the oeuvre is valuable due to the human action that created it and not due to the intrinsic value of the matter, a commercial value that is irrelevant to the reception of the oeuvre as a work of art.

From the historical point of view, therefore, the conservation of the patina, understood as the conservation of that particular obfuscation that the matter's novelty is subjected to over time and it is therefore a testimony of the time that has elapsed that is not only desirable, but peremptorily required.

The problems of restoration with regard to the aesthetic instance

Posing the same problems, examined in the light of the historical instance, to the aesthetic instance, it is evident that the ruins can only be treated as ruins, and the restoration intervention must therefore be carried out solely with conservation aims and not integration. Hence, at this first degree of restoration action, there can be no controversy between the historical and the aesthetic instances.

The situation changes when one moves to the problem of the conservation or removal of additions and reconstructions, as these very rarely are carried out on ruins, but rather on perfectly vital oeuvres, for which the temptation for ripristination cannot gather much force.

As a general statement, with regard to the aesthetic instance, the addition should be removed. Thus the problem is reversed with regard to that which was recognised according to the historical instance. But the contradiction is in most cases more apparent than real. In fact, the imperative of the removal of the addition cannot be peremptory except where an addition has been perpetrated without a re-elaboration of the entire text, be it pictorial, sculptural or architectural, but rather as an intrusion lacking respect for the monument, purely due to a crude utilitarianism or velleity of fashion.

Wherever the addition or change has been implemented, on the other hand, in such a way as to reforming the previous text into a new formal unity, or constituting a formally elaborated connection conciliating two theoretically discordant figurative elements, the imperative of conservation will be, for the aesthetic instance, just as peremptory as for the historical instance.

Let us look at the example of the façade of S. Maria in Cosmedin in Rome, exquisitely re-elaborated in the 1700s and stolidly deleted when the monument, in its most ancient form, had no priority over the received new form. All the more relevant is the case of the interiors of S. Giovanni Laterano, in the marvellous plastic form bestowed on it by Borromini. An infinite number of examples could be provided, seen as, in most cases, very modest and provincial Romanesque or Gothic architecture has been transformed, from the Renaissance to the end of the 1700s, into monuments of remarkable, or even exceptional architectural value.

Even in the case of a painting or a sculpture, one cannot say the addition or reconstructions should always be removed. For example, one could look at the Madonna del Baraccano by Lippo Dalmasio in Bologna, repainted and completed by Cossa, or the Madonna of Bordone by Coppo di Marcovaldo (Church of Santa Maria dei Servi, Siena), partially repainted about five decades later by a scholar of Duccio di Buoninsegna and, among

sculptures, that of the pulpit of Nicola Pisano in Siena, recomposed, with extremely elaborate additions, by Riccio. All these are cases where removing the additions would be folly, even with regard to the aesthetic instance.

Even in those cases where it seems obvious that one should promote the removal of an addition without any hesitation, such as with the crowns set on the holy images, often with grave material disfigurement with nails and abrasions, one must at times defer the decision. The most typical example is provided by the famous Holy Face of Lucca (S. Martino), the multi-centennial decorations of which are just as part of the image as the blackbirds on Caecilia Metella's sepulchre or in the Arch of Augustus in Rimini. The resulting new, riveting hybrid entities have the right to be respected also with regard to the aesthetic instance.

If one then moves the problem of additions to reconstructions, though one cannot always maintain a clear distinction, there is no doubt that the reconstruction for the large or small dose of arbitrariness and fancy it contains, should be removable, as long as its elimination allows the oeuvre to be returned to its *quo ante* state. Unfortunately, however, this return to the previous state will almost never be possible, whether it is a building or a sculpture, seen as the reconstruction will have altered the points of the ancient context it is connected to, meaning the removal of the reconstruction would leave the oeuvre with a new mutilation, often even more harmful, visually, than the reconstruction. This is especially true with the widespread use, up to the 1800s, of completing mutilated ancient statues with additions and ex-novo elaborations. In order to attach these new pieces, the old fracture would, in fact, have to be re-cut, evened out or even re-adapted to allow a joint, thus the removal of the added piece at this stage would allow that mechanical cut to be appear, doubtless, as a new mutilation, while it had been more convenient to expunge the reconstruction

or addition mentally.

Such was the case for the Apollo Belvedere in the Vatican, and the same would happen if the statues of the pediments of Aegina (Munich, Antikensammlungen) were to be stripped of the pieces added by Thorvaldsen. It was also a mistake to recompose, without using the casts, the Laocoön according to a version conjecturally more adherent to the original concept, since the group, before the last intervention, was that understood in the 1500s by Michelangelo at the Montorsoli and had acquired its citizenship in the history of art.

The patina according to the aesthetic instance

It would seem that, with regard to the aesthetic instance, the conservation of the patina would only be legitimate in one case, namely when the adjustment of the excessive brightness of the colours under the veil of time is explicitly planned for by the author. But limiting the conservation of the patina to these cases, all too rare to be considered anything more than exceptions, would be a grave error. In truth, the problem of the conservation of the patina, aesthetically speaking, should be resolved in accordance to the phenomenology of the work of art.

The key for the solution is offered by the matter composing the work of art. Given that the transmission of the image effectively is carried out by the matter and that the role of the matter is to be the transmitter, allowing the image to reach the spectator; the matter in itself and on its own must never surrogate the image and should always remain subordinate to it. Thus the patina, aesthetically speaking, is that imperceptible, impalpable *sordina* placed on matter by time, which is then constrained to maintain its more modest rank with regard to the image. With this the conservation of the patina is legitimised, also in relation to the aesthetic perspective. Only then, in a second instance, can

one descend from the bare theory to indicate that class of cases in which the patina not only constitutes the deadening of the matter in the epiphany of the image, but actually brings about a chromatic strengthening, as with buildings. It has been over four centuries now since this contribution of beauty to monuments on the part of time was recognised, by poets and painters, who admired the chromatic flux of the patina and which, for example, the costly and disrespectful washing of the Colosseum wished to destroy not too many years ago.

Lastly, one must detect the greatest danger and the greatest difficulty which, for a painting, implies the removal of the patina, so continuously tied to varnishes and veils that it could bring ruin to it, if treated too brashly, as if all that medium-strength solvents removed from ancient paintings should be considered to be an unwanted coating. The uproar raised in vain, unfortunately, concerning the exhaustive cleaning perpetrated by the National Gallery in London on some of the greatest masterpieces of Flemish and Italian painters is about to show the incalculable and irreparable damage that empiricism swamped in false scientism, just as much in the field of restoration as in other areas, can produce.

Preventive restoration

Preventive restoration is an unusual direction which could even cause one to erroneously believe there could be some kind of prophylaxis which, implemented like a vaccine, could immunise the work of art to the passage of time. Au contraire, the term preventive restoration is to be understood as everything which aims to prevent the need for a restoration intervention, meaning preventive restoration is no less important than actual restoration. It is the preventive restoration that the authorities responsible for the conservation of works of art should adopt.

The importance of preventive restoration, as prevention and protection, can be naturally found stated in the definition of restoration, determined in the methodological moment of the recognition of the work of art and not on the basis of the technical procedures from which the restoration intervention is requested.

As prevention and protection of the work of art, preventive restoration branches out into many directions, and the definition of these directions must be deduced from the nature of the work of art. Since the work of art is firstly defined in its twofold historical and aesthetic polarity, the first investigative directive will be that of determining the conditions necessary for the fruition of the oeuvre, both as a work of art and as a historical monument.

Secondly, the work of art is defined in the matter or the matters it is composed of: here, the investigation should focus on the state of consistency of the matter, and subsequently on the environmental conditions, inasmuch as these permit, hinder or directly threaten its conservation.

It is clear, at this stage, that the results, discoveries and scientific inventions in the fields linked to the subsistence of the work of art should all flow together, no less than with actual restoration: these can include research on light and its effects, the choice of light sources, and the same for heat, humidity, vibrations, as well as conditioning, packaging, suspension and disinfestation systems.

In this sense, the list may never be considered final and will require continuous updating.

Restoration Today

There would be so much to say on the restoration of monuments and works of art that it is more worthwhile to keep oneself to the bare essentials. Three fundamental topics should be distinguished: the first concerns the works to be restored; the second, the funds; the third, the methods.

With regard to the first, I do not know even one monument or work of art, whatever it may be (so as to maintain this convenient classification,) that does not need restoration. In fact, this should be understood as the public health service is, not only in that one needs to heal the damage, but also in that it must be prevented. *Preventive restoration* is no less *restoration* nor is it less important than the kind normally intended, in that it is really restoration which ensures the transmission of the oeuvre into the future. Now, no monument, no oeuvre can do without, *a priori*, such a *moment* of restoration. It is logical that here the conscience of anyone, however poorly informed, will protest in dismay. With the abundance of monuments and works of art in Italy, how is it possible to prevent and rescue all of it in its entirety? Therefore an hierarchy from maximum to minimum emergency needs to be made. But here, the undersigned must warn against such easy illusions. In fact, we here face the same problem as with exhibitions, with regard to ranking the importance of the oeuvres, a ranking which unavoidably leads to a classification which is only valid for a certain historical period, in the best case scenario, that is, in relation to the culture of the moment.

One need only think, for the easiest of examples and going back too far into the past, of the alteration which brought not only to awareness, but also the official culture, the trend of the Gothic banned since the Romantic period. Restoration, for the

whole of the second half of the 1800s and the early 1900s, (unfortunately even today for certain areas in the cultural periphery) consisted, with regard to monuments, in tracking down and conserving the most ancient part, that is, going back as much as possible to the first stage, be it Romanesque or Gothic, of the monument. The Renaissance was only just spared, but the Baroque and Rococo were massacred.

A similar discrimination, which now seems absurd to the more enlightened, produced more ruins than the natural deterioration of monuments. Hence, in the implementation of restoration, such a discrimination or any other which is not based on *critical judgement of the work of art* would be senseless or would lead to more ruins.

Besides, one cannot provide for everything at the same time, so defining an order is inevitable, and at first it will have to be based on urgent interventions which can impede the ruin of the monument or the work of art. However, in planning the restoration campaign in Italy with new vigour, it must be made clear that this criterion of urgency is only a contingent criterion, albeit inevitable, and aims merely at first aid. As first aid only reflects the most intensive phase of medical treatment, so a restoration intervention deeming itself satisfied in planning mere first aid interventions would not significantly change the state of ruin or that leading to ruin of the Italian cultural heritage. First aid operations and preventive operations must be planned out jointly from the beginning and must be set in a financial plan for progressive implementation.

And here, naturally, we move to the financial question. It would be absurd to believe that, with a donation of a few thousand millions [of Lire] could resolve the entire issue once and for all. *Once and for all*, it needs be said, is precisely just once and for all time, nothing is solved; the only thing that is *once and for all* is the death, the definitive disappearance of a work of art. But this does not mean that an immediate mass of

funds is not necessary, indeed, it is indispensable, for the work of first aid, as well as to initiate preventive interventions, after which the yearly planning can be greatly facilitated.

But can this necessity truly be understood in Italy? It is doubtful. In Italy there is a capital lack of the political conscience of art: all the governments since the Liberation have given definite proof of this. Political conscience, one could say, which isn't even cultural conscience, which would be asking too much. However, appealing to political conscience means demanding that art be recognised, as it is for the structure of a country such as Italy, equivalent to a prime necessity, firstly to consolidate the moral conscience, and then secondly for tourism. Until art and tourism are continued to be kept separate, as if they were not connected, these actions of political, financial and administrative blindness will persist. Let the politician see art in its tourist-financial capacity, more than in its ethical and aesthetic reality. I am not one to be scandalised by this, but then this dependency, which is extremely close in actual life in Italy, must be taken into account administratively. Even if regarded as a function of tourism, let oxygen be given to art, that is to say – for the ancient art we are talking about here – to restoration, to conservation. But let the absurd not come to pass, that the various tourist agencies receive these few rivulets of money that were meant for art, which has a centenary need for them.

And now we arrive at the third problem, that of restoration methods. As the method of restoration, before being a method, is a network of offices that must apply it, even if, in the phylogeny, it is also the method which determines the network of bodies in which it will be realised.

Now, with regard to the network of bodies, Italy already has a fundamental structure of superintendencies. This support network may be modified in part, but above all it needs to be enhanced, refreshed and developed. Otherwise, without an increase in staff, even a major allocation of funds for restoration

and maintenance would be in vain.

But the increase of staff and better salaries is not enough. One needs to achieve in practice that which is already becoming common parlance in theory: something more than a *charter of restoration* is needed, something which can enjoy strict application for monuments and works of art. This uniformity of methods which, at least for monuments, began its diffusion since before the last war, almost crumbled after the destruction of the war, when regrets and nostalgia became more acute for the destroyed monument, or that which was almost completely gone. Thus abominable reconstructions took place, such that would have attracted scathing criticisms only ten years earlier: reconstructions “as they were, where they were” which are fakes without possibility of appeal or justification.

All this must stop. The war is over and the post-war period must also end. The uniformity of restoration methods cannot suffer the transgressions and the velleities of the various reborn regionalisms or those in the process, alas, of being reborn.

It is not admissible that this deceptive restoration should continue, there should be no discrimination between the old and the new parts and, for works of art, cleaning should be carried out without regard for the patina, imaginative additions and other such disgraces are still being carried out. All this happens, though sporadically, and denying it would be useless, even harmful. The position reached by Italy in this field, and as international umpire, a position tested recently in an almost plebiscitary way by UNESCO, does not allow perseverance with obsolete practices, which today's culture rejects.

There should be equal treatment for monuments and works of art, in theory and in the methods used, in the North as in the South, in Milan as in Reggio Calabria.

Restoration and Scientific Investigations

I must confess that I feel ill at ease, as an art historian, among so many scientists, and of such a high level, because, while the need for interdisciplinarity is ever growing, individual sciences are developing in such an autonomous way and with such formalised terminologies so peculiar to each one, that contacts are become increasingly difficult, even oppressively so: in the end, these are reduced to accepting the conclusions of a science, which one wishes to employ in a different sector, without the possibility of verification; this makes these conclusions, which are in themselves abstruse, as justified by the sole principle of authority. And this, in a world that is contesting *par excellence*, can be quite surprising. Thus, after having shaken the authority of Aristotle, the time came for Euclid, for Newton: the new order is that of atomic physicists. This incommunicability stands out especially with regard to practical application since, at the highest level, atomic physics ascends even to the limits of ontology with metaphysics. Is the structure of the atom ontic or ontological? Do the particles it is made of exist or not? Is antimatter the modern face of non-being? These questions, however arduous they may appear, are truly an interdisciplinary issue between physics and philosophy and, in this sense, philosophy and physics return to their roots and are carried out in a common field, as it was for the luminous and obscure pre-Socratic thinkers.

So it is easier for me to approach the Heisenberg uncertainty principle than the functioning of Mössbauer spectroscopy.

All this should explain my embarrassment as a non-expert.

But I am also an expert: for those involved in the conservation and the restoration of works of art. And these oeuvres are prodigiously illuminated by the application of

nuclear techniques from the implementation of nuclear techniques. Because our aim, let us keep it in mind, is to conserve and not to destroy: conserving integrally, intervening only with the certainty of removing that which is undue, to recover the original level of a painting or a sculpture once more. Not the crude and impossible repristination, but the work of art in its historical integrity, which means also safeguarding its passage through time. And to those who say that, even with additions, repainting is also a passage through time, we reply that the work of art is a work of art and a historical monument, and not a work of art due to its being a historical monument, hence the precedence that is due to the aesthetic instance of the historical. But the precedence should not be understood as the abolition of the historical instance, but rather proportion. It is namely in the realisation of this proportion, the limit of which is always set by the art historian, that the aid of science is incalculable and indispensable. On these bases I founded and developed the *Istituto Centrale del Restauro* which, to my great pleasure, I see present at this convention with worthy scientists and worthy operators of this field: not therefore a simple, albeit illustrious foundry of high practice, but scene for cutting-edge experimentation, linked also to nuclear physics.

But after this open confession of my incompetence, with what courage can I proceed to evaluate or even propose new aims and new fields of research? The apparent contradiction is resolved honestly in this principle. I speak with scientists, their good faith is presumed, but not *ope legis*. It is, in the end, my duty to ask questions and abide by their answers. I cannot, at this level, demand that science provide easily achievable confirmations, such as Litmus tests. At this level, for example, was formulated the principle of complementariness, which seems to challenge logic, since it simultaneously accepts two contradictory points of view, such as on the light's wave or particle nature. It is indeed science that, with the prodigious

breakthroughs in mathematics, operating the fusion of logic and mathematics, then takes us to the limits of the dissolvement of logic, almost impugning, with the principle of complementarity, the very principle founding logic, that of contradiction.

But scientists know now, as philosophers have for a long time, that they do not operate on the *thing in itself*: phenomena and only phenomena are those for which the principle of complementarity was formulated. Therefore this does not attack logic, which is found at a different epistemological level.

I will therefore formulate some doubts and will abide by the answers: I will formulate some desiderata and will listen to the scientists as to what can be hoped for and what cannot be hoped for in the future.

For example, I had doubts on whether these very modern and apparently painless applications, such as, for example, the neutronic application via radioactive isotopes, or even the protonic one, could, in the long run, cause, in the body of a work of art, and especially of that precious film that is pictorial matter, some nuclear alterations, even more destructive over time, of those which are carried out by locally extracting a minimum sample of matter. I had heard of fission and the word fission, for the work of art, is for me synonymous to disintegration. It has been explained to me that there are ways to measure radioactivity, even that induced as in the case of neutronic activation, and that this radioactivity is always decreasing, indeed the measuring of time using carbon 14 is namely founded on this reduction, as we all know.

Therefore, an analysis by activation cannot insert something disintegrating, even capable of accelerating destruction, into the point in which it is activated. And since this reasoning is deductive, based on principles founded on experience, I believed in it. But my doubt was very grave.

Moreover, it appears to be shared by some scientists. Torracca,

for example, warned of the dangers linked to nuclear applications, referring to the golden principle of restoration of not compromising possible future interventions on the work of art.

With this example, I believe I have explained how I dared to approach this scientific assize despite my inexpertise, and how I dared to raise questions, hoping for studies on the matter, to finally bring a conscious plaudit to some applications which, not being destructive, realise the *optimum* of scientific analysis on works of art.

In this sense, the balance of this congress, for the art historian and the restorer, has been very positive and projects a most favourable light on the future, even hoping that the initiative of the *Accademia dei Lincei* be resumed sometime in the future, so as to periodically implement a precious and stimulating recapitulation, but especially that interdisciplinary gathering which is otherwise so arduous and difficult.

I therefore come to synthetically summarise those which have been the positive results of this congress for the history of art.

Those who attended the meetings know that interventions were categorised under three directives.

The first and densest is constituted by the non-destructive analyses with regard to the matter certain artistic artefacts are composed of. And I see artefacts and not works of art, *tout court*, because it is the matter, in other words, not the work of art, which is analysed scientifically: basically, the artefact.

This first section, then, has shown itself to be the richest and most productive, both with regard to the actual analyses and to the deductions that can be made from them, especially regarding prehistoric artefacts, as well as the specious issue of fakes. In this field, the importance of non-destructive analyses has been supreme. Anyone who has had the fortune or misfortune, as an art critic, of having to answer in court to a query concerning the

authenticity of a work of art knows the profound embarrassment of not being able to rely, for the most part, on indisputable proof, which generally are merely a handful of certifiedly solid data, such as the introduction of certain colours in a precise age or that of certain materials or certain techniques: but this are already much more difficult to ascertain.

Now many of these thorny problems receive, with nuclear research, peremptory answers which do not, obviously, destroy the oeuvre to ascertain how it was made and what it is made of.

Let us look at coins, for example, the alloy of which can be ascertained without removing any of the matter, quite preclusive for such a small object. But one can ascertain more than, let us call it, the voluntary alloy: one can also determine the involuntary composition and even, in some cases, the place the base metal was quarried out of, as in ancient times it was never pure and presented, like gold, in spontaneous aggregates, which are difficult to examine chemically in the various elements and are marvellously identified with the activation method.

We have mentioned coins: but also ancient glass and ceramics can produce surprising results. Since while it is true that glass seems incorruptible over centuries and one could believe it almost impossible to uncover fakes with conclusive evidence, the projects presented at this congress on Egyptian glass, Roman mosaics and medieval stained glasses show the opposite is true. And, I repeat, before the undeniable aleatory nature of stylistic inductions, these analyses represent a barrier which is difficult for forgers to surmount.

No less importance have the analyses carried out on bronze alloys and on the remains of the *terra fluida*, of the bronzes themselves. Here, the investigation, which may appear to be solely product oriented, truly rises to become a component of aesthetic investigation, because the results do not concern only the ascertainment of the authenticity or a great age, but, in the choice of the alloy, suggests the colour the bronze was meant to

be. The speed at which these analyses can be carried out is such that it allows a great quantity of these to be carried out over a small amount of time. No one must underestimate this double advantage, which adds to that, which I feel to be prevailing, of being carried out without damaging the work of art in the slightest. But it isn't only aesthetic investigation which benefits, from this respect for the oeuvre, but also historical investigation, which is comforted and supported, such as in the case of the analysis of *terra fluida* using carbon 14. The most resounding example, dare I say, is that offered by two stupendous bronze animals in Perugia, the gryphon and the lion, which had been considered to be Etruscan or medieval – no less! – and were then discovered, with the analysis of the fusion grounds with carbon 14 to date to the middle of the 13th century, a date confirmed finally and unexpectedly, by the discovery of the fusion notice for the gryphon, to be 1274.

Now, as far as our discipline is concerned, however cogent the stylistic inductions may appear, they would not have been able to solve the issue without the comfort of carbon 14 dating, which was moreover confirmed by the document. Carbon 14 datings are now receiving an impressive confirmation.

You therefore see now what wonderful results may be achieved thanks to the interdisciplinarity of this studies: nuclear analyses, stylistic inductions, documentary finds.

Nor can I neglect to underline a most brilliant result achieved with analysis by activation with the paintings by the American painter, Blakelock, with regard to prior and contemporary fakes. The case was particularly difficult, because the painter is relatively recent and the normal analyses carried out on samples would never have achieved such peremptory conclusions. The system will have to be kept into account by any judicial expert obliged to decide on fake De Chiricos, one among many thorny problems. But evidently the fakes must not have been made by the same artist who made the originals.

These so far have been end-of-pipe analyses. But what can one say of those which accompany it, that coordinate restoration? These, for me, provide such crucial assistance that they cannot go unmentioned. It is the case, still unique for now, of Lorenzo Lotto's Santa Lucia in Jesi, which is being restored at the Istituto Centrale del Restauro. Given the importance of the beautiful, even overwhelming, oeuvre, the problems it posed had a capital importance. During restoration, in fact, a very grave issue is constituted by the question of how far one should, objectively, decide as to whether a colour overlaid on another was added in a subsequent restoration, representing the same artist's "change of heart".

In the case of another capital restoration, that of the Deposition by Raphael at the Borghese in Rome, the green tunic of the youth supporting the body of Christ from his legs gave rise to a grave issue. The colour was ascertained also from an older copy. But the finding, on the borders, of the golden embroidery removed all doubts on the matter: Raphael would not have changed the colour of the tunic without equally refined finishing touches. But there isn't always a saving golden lining to prove that what is found underneath is the original level. In Lotto's work, this crucial handhold was not provided. And here the use of the technique by activation to aid the restorer and remove doubt, using techniques of analysis using X-ray fluorescence, stimulated by radioisotopes, to determine the original pigments and the areas of restoration and of overlaid pigments. Since, the exact date of the first use of certain colours is known, the removal of some areas is not of any concern.

Another technical application of incalculable utility is that of "autoradiography", which allows having a series of strata of a painting depending on the decrease of radioactivity according to the diverse elements composing the pictorial film. If one thinks that the possibility of obtaining stratigraphic radiographs had already appeared as a great discovery, which moreover require

repeated and significant exposure to X-ray tubes, the current technique, as is pointed out, is not only a greater, more complex and precise documentation, but above all does not require those repeated exposures to X-rays which are, for the integrity of the painting's matter, a much greater danger than activation with thermal neutrons. Naturally, with this latter technique, one merely has the top strata, so one does not replace the other. But despite this autoradiography has moved to the very front with regard to nuclear applications for restoration.

Another point of great interest was that concerning the study of the retention of solvents as tracers in pictures. In fact, the solvents problem is very basic: to what extent do they evaporate, how much of them remain? And in the future, what results can they have on paintings?

If there is one argument that still leaves me perplexed, it is that of the use of gamma rays for sterilisation, as gamma rays may cause alterations in the tones of the painting. Establishing to what extent the use is permitted and especially, if, after the irradiation, whether there could be alterations over time, these issues need, in my opinion, further study. Besides, while radiation kills also the larvae, it does not have a preclusive effect for the future, and might not repeating the operation cause even more serious effects? Even graver doubts are raised by such an impregnation with monomers to be resolved with polymerisation with gamma rays, the case that Torraca, quite rightly, firmly excluded for polychromatic statues and especially for painted panels, as we have said. But we are here for this: to debate, express ourselves and to undertake new lines of study and new counter-evidence.

At this stage, I must however advance my requests for the future, requests which may perhaps be nugatory from the start, but which, as an art historian, I cannot help but voice.

I know well that nuclear research is carried out mostly on the inorganic and not on the organic. But must we really resign

ourselves to this limitation, as we do with regard to the speed of light? Allow me, at least, to hope that it will not always be so. And hence I must bring up, especially for paintings, the problem of varnishes, of velatura, but especially of media. The ascertainment of the media used in painting does not concern solely scientific curiosity, and perfectly legitimate, of ascertaining with what technique a painting was executed. For the conservation and the restoration, for the use of solvents as well as for the ascertaining of the original strata (velatura, ancient varnishes, etc.) knowledge of media is crucial. But with the traditional methods it is precisely this point which is most in deficit, both because, with analyses carried out on microscopic samples, being the samples themselves microscopic, one cannot destroy a painting to find out how it was made, and because, with the various processes the media have undergone over the centuries, the ascertainment of the materials, which are mostly organic, that have been used, becomes extremely problematic. Clear proof of these problems are the various uncertainties and debates on the technique of classical mural paintings and those concerning the introduction of oil painting. While, for classical mural paintings, it seems that we have reached, or have almost reached, an agreement, we are still on the high seas with regard to the question of oil painting, to the extent that there is an almost universal scepticism about the use of oil, or lack thereof, in Flemish paintings and in Antonello da Messina's work. The analyses have not resolved doubts on the presence of linseed or nut oil in Flemish paintings or in Antonella da Messina's work, which, it is said, allegedly introduced oil painting into Italy.

Generally, I note that the importance given to oil technique is, aesthetically speaking, completely mistaken. For the *form* of the painting, oil technique only has importance when it is used with the specific aim of exploiting certain formal possibilities: but the formal characteristics are not present, even if the oil is present, when such a technique is solely substituting another

technique. The most perturbing example is that of the Chapel of St Michael in Pedralbes, painted by Ferrer Bassa, a delicate, 14th-century painter trained in Avignon under Simone Martini. The documents clearly say that oil was used: the chapel *appears* to have frescoes. But beside this apparent *rebus* is that of the immense paintings of the Salone dei Cinquecento in Florence, which also appear to be frescoes, so opaque and not at all as shiny as they are presented: but Vasari, who executed them, makes an explicit claim of using oil.

These two cases are not, however, the basic problem, because oil technique was clearly bent on *substituting* frescoes, making them lose, with subtle touches, those characteristics which make it recognisable at the first glance, both from frescoes and from tempera.

The problem is much grimmer when one queries Flemish paintings, which appear, regardless of what people say, completely different to that of traditional tempera, like the water of a precious stone, to which no intensity of tempera colours can compare.

Tempera colour is always firm, closed on the surface, without internal transparencies. But those that have seen even once a blue of Van Eyck or of Van der Weyden could never mistake them for one made with tempera. If not oil, then what ever could the medium used be? But there's more. At a certain point, oil painting, which was going around in workshop practice since medieval recepies, asserts itself and confirms its status, driving out tempera, or reducing it to ancillary service. Is it not more difficult to admit the introduction, in the 1500s, of a spreading practice, if no major painter gave the example? But, most importantly, discussing Vasari's news, which was quite late, dated at least one century after the presumed first use, one has not taken into consideration that one of the writers of treatises of the mid-1400s, Filarete, minutely describes the method of oil painting, just thirty years from Jan Van Eyck, but especially,

having the possibility of meeting Roger Van der Weyden and watching him work, when he was in Italy in 1450. And also, I believe no one can impugn that Roger Van der Weyden's technique is the same as Van Eyck's. Now Filarete makes explicit reference to the two painters and minutely describes how to clear up linseed oil and all the phases of preparation of the board and the oil mixture. But I must be brief. Since, however, Filarete's *Trattato* was unpublished until recently, known only through sporadic references, his testimony, of even capital importance, has not had the credit it deserved. But I have previously had the chance to observe, in two paintings by Piero della Francesca, of which the first, the Madonna della Misericordia of Borgo San Sepolcro, was probably prior to Filarete's *Trattato*, which was between 1458 and 1461, that Piero della Francesca doubtless made use of oil, because the cracking noticeable in certain parts agrees fully with that of oil paintings: it is not clear and crystalline as that in tempera, but is sinuous and retracting at the edges.

At this point, here is the query I raise before the attention of atomic scientists: is it possible, or at least plausible in the future, to be able to have non-destructive analyses on the media used in paintings or on organic substances in general? This is a query which is certainly not obsessive or urgent like that concerning the consolidation of stones, marbles, terracottas, that our happy age of atmospheric pollution reduces to dust or causes to crumble without mercy. (We are in Venice and it is right here in Venice that the phenomenon is most alarming of all places.)

But it is still a basic problem for the conservation of works of art, because, as one worries about a bronze, there is, I dare say, all the more reason to be capable to determine the technique used for a painting, without causing destruction or damage.

Here, my scientist friends, the problem I set for you and which I greatly desire could be resolved without resorting to the sampling of matter for non-nuclear analyses, which, as is known,

do not give or cannot give wholly satisfactory results, even though my heart goes out to the scientists who do not believe traditional analyses can be replaced by nuclear methods, even in the future.

But it is on this question that I close my speech, asking forgiveness for having dared to step into a field bordering also with art history, but for which knowledge quite different to that which I possess are needed.

But this question is an act of faith in science, of faith, more than of hope. May this redeem me in my boldness.

Investigations and reversibility of restoration

Even for paintings, it is not the theory of restoration that evolves, but rather the physical means to implement it: from the care of supports, to the setting and cleaning of surfaces. Previously, iron was used indiscriminately for supports, especially using iron screws to set tiles into place in parqueting: while, in parquetry, the concepts remain practically the same – permitting the wood of the board to move freely, albeit “guided”, so that the wood does not split or warp – the materials now vary from aluminium to plexiglass, and the screws, if really necessary, will be in brass, at least, or in some other non-oxidisable material.

Such was the case with a blemish in the recent and excellent restoration of Botticelli's “Primavera”, where the iron screws holding the supports of the moveable bars were not replaced: the reason was not ignorance of the fact, which was well known, that iron, in oxidising, increases in volume and may cause humps on the painted surface, but the fear that removing the screws might disturb that equilibrium that the wood of painting showed itself to have for over a century. It was a just concern, but possibly exaggerated: with enough care, the screws could have been replaced without a reaction from the wood.

For the consolidation of the pictorial surface, not too long ago, organic material was used: these fixatives had various inconveniences, ranging from alterability to irreversibility, with time, and the tendency to become a breeding ground for fungi, an example of this is shellac, which the already famous Mauro Pelliccioli used for frescoes as well as for tempera and oil paintings: for this reason, Leonardo's *Last Supper* was set with the notorious shellac.

And one can blame the poor quality of the same and the

humidity of the environment of the *Last Supper* for the possibility of removing it, due to the failure of the fixative.

As for wax, from that of Sardinian bees to carnauba wax, the laboratory tests I had carried out at the Istituto Centrale del Restauro showed that it could form cultures of numerous moulds, while at the start of the activities of the still worthy restoration laboratory of the Royal Museums of Fine Arts of Belgium it was deemed an ideal material for use in restoration (setting or recanvassing of canvases). Hence also drying oils, natural resins, paraffin should be avoided in restoration, as well as egg white, which is alterable, insoluble and tears off colours; the same goes for all animal glues.

Moving on to inorganic fixatives, these have various drawbacks: some inorganic fixatives, which are unfortunately still being used today, such as: alkaline silicates, which have efflorescences for residues; fluosilicates, which penetrate very little if used for stone; barium hydroxide, which is prone to reactions hard to control and is irreversible, and the same is true of potassium aluminate.

It should be remembered that a fixative should not be prone to fungal formation and must not nurture microorganisms, and above all, it must be reversible. No restoration can presume to be the last restoration an oeuvre will be subject to, so the oeuvre must be in a condition that will make it easy to carry out future interventions.

Consequently, in the light of current knowledge, the best fixatives, though not perfect, are methyl methacrylate, the layer of which is too rigid from a mechanical point of view, and isobutyl methacrylate, which is insoluble under the action of ultraviolet rays.

As for the solvents used for cleaning, caustic soda is absolutely to be excluded, as it is violent, abrasive and has disastrous secondary effects, while old solvents, which should be used with extreme caution, are the mixed, or mixture of

turpentine and alcohol and pure alcohol. Furthermore, one must not put their faith in too rapid measures, and one should especially be able to control the speed of penetration of the solvent in relation to the original layer of the colour, trying as much as possible to conserve a veil of patina.

To do this, one must use materials for the suspension of the solvent material, such as rice paper, wood pulp, wax emulsion, micronised silica or carboxymethylcellulose.

One must convince oneself that restoration is indispensable even if the most indispensable phase is that of prevention and continuous monitoring, but it also is, like medicine, a source of danger for the oeuvre and which, in restoration action, cannot be carried forth impulsively, but on the basis of precise technical knowledge and a tested praxis. One cannot test new materials on an important work of art. Furthermore, today's science has many methods and tools for artificial aging which, albeit not all identical to natural aging, always provide useful information and can avert those disasters which the application of certain kinds of silicates have brought, for example, on the pulpit of Donatello in Prato and on the reliefs on the façade of S. Michele di Pavia, which are now breaking off and falling in pieces to the ground.

Tests, tests, tests: they will never be superfluous or excessive, before and during restoration operations. And many photographs, radiographs and infrared and ultraviolet photos.

In this sense, science is always in motion and there is no final point of arrival.

Sicilian Archaeology

Since the excavation was reopened in Piazza Armerina after the war and the majority of the mosaics were discovered, which quickly became famous worldwide, the problem of how to conserve that incomparable collection *in situ* was considered. If, in fact, it had been one or two mosaics of moderate dimensions, the simplest solution would without a doubt have been to remove the mosaics and put them in a museum. But when considering this specific case, the best solution by far is revealed. In Sabratha, Libya, for example, when the vast, stupendous mosaic of Justinian's time was discovered, it was removed and taken to the small museum annexed to the excavation site, where it is conserved and is easily visible. But here it is not just one mosaic, however large, that is being considered, Piazza Armerina has one of the greatest and most complete collection of mosaics ever discovered in a single monument and has a state of conservation which, if not perfect, is most remarkable. Naturally, removal would be possible all the same, but what would be achieved by it? Firstly, one would have to build a museum for it, because no building, however much Piazza Armerina may claim otherwise, could ever provide the space needed for the immense mosaic of the Great Hunt of wild beasts; secondly, this museum, reduced to containing only floor mosaics, would become exceedingly monotonous and sordid. Besides, we don't even know if a proposal for a museum has been made and, in any case, it would have led to an inevitable abandonment of the remains of the monument. At present, there is not much left of it, but that which remains is of great importance.

From the first finds, discussion immediately broke out over the nature of the monument: now, with the excavation almost complete, one can say that the only point of agreement is on the

fact that the monument, which is actually composed of three main parts in close proximity to each other rather than being actually connected or joined, was a villa. It has been said that it could have been an imperial villa: moving further along that hypothesis, it is also believed it may have been Emperor Maximian's *otium*, for when he was forced by his colleague Diocletian to abdicate.

If this is true, it would place the villa in the early 4th century. Naturally, as soon as the above hypothesis arose, apparent confirmations were found: in an alleged letter H which, in the Hunt mosaic, might have referred to Maximianus Herculus' epithet; in the resemblance of the figure, probably the owner of the villa, who, protected by two shields, assists in the hunt; in the ivy leaf motifs decorating the mosaics; in the mosaics with the Labours of Hercules of the triclinium; lastly, in a shred of an inscription, reconstructed very imaginatively. But this supposition, though advanced by experts, some of whom illustrious, has been met with serious objections. Maximian did not retire to Sicily, but to an *otium suburbanum*, and the *suburbanum*, with respect to Rome, could be construed to be as far as Lucania, but certainly not Sicily, even less such a remote pocket of the island. The letter H does not exist; the ivy leaf is a decorative motif which cannot be attributed a precise historical significance; the Labours of Hercules are among the most widespread themes of Antiquity; the figure in the Hunt does not resemble Maximian, is not necessarily an emperor and could easily be a handler of wild beasts for circus games: in other words, the rich proprietor of the villa. As for the inscription fragment, this should be considered to be, like the few other fragments, the remains of the previous, more modest construction over which the great villa was built. Nor can the mosaics allow a comprehensive dating of the whole to the early 4th century, in fact, they are suggest the opposite due to the fact that the famous women in bikinis are found overlaid on a

previous mosaic. As for the unitary idea that allegedly permeates the construction of the villa, all the best to those who can see it, so incongruous is the planimetric relationship between the central part of the villa and the strange complex composed of the exedra, the oval courtyard and the large, triconch area. The transposition of the dating at least to the end of the 4th or the beginning of the 5th century is confirmed also by some surviving sculptured parts. In other words, this villa is not necessarily an imperial villa and, furthermore, the mosaics show the most surprising *anticipation* of Byzantine mosaic figuration ever found in Italy, prior to Justinian-era mosaics, with convincing parallels especially with some of the mosaics found in Antioch, now in Museum of Art in Baltimore.

It was not possible to make references to the discussions that the destination and the age of the monuments gave rise to, but the real issue now, which leaves no time for hesitation, is the protection of the monument, given that, quite fairly, it is wished to conserve the mosaics there. It would therefore be well to remember, with regard to the monument, that except the few intact and many patched up columns of the cloister, and some parts of the walls of the thermal baths, which are so eroded that it no longer has a whole impost of even one window, nothing is left but the walls about a metre or two tall. Those familiar with the reconstruction carried out in Pompeii, Ostia, Herculaneum might think of a solution of generic repristination, such as that implemented at those sites, but this would be a grave mistake. Firstly, both in Pompeii and Herculaneum, the situation was quite different: the earthquake and the eruption left the fabric with much taller and more detailed structures than the wretched walls of Piazza Armerina. Where in Herculaneum there were walls three stories tall virtually intact, it was inevitable that they would reconstruct the floors on which one could find nothing less than carbonised furniture still *in situ*. But Piazza Armerina has nothing of the sort.

The ready and willing wanted at least to reconstruct the thermal baths, in front of those eroded posts, would find themselves still impaired with respect to the ruins of the Baths of Caracalla, which no one has ever even dreamed of rebuilding. Anything done to the baths, would always bring about the falsification of the ruins and arbitrary analogical interpretation: it should be noted, in fact, that the age of the fabric is still being debated and that, in that case, the personal opinion of the restorer for one century over another would alter, even if done with the noblest of goals, the surviving historical testimony in the monument. Given, therefore, that the construction of the spaces of the villa with as many imaginary windows and walls, or worse yet, imaginary skylights, would not be a restoration but unjustifiable disgrace and given that the mosaics must remain in the location they were found at, the problem of shelter must then be tackled. But we doubt that this twofold necessity appears so explicitly to everyone, and maybe it should be explained a little more. Besides the reasons of the squalor of a museum composed only of floor mosaics, and of the inevitable fatiscence of the ruins left on the site, retaining none of the public's interest anymore, why should it be better for the mosaics to remain where they are? We will now answer this question: for the Arcadic beauty of the site, a small valley with most gentle slopes, which remind one of Tuscany, rather than of Sicily. There are perennial streams, there is the tender green of almond trees and hazel trees, the dark green of cypresses, and the flourishing of horticultural fields, in other words, a pleasant place, and the road leading to it is no less pleasant. No one could have the courage to support the abandonment of one of the most refrigerant places for the spirit of a visitor of even medium culture and upbringing. The beauty of the site allows a better understanding of the mysterious opulence of the villa, belying the great scale of the complex: but it also conquers those most insensitive to rural beauty. In other words, the mosaics found

have created another of these extraordinary encounters in the open countryside, of which it appears only Southern Italy has the secret and the wonderful proprietorship: they have gifted Sicily with another fulcrum it would be impossible to ignore and which should be saved in its agrestal charm, protected in its artistic marvels. Moving the mosaics to a museum would produce a museum which would not be attractive except to few archaeologists and persons of good taste: left on the site and protected, they will remain, and will ever more become, for all visitors of Sicily, an attraction not inferior to the temple of Segesta, to name another of these remote and unforgettable fulcra. Furthermore, the grace of the old town of Piazza Armerina should also be noted: its 18th century palaces, its piazzas, its Castle, the Cathedral which boasts an incomparable panorama.

So the mosaics should be left where they are: but they should be covered. One may wonder why should they be covered: Is it not perhaps said that the mosaic is the eternal painting? Eternal, but not indestructible: eternal to the limited ken of the work of man, which, to truly last, must be guaranteed certain conditions. Though mostly made of stone, mosaics nevertheless suffer from frost as they do from the sun, rain and dryness. It may appear that throwing a bucket of water on a mosaic to see it better would not damage it, but the damage is certain, albeit not immediate. The water will seep between the tesserae, it will penetrate, through pores and cracks, beneath the layer of mortar with which the tesserae are set. In a short time, the mosaic will be ruined. Indeed one is forced to cover mosaics with earth or sand, in order to protect them from frost and the sun's rays and attenuate, but not avoid entirely, unfortunately, the damage caused by humidity seeping through the soil. Therefore, as soon as they are discovered, they must immediately be buried: what a great achievement.

But the covering issue has been set in so contrasting terms

that one must not blame ineptitude or the tergiversation of bureaucrats for the failure to solve it. In truth, to be solved, the problem needs a determined and bold approach. One must immediately recognise, which we have done with full rights to do so, that the case of the villa of Piazza Armerina is not that of Pompeii, nor is it that of Ostia or Herculaneum: that is, that any solution of repristination was to be abandoned. Secondly, one must force oneself to recognise that there are essentially two priority requirements for the conservation of floor mosaics: firstly, they must be neither exposed to infiltration or capillarity of humidity, nor to *direct* sunlight in the hottest hours; secondly, for no reason may they be trodden on. These two needs must be kept in mind in deciding the mode and manner of covering them. Thirdly, as they are figurative mosaics, one must not remove even one strip from view, as would happen irremissibly with overhead catwalks. The problem appears then to become unsolvable but this is not true, because, in restoration with the aim of conserving works of art, so in that which we call preventive restoration, there are no two identical cases, and therefore one should examine it each time in relation to the actual data of the monument. In this case, the modest elevation of the walls in relation to the spaces of the villa allows one to imagine a situation of catwalks over the walls, from which, without treading on the mosaics, they may be seen wholly at a glance, in the most ideal fashion. And one should not cry at a scandal for those walls, because, whether or not one walks over them, they cannot be conserved as they were found in the excavation, exposed as they are to infiltration by water and wild plants. A rectifying intervention on these for conservation, with an adequate set-up, is unavoidable, even without having to walk over them: indeed, it has already been carried out for a third of them. Thus we have indicated how to view the mosaics well, how to avoid treading on them and how not to obstruct the floor with catwalks. What remains to be resolved is the covering. In

any case, we can already discard the primitive solution which was used before the war on the first dig site, the triconch hall of the Labours of Hercules, which has been criticised by everyone. This was an enormous covering of wooden trusses, with brick tiles, supported by massive brick pillars. This extremely heavy structure, which so molested the appearance of the ruins as to make it appear more akin to a barn than the sumptuous hall it was, managed three feats with one blow: it molested the monument, it altered the ruins and it made it necessary to tread on the mosaics or to construct ridiculous turrets, not unlike Muslim *minbars*, like those built at the entrance. Therefore, no one considered continuing the work of covering the mosaics with that system of rural architecture.

Having discarded this, however, only two valid hypotheses remain: either the construction of an enormous cupola or some kind of roof in reinforced concrete, or the implementation of lighter roofs made of lighter, transparent material.

The first hypothesis, which naturally tempts the skills of our excellent reinforced concrete technicians, would be possible but decidedly not advisable. These ruins would no longer have any meaning beneath the cupola: those run-down little walls, those patchy columns would lose the sunshine of their setting, to be housed under a kind of caricature of the celestial vault, even harder than that which habitually contains our valley of tears. The ruins, having become in a way similar to an underground cellar of itself, would appear to be almost “evacuated” to a hangar, in the exhibition hall for new automobiles or new tractors, unduly filled up by these old, intolerable objects in its new, bold spatiality, intolerant of the ancient. In fact, it would be absurd to think that a construction requiring such commitment and courage could ever be limited to the anonymous role of a large hangar for agricultural material, without mentioning that such a construction with such an imperious spatiality would be anathema to the pleasant little valley, becoming more destructive

than a meteorite crashing into the middle of it, as the meteorite would at least be something natural. With this one would destroy the valley, neutralise the ruins and house the mosaics in a too diverse and subjugating spatiality with respect to the original capacity, all in one fell blow.

Therefore, one should implement a covering structure as un-monumental as possible, allowing what truly remains of the ruins, besides the columns and the mosaics, meaning the whole of the planimetric system. As can be seen, we have proceeded in narrowing the breadth of the problem, practically reducing the solutions to a single one, i.e., given that any covering, as light as it may be, must also be supported and anchored, this may be achieved with systems geared at the right frequency, but invisible, for want of a better word, or the least visible possible, and for these supports one must use the remains of the walls as a base, so that these can be at the same time the catwalks and that they continue, akin to a transparent suggestion, the wall into the supports. The covering, which will have to be double-ridged for the rain and flat on the bottom, must be constructed of transparent, glass-like material in the eaves and of opaque material on the bottom. That is all.

Technically, it is possible; for the conservation of the mosaics, it would be the ideal solution, because it avoids burying it in a closed environment, does not demand they be constrained to the glass walls of a greenhouse and keeps feet from treading on them; for the monument itself, it is the only solution that can show its development and the planimetric layout, without demanding the impossible conservation of the artificial bird's-eye view, which is now available when arriving at the monument, as is in the temporary set-up arranged. On the contrary, the entry to the villa must be re-established at its natural entrance, from the grand triumphal nymphaeum-arch, and one must reach the villa unexpectedly, seen as it is completely pointless to propose a bird's-eye view which did not exist in antiquity and which any

covering of the mosaics would unavoidably foil. One should arrive at the villa with a small deviation of the current road, rich with hazel trees and cypresses, which on the one hand will permit a view of the lovely valley, and on the other will lead around the ideal perimeter of the villa, constituted by a thick hedge of cypresses which grow in that valley as they do in Tuscany. The visitor will then end up in front of the original entrance without foretastes and the surprise of the mosaics will be even greater; the surprise of the mosaics and the levity of the protective structures.

We have no doubt that this integrally modern and modest solution will set an example. Overall, the absence of complex metal pylons, which is certainly possible, will be interesting, as these without a doubt clash with the aulic, monumental nature of the ancient remains, even though these are less than remains at present, now mere ruins.

After all, in Sicily itself, not far from Piazza Armerina, is an eloquent example of how one can balance respect for the ancient with exclusively modern protective structures: the Greek wall discovered in Gela, the great fortification on the sea of the Capo Soprano. At the moment of its resurrection from the dense sand dune, this wall, the date of which, needless to say, is being argued over by archaeologists, offered itself, in its crowning, or its subsequent completion, in brick. Had it just been a small thing, its protection could have been a negligible issue, but the essential thing about the Gela wall is its length of hundreds of metres, the impressive height of the stone part and, the very height of the completion in brick. So what was to be done? There were only two possibilities: the first was to take a sample of the bricks to a museum and leave the rest to decay in the rain and the sun. But this proposal was scrapped. Whether or not this was the right decision to make is not the problem, but the second possibility was preferred. Yet, to carry out the second, it was necessary, besides consolidating the earthen mass, to set up a

protection for both the front and the back of the bricks, and a roof. Now the protection, made of slabs of tempered crystal set with bolts with a long pivot going through the mass of bricks, revealed itself with such discreet elegance, despite almost universal scepticism, also from the undersigned (even though I had arranged it to be studied and crafted,) that all were convinced.

The bolting of the slabs of crystal becomes, in the exactness of execution, something humbly analogous to the extreme purity with which the stone slabs show themselves, having been conserved under the sand like precious stones in a case. The inescapable need of the roof indubitably belittles the lofty result achieved with the crystal slabs: but it couldn't be avoided. And this is why, in the covering of Piazza Armerina, where the problems had with the wall of Gela are not present, and it is possible to make us, therefore, of infinitely thinner weight-bearing structures, we are certain that, even in the roofing, we will achieve the good and elegant result had in Gela with the use of crystal slabs. But why, one may however ask, are not crystal slabs simply placed over the mosaics of Piazza Armerina? Because these are on the floor and not vertical: because through the crystal, as through a condensator, the rays of the sun would destroy the mosaics faster than they would without a covering and because it would not then be possible to siphon away water or to clean the glass, the visibility of the mosaics would be impaired, in other words, much would be done and none of the set goals would be achieved: neither for protection from the heat, nor full visibility, nor a better conservation.

But people work a lot in Sicily: so it then appeared as if there was no useful work to be done other than re-erecting a temple in Selinunte. To say the truth, the excuse, at first, was a very good one: they weren't keeping the archaeologists, who knew better than others what the situation was, quiet, as much as the artists and the critics unfamiliar with the specific case. It was being

said, that is, that removing the huge cumulus of column fragments from the so-called temple E, it may have been possible to find sculpted metopes. Now, for those who know, and few well-educated people do not, what those few sculptures rescued from Selinunte that are now in Palermo represent, this would doubtless send shivers down their spine and would therefore be willing to let the unsightly reconstruction pass. But why, will they say, did it have to be unsightly? Was there perhaps no certainty that the column fragments were complete? Did they then not have the possibility of re-erecting them in a non-opinable fashion? Now we need to distinguish theory from reality and, in this case, the truth was very different, meaning that, even had there not been any losses or tampering over the centuries, (and this is not really true, as a great many pieces are missing both from the epistilium and from the pediments,) the state of ageing, wear and, lastly, patina of the column fragments fallen to the ground now for well over two millenia, is much too different to the aging, wear and patina which, over the same time, was suffered by columns similar to those of temple E but which are still standing. to that of columns similar to those of temple E over these same centuries, albeit still standing. Just to rise out of the generic, nobody can believe that the fallen columns of temple E, having been re-erected, could rise like those of the temples in Agrigento. These latter columns underwent wear and ageing in a concordant way for all the fragments they are composed of, while those fragments in Selinunte, unbound and prostrate, like enormous rollers on the ground, suffered ageing and wear individually, crumbling even in the area of contact of one fragment with the other. Virtually none of these fragments will therefore fit with its companion, and we would have, rather than a single, *conceptually* monolithic, even though, in practice, achieved with various blocks, a series of trundles overlaid by blunted and corroded edges, which fit over each other and can only find the right aplombs in approximate

manners.

For those familiar with the great spectacle beyond comparison that are the cyclopic cumuli of the temples of Selinunte, it does not take much to recognise that no reconstruction in the world could equal that which emerged like a phantasm from everyone's minds, from ruins so legible, so clear, in enormous blocks, in capitals as large as cupolae. Temple E of Selinunte will never return to the way it was, it will never compete with its brethren lying in heaps on the ground and which on the ground, it is hoped, will remain, after this costly and useless enterprise. But even here, it will be asked: and why should we do this? Let us stop while there's time. Well, we can no longer stop. As long as the temple lay on the ground in its irreproducible seismic confusion it had a presence which, though radically different to that possessed originally, it tragically reflected and suggested, without adulterating it. But now that the fragments have been removed and aligned, temple E is no longer a ruined temple, it is, absurdly, a temple in construction; it has all the blind insistence and ordered misery of a retroactive construction site for a Greek temple, in which the architectural elements have a mere material presence which is not at all ideal. Temple E must be rebuilt and immediately, removing it from this cemeterial alignment it is now reduced to. And, putting it back up, one must only think about keeping it up, without too-scrupled hypocrisies on having to bore holes or not into the columns.

The columns must be pierced because one must make sure, now that the mistake has been made, of not committing another by letting them fall under the shocks of a future earthquake.

If one builds, it must be solid, and the columns must have their soul of livid but solid steel, and our grandchildren should be able to see them still standing, thanks to the prudent and sagacious technique used: this is the only way to redeem ourselves from the imprudence and the boldness of this futile reconstruction.

The New on the Old

The insertion of new elements into an ancient context seems to rest on such an old and uninterrupted praxis that it cannot be impugned except on the basis of a principle that is its implicit condemnation. That is to say, given that from the most ancient epochs we are aware of, the stratification and intersecting of artistic expression, even on the same monument, is rigorously ascertainable; a regulation prohibiting this in our time must be based on a postulate that must at least act as a symbolic, retroactive condemnation of the praxis which has persisted up to the present day. The motion we are explicitly supporting is, however, the following: that new artistic expressions may not be inserted into an ancient context, even if that context is a product of stratification from various epochs and consequently of expressions of different formal attitudes, but that this prohibition should not affect the past, except the more recent past, the last century and a half.

At this stage, it should be specified that, by monument, we mean any figurative expression, be it architectural, pictorial, sculptural, and any natural complex characterised by individual monuments or simply a high-quality built fabric, even if from more than one epoch.

It should be stated now that the criterion we have now pronounced is no more than an extension of the philological means for the return of a text in its critical edition; however, the reference to textual criticism is only valid to a certain degree, since in the critique of the text, the norm is adopted of purging out any addition or corruption of the text, whenever this may have taken place, while in our formulation there is an inexplicable tolerance for the past and no less inexplicable intolerance toward the more recent past and the present. It is

therefore necessary to express that which appears inexplicable in correct philological terms.

Firstly, we must clarify the angle from which we mean to tackle the problem. In this regard, it is already evident that we will not be moving with the rules of textual critique in mind, even though these will be applied to distinguish the authentic from the spurious in the superposition which has taken place on the monument over time. But the point of view of those meaning to verify the genuine text of an oeuvre is clearly that of one who means to travel back in time to reach the closest approximation of the original form of the text, a task for which it is unnecessary, even forbidden, to make significant interventions on the instrument bequeathing the literary or scientific monument one wishes to bring back to its purest form of the text. In the visual arts, however, we find ourselves before an oeuvre which is also the *medium* through which it is perceived, where any intervention on the oeuvre is also an intervention on how the oeuvre itself is perceived through time.

No one would think of modifying the text deemed spurious or in any case interpolated in a Dantesque text about the original material itself: but if we remove the Pantheon's dog-ears, we are forever modifying the historical text of the oeuvre, even if it is to return it to its original text.

This difference, now, is substantial between literary critique and the critique of the monumental text.

From this we can already see that we are authorised, on the basis of philological canons, to reject new insertions; parallelism cannot push us to deleting older insertions, which raises another problem which can also be phrased as a question: with what right have we limited the untouchable insertions to those older than a century and a half? Obviously such a restriction can never be based on a criterion of taste, personal preference or even the preference of an age.

But even the norm of conserving additions or insertions less

than one and a half centuries old cannot be deduced on philological grounds and cannot be called upon for mere historical protection.

It is known that every work of art is a monument presented in a two-fold form, as a historical and a monument of art. If the aesthetic instance takes priority, for it is on the base of this that the work of art is indeed a work of art, it must be tempered with the historical instance, precisely because it is imperative not to destroy the passage of the oeuvre through time which is, in effect, the means by which the artistic monument was transmitted through history. This was expressed in full in our *Theory of Restoration*; precisely because it concerned the principles and practices for the conservation and transmission to posterity of a work of art, this theory could not but marginally consider the possibility of new insertions, except where necessary, and because of their necessity, for the statics of the oeuvre and for a continuity in the reading of the visual text.

The issue, as we have considered it here, remains, regardless of these insertions, the legitimacy of which must be taken for granted, and indeed focusses especially on those additions which would represent a new artistic expression inserted in an ancient context.

It is therefore not the philologist's point of view, which we have in part mentioned, but the opposite point of view, which we could call, with a word which has unjustly been rather discredited, that of the author of the oeuvre. On the one hand, the critic urges against tampering with the oeuvre; on the other hand, the artists demands taking it, interpolating it and continuing it.

Such a discrepancy is evident when it does not occur at the same level, insomuch as the approach to the work of art is in each case completely different. In the first approach, we accept the work of art as a work of art in the form time bequeathed it to us, and by querying its structures, we try to deduce its various phases; in the second, we attempt to turn the work of art back

into an object to which we mean to give a new formulation, in part or as a whole.

In the first approach, we consider the work of art historically, in addition to considering it as an artistic unit or whole; in the second, we consider it, as a whole or partly, to be something *in fieri*, which we can continue, augment, develop. In this case we do not consider the work from a historical point of view, but rather as something with which we intend to make history, to which we wish to bestow a new historical, as well as artistic, course.

So the radical diversity of these two positions is unresolvable.

This problem is not encountered as a possibility for even one moment if the work of art may be deemed to be made more “beautiful” with a modern creative intervention, but is this intervention is legitimate? And secondly, if one opts for the negative, why should it to be illegitimate now and yet legitimate for the past and then only for a certain periods of history?

But with this query, we have clearly moved our reasoning to a different level. It is clear that the philological point of view was not sufficient to resolve the issue and that the same is true with a creationistic, for want of a better word, point of view, relying on the possibility of re-creation or reinsertion by a modern artist of or into an oeuvre of the past. The reasoning we have arrived at is that in which one examines the work of art not only as an artistic or historical monument, but inasmuch as it has bearing and presents itself in the current historical conscience of the monument. In the case of a poem or a novel, the possibility of translation and also of reworkings, additions or interpolation may always be admitted as this does not entail the destruction of the single instrument for the transmission of the original text. But when there is only one instrument that is at the same time the instrument and the work of art in itself and by its nature, any intervention modifying it or altering its historical appearance

must be justifiable on grounds other than taste or personal preference. Any modification to a past oeuvre must be justifiable to the universal conscience: such is the act or the series of acts which restore the critical text of an oeuvre, such is the act or the series of acts which intervene for the conservation and the transmission of a work of art to posterity. Of these acts one must provide a public justification and anyone undertaking these shoulders this responsibility in the eyes of history and, at the same time, represents the critical conscience of the time. But who can shoulder the responsibility of representing the artistic conscience of an epoch? And who can bestow this responsibility?

With what right and on what grounds can something new be inserted in a work of art of the past, not for static or conservation reasons but to make it more “beautiful”? The word itself is so ambiguous that it must be placed between quotation marks. But if these doubts are raised for the present moment, how can one not extend them to the past?

The reason for the exclusion cannot be in any way a greater trust in the artists of the past than those of the present, nor can it be based on a simple, albeit worthy, hermeneutics of the conservation of artistic heritage. The reason must be already implicit, not in the oeuvre, but in the way in which one confronts the oeuvre in the past and in the present. Having reached this point, the problem is already solved.

In fact, the historical consideration of the monument in itself and for itself is a rather recent achievement, the credit for which goes to 19th century Historicism. At the same time as the vital momentum of renaissance art faded in the neoclassical mortuary, the attitude emerged of looking at the past no longer as a source of inspiration but as a science. Of course, the movement had its roots in the 1700s: science was born even before that, with Galileo. History and the highest history existed since antiquity. But the coincidence of the establishment of a highest visual culture, as was that of the Renaissance through the Baroque and

up to Neoclassicism, with the rise of a rigorous science of the past, which assessed sources and verified everything, caused a radical change in the approach to monuments.

Bernini easily put the ears on the Pantheon, to that very Pantheon from which he drew his inspiration, as the most perfect of classical monuments, for the Church of Ariccia and, thus, reinventing the Pantheon in Baroque spatiality, he *developed* it in a plastic sense in those spatial directives which he alone, in his imagination, saw implicit where they were not at all implicit. Doing this, he was altering the Pantheon, not the consciousness of the age, of which he was the highest interpreter. Bernini did not accept to consider the Pantheon as a “closed-doors” monument to be merely conserved. From the 7th century, when it became Sancta Maria ad Martyres, conserving the Pantheon meant activating it and reinserting it into the religious consciousness of the time; only thus inserted could it be conserved, but not as an immutable idol, as the historical conscience of the monument as an intangible testimony had not yet been born.

Naturally, it should not have been impoverished, and the pope who removed its bronzes was criticised, but to continue to activate it in the artistic consciousness of the time, besides the religious, was more than legitimate. Its environs was another testimony of it, with the splendid fountain which did not ignore the proportions and the shape of the Pantheon, but rather kept it as a fundamental concept in a kind of spatial and luminous gravitation.

The monuments were drawn and studied at the same time as they were being destroyed to build new ones with their stones. And though isolated voices criticised this, such as Michelangelo with regard to the columns for the old St Peter's and later also for the stones taken from the Colosseum for Palazzo Barberini, these were isolated voices with respect for the past, not for the historical consciousness of the past.

But when, with Neoclassicism, the tradition of the Renaissance was broken, the consciousness of the work of art as something of history and style survived, which previously manifested itself in the 1700s, with the chinoiserie and the Gothic Revival and, in the absence of a new, formal tradition, they invaded the field and, simultaneously, all the styles of the past. But this invasion, which was not in the form of a renaissance, but of a sampling of forms which had already run their course in history, was the proof that the consciousness of the monument as something which is alive, and which could be added to and continue on in a different “language”, had been replaced by the consciousness of the monument as something freestanding, historically defined and pursuable in its forms, allowing it to be repeated or transplanted regardless of time or place. In other words, the historical consciousness of the monument, which, from a more scientific perspective, corresponded to the great documentary studies.

This historical consciousness of the monument, once achieved for our civilisation, can no longer be invalidated. This is namely because it is not a transeunt appreciation, but a scientific approach of the consciousness to the monument, which cannot be backed down from, as one cannot revert from the Copernican system to the Ptolemaic one, or from the theory of relativity and quantum mechanics to Laplace's superhuman determinism.

So there isn't a lesser degree of confidence in today's artists, but rather a necessary recognition of an irreversible status of modern historical consciousness which impedes us from intervening on monuments of the past, other than with work aimed at consolidating and protecting it to allow it to be bequeathed to posterity. So one can therefore also comprehend the reason for that exclusion from irremovability we have had for interventions carried out more than one and a half centuries ago. This time was approximately when the exhaustion of the great

Renaissance tradition coincided with the renewed consciousness of the past and of history, riding the wave of Romanticism, with an emerging tendency to tamper with monuments either to modernise them or to embellish them: but neither of these was a new way of reliving or shaping them into an autonomous figurative culture; it was either an attempt to synchronise them to a prefigured time chosen beforehand, or to insert them into a cheap, figurative culture, a cheap quality inherent, excepting painting and sculpture, in all the architecture of the 19th century. Thus the aberrant case emerged where “scientific” restoration was born as a repristination, whence the arbiters of Viollet-le-Duc. But even the arbiters of the repristination are merely the proof, albeit guided to aberrant conclusions, that the consciousness of the monument as a historic monument had become so imperative and prevalent by then, even in the common consciousness, that the monument was identifiable only in its hypothetical primigenial form, and that they felt authorised to erase the rest.

It was an aberrant conclusion, but which would have been impossible to reach had it not been for the premise of the absolute prevalence of the monument as a historical testimony to be conserved and bequeathed in its genuine form.

Let new monuments be built, but let the ancient ones be conserved as genuine historical tradition bequeathed them to us: and this was not an imperative of conservators, but rather one equally respectful of the autonomy of our time and the historical tradition to which we owe being what we are.

The protection of the traditional figurative values of the Italian landscape

The works that need to be carried out for the protection of the land and the containment of rivers and precipitation must not warp the appearance the land has assumed in the course of time. This is especially true for a country such as Italy, the millenarian past of which, in some cases, survives even in the farmland with a surprising persistence. An example of this persistence, which will help better focus the discussion by removing it from the realm of generality, is represented by the vineyards. It is common knowledge that Italy has both low vineyards, generally called French-style vineyards nowadays, and vineyards where the grapes are supported by trees, such as aspens, elms or field maples.

The geographic distribution of these two, fundamental methods, especially with regard to the recent past, shows that the cultivation of low grapes takes place in areas with more Greek influence (Sicily, Apulia), while that of grapes supported by trees takes place in areas with more Etruscan influence (Terra di Lavoro, Emilia, Tuscany).

I should add that this was especially true up to a few decades or so ago, namely because the destruction of the ancient vineyards by phylloxerae, the sickness of the elms in Emilia, but even more because of the opportunity to establish wine growing at the industrial level, the improvement of the quality of the product, and the production of table grapes, lead to profound variations in almost all regions: wine growing plants, wide-planted rows to permit the use of agricultural machinery, which are changing the face of the Sienese and Chianti countryside, and major plants known as *tendoni* for table grapes in Apulia and Latium.

I don't know how or whether protective action could be carried out to maintain the ancient agricultural characteristics, at least in some of the regions most famous for the beauty of their landscape, but the example, which also is not concerned with the defence of the land against atmospheric and terrestrial agents, is noteworthy as it shows the persistence, where one would least expect it, of ancient civilisations which are as much interest to a historian as a sociologist and the art critic. In fact, if this can be considered to be one of the fundamental agricultures of Italy, such as the grape, it is easy to deduce how closely linked to the Italian *facies* are given landscape structures, connected to the courses of rivers, to the spines of the mountains, to the layout of the roads. The Italian landscape is a continuous palimpsest of archaic cultures and centenary disasters, but cultures and disasters which gave rise to a *facies* which is the very *facies* of the country, which inspired Italian painters and some of the greatest of foreign painters for centuries and centuries, up to the early 1800s. Saving the essential features of the Italian landscape, at least in the more characteristic regions, is an imperative no less important than the conservation of artistic heritage. Italian painters' attention to the landscape has very ancient roots. Certain specific features, which cannot be considered to be generic images of a tree or a mountain, can be seen as far back as the 1200s, but it is especially in the 1300s that a real rural *inspiration* can be witnessed, for example in the work of Ambrogio Lorenzetti. With Ambrogio we are given a kind of map of the Sienese rural landscape which, in some cases, is surprisingly still extant, with its sparse grape vines supported by field maples, with lots being in inlaid patterns on the hillsides.

This is from the first half of the 1300s, and who could deny the interest in seeing these living remains of a long gone epoch perpetuated? It is clear, at this point, that I do not wish to act as a preventive legislator, I do not wish to make a list of the

ancient features of the Italian countryside that should be conserved. But such a registry will have to be made, integrating the land registry and the already set the prohibitions stipulated to protect some specific landscape features. This registry, I must stress, should be made especially in relation to these emergent historical layers, still visible in the palimpsest that is the Italian countryside, which, as it is at present, allows comparison with no other.

In fact, it can be understood that in Northern European landscapes the alternation of pastures, farmland and woods, though capable of producing some patches of landscape that can be stunning, it cannot provide a historical image more ancient than the age of the trees. Woods and meadows, fields of wheat, corn, potatoes and hops have a persistence of image through time which cannot be compared, returning to our example, to the methods of cultivating grapes, be it in vineyards, in widely spaced rows, or isolated vines supported by other plants.

The presence of trees characteristic of a region, such as the cypress and the olive for Tuscany and Umbria, the umbrella pine for Latium and Campania, or citrus trees for Sicily, is another fundamental aspect and is also historically linked to certain fantastic images gathered by painters. In Tuscany especially, the continuity of rural inspiration in painting is astounding: from Angelico to Botticelli, these living elements, taken from a lovingly cultivated countryside, are countless. The very idea of the Italian garden, realised architecturally from the latter half of the 1400s to the 1700s, reflects an activation of geometric order, from the neatness with which the farmer rationalised Tuscan fields, terraced hills, arranged the rows in vineyards and olive groves, as well as those roads decorated with cypresses, and the cypresses planted to guard boundaries or gates, which have endless pictorial examples in Tuscan paintings from the 1400s. I have mentioned the trees, but how

could I not speak, for example, of the winding rivers, as we can see depicted, starting with the Arno, in the amazing backgrounds of Antonio and Piero Pollaiuolo? And as I touch on this grievous river, which is indirectly responsible for the recent disaster, hence predicting the terrible works that it will require in order to be settled in a less ruinous bed, we return to the heart of the discussion on the protection of the figurative values of the Italian countryside with regard to works for the protection of the land. While, on one hand, one should promote, (and yet who has thought of it until now?) an effort to protect certain methods of certain agricultures, through the provisions of the various *green plans*, at least with regard to some key points, in some basic Italian landscapes, a parallel effort must be made in order to avoid causing irreparable changes, through the more necessary defensive actions, to the fundamental features of the Italian landscape, regardless of whether they have been catalogued and captured, so to speak, in the works of painters. In the first case it is obvious that the owner should be compensated for being obliged to maintain a certain, now archaic, cultivation set-up. Once this registry I mentioned has been draughted, with a list of the landscape features especially worthy of being conserved in their current state, due to their being characteristic of a region as well as due to their being immortalised in paintings, the conservation of such archaic cultivations, such as the grape supported by field maples, would unjustly burden the owner, who therefore has the right to compensation. This *cadastre* should be drawn up mainly by art historians and artists sensitive to the call of the past and not only to a generic picturesque image, which I have no intention of discussing as it is very debatable and is too subjective and changeable over time, while what needs to be saved here is not the generic picturesque image, but a historicised picturesque image elevated to the very physiognomy of the country. It is clear now that while the

conservation of certain historical features of agricultures are being very civilly requested – though the notion didn't even flicker in the minds of the Ministerial Commission for the Protection of Artistic and Natural Heritage – it is all the more imperative when one talks about exerting a strong influence on features of the land such as landscapes.

Here too, I must give an example *a latere* in order to render the dangers involved evident and not generic. I will take the example of motorways. After the moment of euphoria from the admiration of these asphalt ribbons has passed, doubts began to be expressed by various people with regard to the advantages had from planning these without the slightest thought for the landscape they are set in, without mediation with this landscape, without concern for the monotony the layout which may have fatal repercussions even on the drivers of the vehicles travelling on it. This is no longer an aesthetic issue, but a more gripping one. Nobody is suggesting not to build motorways, but is it really necessary to build them as they have been built now? With regard to security, it is, moreover, clear that, as they are built in Italy, a self-styled master in this field, the too-narrow barrier separating the carriageways was a mistake, and this is admitted by all now. But rather thriftiness, out of concern for land value, I would like to say that it was the small-minded engineering mentality of these pure technicians, the same who caused the massacre of the trees on old roads, because a narrow central barrier is more geometric and forces the two carriageways to remain stuck fast together as they continue in parallel; it is, falsely, more architectural, where now architectural structure is confused with geometric calculations. Who has not experienced, in the long rectilinear tracts of our motorways, the feeling of the abuse suffered by the surrounding countryside, with that brutal and inescapable intrusion in the lines, the contours, in the crossroads of a landscape, most times beautiful and often stunning? The old

roads did not rape the countryside. Let one travel along these old roads, the Cassia, for example, and recognise how cordial the union of the turns and the soil is, how surprising the appearance of vistas at the top of a hill, how the valleys fan out in front, almost enhanced, fuelled by the road itself. I know well that this is impossible with a motorway, but there are possible compromises. Whoever thought of the Autostrada del Sole, with that infallibility enjoyed by ANAS, (Azienda Nazionale Autonoma delle Strade Statali, Italian state company operating state roads and leasing motorways out to private motorway companies,) never for a moment entertained the thought that the motorway would be an inexcusable rape, and it is precisely with for that tourism, those attractive landscapes, that the Autostrada del Sole was constructed. Let it not be asked of me to suggest how it should have been done: it just should not have been done in that manner. In any case, there should not have been such a narrow buffer strip on either side of the asphalted roads, to give a second example. Here and there there should have been a pass, a kind of mediation with the countryside. Doubtless there should have been bushes and trees, to sew back the gash left by that gunshot.

But that's not all: and now we go back, closer to our main topic which can necessarily only be approached by drawing similarities, as it is not our duty nor is it in our competences to say which works should be carried out to protect the land and how. I wish to touch on this point, the so-called works of art which call for motorways. Tunnels, flyovers, bridges. If the gunshot wound of the motorways cannot be eliminated, (but is it true, after all, that there can only be a straight line between two points? If I am not mistaken the new non-Euclidean geometries impugn this very point, which seemed an untouchable axiom,) nobody could bar me from saying that a less clumsy implementation could have been possible for the provision of the functions of the flyovers constructed on the

Autostrada del Sole, something less disrespectful of the structural lines of the landscape it was inserted into. Especially on the Florence-Bologna route, which was boosted as a revelation also of the landscape which nobody, up to now, not living in those mountains could have seen, the landscape is discovered in its magnificence and in the misery of those bridges on crutches, of those uncalled for and frail looking crutches – a frailty that is not limited to mere appearance, as we know – which intrude with an indifference that is, to say the least, disrespectful or indecent. And it has been deprecated, but works continue to be carried out in the same manner. I shiver at the thought of seeing that which will be made in a similar fashion in stupendous Calabria, upon the passage of this artery of civilisation, but which, to be truly civilised, should not insult the figurative values of the landscape it traverses.

Now, indeed, if in order to build a road, such offences, and so many of them at that, need be made to the landscape of what was once called the *bel paese*, this Italy which was recognised and praised as beautiful since the late Classical period, what must happen for the waters both upstream and downstream to be put in order? Will we not see an unrecognisable Casentino and Valdarno? I mention these two places not because they are particularly dear to my heart, but because they are dear to the heart of anyone that is not insensitive to painting and poetry. Given that the defence of the land is sacrosanct and indispensable, must it really be made like the Autostrada del Sole, without any regard for the landscape values, the local features, the historical *facies* of the regions?

Putting forth such a question is already the act of solving it, meaning that such a mistake must absolutely not be committed or continued. Every intervention must be studied case by case – one cannot invoke a generic rule, it is impossible to keep to an abstractly planned defence strategy, without regard for the real situation of the setting. The bridge which, according to the

Autostrada del Sole, is suitable for Latium as it is for Emilia, in the route from Naples to Salerno as in the Appennines in the province of Pistoia, this planning method which spites history, hart, the landscape, must never again be repeated. This counts also for motorways, naturally, where the insensitivity and the intransigence of ANAS, unfortunately, does not leave much room for hope in this respect; but even more so for the defence of the land.

The issue must be raised, and this is not a chimera being proposed, at least by this institution, which is the home of Italian cultural traditions.

OPERATIONAL EXPERIENCES

The Icon of the Madonna della Clemenza

The Madonna della Clemenza in Santa Maria in Trastevere, of which the commentary to the long and difficult restoration work is here presented, without a doubt constitutes one of the most precious paintings in the world and, for the Western world, one of the most ancient.

But it is namely the restoration work that showed it to be so, as the hundreds of years of stratification of repaintings and deceitful modernisations caused the painting to be underestimated in value and deemed to be more recent than it actually was. The location (Rome or the Middle East?) and the most probable date of execution will doubtless remain a twofold point of scholarly controversy, made even more difficult by the fact that some of the technical features it presents, such as the encaustic painting on a large canvas applied on a board, are unique compared to the group of encaustic paintings, those in Sinai and those, though also originating in Sinai, now in Kiev, which seem closest to the Madonna della Clemenza. But whatever be the conclusions most adherent to the historical and technical data with regard to this most ancient painting, our task is that of highlighting how the elements most important with regard to its remote date of execution (6th or 8th Century?) are owed to the fact that the restoration work, far from destroying all the intermediate strata in the search for the most ancient one, was namely founded on the identification of those strata: not only using all the aids of science at our disposal, from radiographies to stratigraphic sections, from chemical analyses to chromatographies, but especially by ensuring the complete conservation, where possible, of the more recent insertions, and also, where conservation was not possible, of samples providing

unmistakeable testimony of the historical journey made by the oeuvre. Thus it was possible to identify – and this can still be seen – the most ancient remaking of the halo of the Maria Regina, which, with the characteristic *strigilatura* of the golden back colour, dates to the 9th century, thus just one century after the completion of the oeuvre, if, according to the prudent and probable hypothesis, it was indeed executed just before the iconoclastic period. Similarly, the remains of the triple crown were also conserved, and repainted, an unquestionable point, not before the Jubilee of Pope Boniface VIII, when, for the very first time, the triple crown was created and adopted as the very symbol of pontifical authority. It was then that also the *pastiglia* technique on the (third) halo of the Madonna was probably executed, taking us at least to the middle of the century. Between the 9th and the 14th century, the painting underwent other interventions which are minutely indicated in the apposite place: up to the fire of which the wood of the support still bears traces, and which must have been the decisive cause for the truncation of the board and the frame. This history of the painting now remains a living history that can be read directly from the painting itself and which is the most eloquent documentation of its venerable age, but also of the correctness of the method used, rejecting radical ripristinations, which the Institute theorises and advocates.

The venerated icon, as respect for the trespasses and events demanded, could thus not admit, fortunately whole in almost all its essential parts, and almost perfectly reconstructible with regard to the missing parts, another way of completion which was not that suggested by the dark tone of the canvas where the lacunae were. But the relationship of “background figure” which the lacuna inevitably establishes, pushing the image behind the lacuna, is inverted, leaving the difference in level between the painting and the back of the canvas, so that every lacuna is forced to remain, even with regard to visual perception, beneath

the painting, unmistakeably extraneous, due to the different timbres of the tones within which it falls. With regard to the observation that these lacunae give rise to an even greater risk at the borders, one must, unfortunately, reply that the adhesion of the three strata (encaustic, canvas, board) has always been and still is precarious, everywhere, because the penetration of the adhesive in the two interstices cannot be controlled. Thus this most precious icon is to be treated as an extremely delicate one, as it is unthinkable to suspend, even for a short while, or even reduce the assiduous surveillance it demands and of which for over two years we have gained the irreplaceable experience at the Institute, to sporadic checks.

While this has briefly been said of the restoration, I would like to underline the importance this substantial rediscovery of such an icona maior has for the recovery and investigation of the most ancient surviving relics in Italy and especially in Rome. The series, actually, began with the fortunate discovery of the Madonna of Santa Maria Nova which, in a way, was deemed to be in direct contest with this one at S. Maria in Trastevere, due to having to decide which one would be recognised as the more ancient. But the courteous contest was destined to broaden to various other surprising relics which, upon a worthy initiative of the Superintendent to the Galleries of Latium, in the person of here in Emilio Lavagnino, the Institute has re-exhumed from thick coulters of ancient repaintings.

The mutilated yet astounding Madonna of the Pantheon should at this stage be announced, as well as the Agiosoritissa of the Saints Dominic and Sixtus, both currently undergoing restoration, a new, admirable meeting point for the scholarly and the profane. Since, with regard to these latter two, while, in the fervour of the discovery of such unexpected relics, the technical staff may get carried away due to the characteristics of execution, as could the historian due to the rarity of the document, or the

iconographer due to the genealogical study of the subject, or even the restorer, due to the incredible difficulties that these restorations, which are veritable digs, may present, one should not neglect the appraisal of the value of the work, which, in the current case, should immediately be described as one of the rare original works dating from the late Classical period and the Early Middle Ages, endowed with such a formal vitality that it constitutes, regardless of its age, among the most impressive images of all time. Here one should not interpret the work, due to the fact of uniting the Hellenistic elegance and workmanship with the impassive Byzantine figurative hypotyposis, as a dissidence and incongruence, comparable, as is, to that undeniable survival in suspension witnessed Gothic or Renaissance works, even in one of the greats such as Pisanello, and which did not impede him from achieving beatific images beyond the horizon.

The restoration was carried out at the Istituto Centrale del Restauro in 1954-55 by restorers Nerina Neri Angelini and Aldo Angelini, assisted and directed by Dr Giovanni Urbani. The parqueting of the painting was planned by Dr Roberto Carità. The chemical analyses and the study on appropriate solvents and their preparation was carried out by Dr Ada Capasso and Dr Giorgio Torracca; the colour sections were taken by restorer Antonio Giralico; the photographic documentation was carried out by photographers Francesco Peleggi, Mario Tonelli and Antonio Ciarniello.

The Restoration of the Madonna del Bordone by Coppo di Marcovaldo in the Chiesa dei Servi in Siena

The earliest reference to this major oeuvre by Coppo di Marcovaldo dates back to the Guida di Siena del 1625⁶, which mentions it above the altar of the Rondoni or the Bordoni or the Ronconi, later Biringucci's, in the Chiesa dei Servi in Siena. There have always been disagreements over the denomination or the proprietary family, as well as over the name of the Madonna del Bordone, by which the painting is traditionally called.

Bacci⁷, however, uncovering the mention that a Coppus dipintore, populi Sancti Laurentii participated or was perhaps taken prisoner by the Sienese in the Battle of Monteaperti (1260), came to breathe new life into a tradition that was still alive even in 1895, that is, that Coppo, a prisoner, would have paid his ransom by painting the surviving Madonna. From this, one could infer that the name Bordone came not from a pilgrim nor a Sienese family called Bordone or Bordoni, which was furthermore not known to exist in those days, but was actually a corruption of perdono (forgiveness) or of condono (remission), following the manner of a popular etymology which would be far from impossible in a city where the vernacular offered many such instances.

Nonetheless, the earliest mention is the above-mentioned one, by Fabio Chigi, later Alexander VII, who saw the painting and read the signature and the date, transcribing it as follows:

6

Fabio Chigi (Alexander VII), *Guida del 1625*, in *Bull. Sen. Di St. Patria*, 1939, III-IV, p. 32.

7

P. Bacci, in *Documenti toscani*, II, 1912, from p. 1.

MCCLXI. Coppus de Florentia me pinxit

After 1625, and probably after the said altar passed under the patronage of Mons Borgognini, the Bishop of Montalcino, the painting had to undergo a radical restoration intervention and the signature disappeared, indeed Faluschi, in 1784⁸, attributed the work to Diotisalvi Petroni, followed by Romagnoli afterwards. The bringing to light of Coppo's involvement is owed to Milanese, who then bequeathed it to modern critique.

The painting's hardships began very soon, however, as a student of Duccio, whom we believe to be Niccolò di Segna, repainted the heads of the Madonna and the Child, approximately in the first quarter of the 1300s: a rejuvenation due to the radical development of the pictorial tastes of the time, and which Coppo's Madonna shared with Guido's Maestà. But while for Guido's Madonna, the painter, significantly more delicate and subtle, scratched the ancient paint so as to have a new ground colour, for Coppo's Madonna, the painter merely painted over the original, leaving the substratum intact, the radiographies of which, carried out by the Institute, form the basis of the first publications on the matter. Subsequently, the painting suffered much damage, even fire damage (candles?) but especially to the support, both due to woodworm and the disjunction of the axes. Furthermore, two iron bells had been attached *ab antiquo* in the back of the board, with the rust from their joggles causing two raised areas in the painting, then removed in the current restoration intervention with the extraction of the rusted iron and the flattening of the painted surface. From this progressive deterioration, it can infer that the first grave intervention on the painting took place circa 1700 – the date is produced in a report of a similar handling, by painter Domenico Seghi, of the

Madonna del Manto by Giovanni di Paolo⁹, in the same Chiesa dei Servi. The board was made drastically thinner downwards, in an attempt to remove the part more consumed by woodworm: the crack on the left, caused by the disjunction of the minor axis, was filled out with paper, then stuccoed and repainted. The parts of the painting which detached and fell were crudely repainted with oil, especially the bust of the Madonna, the foot pillow and along the contours of the angels and the throne. The frame was trimmed, the rosettes were abraded; a new gilded frame, of a definite 1700s type, was placed over it. For this reason, Milanese, who did not suspect the ancient frame to be underneath the thick surface of the rounded corners and underneath the 1700s frame, thought the entire frame was modern and even that the shape of the board had been changed.

After this restoration-tampering in the 1700s, the board evidently underwent more interventions, during the last one of which, when it was moved to the humid chapel of the Campanile of the Sacrario of the fallen of the First World War, where the glue and sawdust mixture, as well as the application of various small, wooden bars glued horizontally and of a fixed frame completed the static disaster of the support. The support's axes, thus blocked, warped and broke, this, given the precarious condition of the surviving wood, made the restoration very difficult and complicated, were it decided not to resort to a transfer. It was decided not to have a transfer, also due to the very sound statics of the painting and the healthy adhesion.

The work began then with freeing the painting of the additions to the front and the back. It was then that it was discovered how the ancient frame, though much tampered with, had survived, bringing up a very important technical element.

9

See our *Giovanni di Paolo*, Florence, 1947, p. 72, n. 28.

The frame still preserved, almost completely, an old and very thick varnish which was, even visibly, different to the remarkably thick superficial stratum of oxidised varnish found on the painting.

It was clear how this varnish should be regarded as being older than the 1700s tampering of the board, but since the painting bore no traces of restoration dating from the period between the 1300s repainting and the 1700s tampering, everything appeared to point to this being the original varnish. Cennini speaks explicitly and minutiously of the varnishing of the boards, indeed to such a degree that one could exclude with definite certainty that, where one may find a varnish laid over gold, in an ancient work, the varnish could ever be the original, which would never be applied over gold.

The chemical analysis carried out by Dr Liberti on the varnish found on the frame showed that it was composed of a not excessively hard resin, similar to the Dammara type, while the varnish overlaid in the 1700s, or even later, and – let this be clear – on the whole of the painting, including the gold background, is completely composed of a resin of copal¹⁰ type.

10

The following report by Dr Salvatore Liberti is quoted below, concerning the analyses carried out on the two varnish samples:

Having observed the samples firstly under the microscope (80-450 times enlargements) one can see different colourings, micellar aggregate and brilliance in them. Even today, we still do not know the specific microchemical reactions needed to identify the resins separately; in fact, both the Storck Morawski reaction (solution in acetic anhydride and concentrated sulphuric acid; brown colouring moving toward violet) and other less important kinds (Liebermann, etc.), are of a general nature. Chemical analysis can identify rubbers, recent resins, fossils, rubber resins, balms, through many tests with which the chemist can attain a full picture of the individual characteristics and with comparisons and subsequent exclusions, a positive result may be reached.

The tests are the following: the softening and the melting point; solubility in various solvents; refractive index; iodine number; saponification

This second varnish was removed a secco, without affecting the layer of ancient varnish, found beneath it, which was of a colour and consistency identical to that of the frame.

Once the pictorial surface was protected, both the straightening of the curved sections and a special parqueting, which permitted the ensuring of the staticity of the painting and

number; acidity number, acetyl, ether, etc. Only a very few of these tests can be carried out on the samples taken in minuscule quantities from ancient paintings, so the analyses' chances of success depend solely on the chemist's actions and experience with such substances.

Practical aspect: burning the two samples a balsamic odour is noticeable, the flame is not sooty (so coniferous resins are excluded), the softening point for amber-coloured resin is around 65 °C, while that for brown resin is around 90 °C. The melting point of the former is of around 130 °C, while that for the latter is of around 180 °C. Given the minuteness of the samples, the identification of these points was very difficult.

Other important tests are those for solubility, carried out with the following method: the sample is put in a micro-testtube with the solvent, and then in a bain-marie until the liquid used is completely evaporated, so as to add the new solvent and to make use of the same quantity of substance for an indefinite number of tests.

The amber-coloured resin gave the following results: in ethanol, it first swells and then melts almost completely, over time; it is soluble in chloroform, benzene and turpentine; it is soluble in part in diethyl ether, petroleum ether and acetone.

Judging from the abovementioned solubilities, the sample cannot be elemi, nor can it be mastic or fossil copal, and it cannot be amber or shellac: it could, however, be Dammar resin. This is confirmed by the softening point mentioned earlier (65 °C) and the melting point (130 °C); the last test is for the refractive index. Some of the previous solutions are repeated, making use of extremely pure solvents with known refractive indexes: refractive index on the Zeiss refractometer = 1.515 The resin can therefore be classified as belonging to the Dammar type.

Next are the solubility tests on the other sample: it is insoluble in petroleum ether, acetone or cool alcohol, it is soluble in alcohol-ether mixtures; it is heat-soluble – in a micro-crucible heated to 300-320 °C for 6

did not obstruct the movements of the board, were subject to study, especially on the part of the restorer Verdinelli. The straightening was carried out through longitudinal incisions in which thin wedges of hard wood were inserted, according to the Institute's usual method; for the parqueting, on the other hand, after freeing it of the sagramatura of sawdust and glue and the fixed bars and after its straightening, the board was reduced to an irregular and grooved sheet, in places less than a centimetre thick at the top: this, which had made the straightening of the curved and warped parts even more difficult, called for a very solid support, but one that was also extremely sensitive to even the subtlest motion of the wood. The parqueting consisted thus in the gradual application of vertical, 3-cm-wide battens of seasoned poplar in contiguous segments of no more than 30 cm, applied at a distance of 3 cm, inserted into the wood of the support as the thickness of the board increases downwards. The reapplication of the lesser axis, which was disjointed before the 1700s, showed that the conjunction was originally attained using wooden pegs, as with the compartments of polyptychs. Between the vertical battens, wooden lozenges were inserted, glued only on one side and placed diagonally: this was to provide intermediate support to the battens and to allow more room for the expansion of the old wood, which in a position orthogonal to the fixed vertical pieces would have obstructed. This was an opportune consideration, as the wood, due to the damage caused by woodworm, expands and contracts in a non-uniform manner. Lastly, having thus attained an elastic, light and solid support, four horizontal bars in pitch pine, inserted and fixed to the battens. Given such an elastic structure, it was not advisable to

hours – in linseed oil and turpentine. The refractive index, obtained with the same method used for the previous sample, is of 1.544.

The sample can be considered to be a fossil resin, of the copal type, looking also at the softening point (90 °C) and the melting point (190 °C).

Result: the amber-coloured sample is a recent resin of the Dammar type.

The brown sample is a fossil resin of the copal type.

reapply the frame it was set in originally, constituting a rigid fetter at the top and the bottom of the painting. Therefore, a system of angular, brass staves was developed, with a fulcrum fixed at the back of the board with a screw, which could move within an oval socket and could permit the board to slide along the fulcrum, whether it be expanding or contracting.

It should be added that the control of the painting, for many months after the restoration, confirmed the utility of these precautions. As much as one may fool oneself into thinking that such an ancient and worn wood would not move again, it was in fact ascertained that it expanded and contracted with great ease and in a very irregular and sporadic fashion in different places, and it became necessary to replace some of the intermediate support lozenges which, as the board moved, were no longer in contact with the unglued part. After the complete healing and levelling of the board, the protection was removed and the real restoration work began. It was, firstly, decided against removing the 1300s repainted parts; such a removal would only be attempted where it would be possible to preserve these as well, but an a strappo was absolutely impossible, due to the lack of a new preparatory layer between the 1200s stratum and Duccio's. Furthermore, the historical evidence, besides the artistic, was of such importance that, even where there was the mathematical certainty of carrying out the strappo procedure whilst saving both strata, one could have easily and justifiably supported the opposing view and demand the on-going conservation of such a rare documentation. The work of art, in fact, appears to our consciousness with two instances, the historical and the aesthetic, neither of which can be sacrificed for the sake of the other. In this case, the radiographies permitted a very accurate examination and, moreover, the current restoration would not compromise the possibility of a future removal, were the criterion of restoring stylistic unity to the painting to prevail.

This was sufficient to justify the decision.

Meanwhile, the frame had revealed two extremely important elements: the first was the signature, in the exact tenor described by the 1625 guidebook:

A[NN]O D[OMINI] MCCLXI COPP[US] D[E]
FLORE[N]TIA ME PI[N]X[IT]

the second new element resulted from the fact that the bevelling contained the upper part of the Madonna's halo reversed on the frame: this made it certain that the painting was in the original shape and size. Even though we may not be able to cite other cases such as this, we must recognise a sort of “phase of reabsorption” of the halo embossed outside the board, which one can see also in the other board, embossed and in paint, attributable most probably to Coppo, at S. Maria Maggiore in Florence.

But other technical particularities would reveal themselves in the course of the restoration.

The veil of the Madonna, impressed with tondi with eagles, having removed the 1700s daub, revealed a canary yellow, which a layman could have mistaken it to be a jaundiced original white¹¹. But a careful examination of some of the scratchings (which were left in view in the restoration) showed that Coppo had actually painted the blue shadows of the veil over the white preparatory layer, but then veiled the whole with a transparent, coloured varnish, over which he painted the tondi with the eagles. Mark: “transparent, coloured varnish”. Here was the

11

Light and not as dull as the repainting suggests Bacci supposed (*op. cit.*, p. 8 and 10). See also Weigelt's *Art Studies*, 6, 1928, p. 201.

proof that the veil was originally meant to be coloured, because, when Duccio's follower repainted the visage of the Madonna and the Child, he added a white sub-veil to the Madonna which would have been illogical if the older veil had also been white. The painting still had many surprises in store. Both the mantle and the garb of the Madonna revealed themselves to be painted over a silver base background, which was not an attempt to correct a mistake, but rather a substratum for equally-planned transparent colours as in the future, translucent glazes. The cloth held by the Madonna in her hand under the Child, with the transparent shadows, the coloured varnish and the overlaid embroidery were painted in the same way as the veil was. The foot pillow is even more astonishing, as this, executed firstly in a very lively, regular chequered pattern, was then covered in the middle and the highlighted parts with a yellowish varnish, as well as, where the relief and the shadow were suggested, with a transparent, ruby-red varnish, so as to suggest the typical effect of iridescence. Thus it was shown, *lippiis et tonsoribus*, that Coppo had made use of pure colours only for the first phase, in the preparatory stage of the painting, and which he then finished the work with veils and coloured varnishes. We were to find confirmation for this extraordinary procedure in *Schedula*, by the monk Theophilus¹², a work that was well known and in use all over Medieval Europe. In Chapter XXIX *De pictura translucida*, Theophilus explained the procedure of which Coppo's painting practice is the broader and more integral application:

12

Theophilus, *Diversarum Artium Schedula*, Leipzig 1843, p. 48. We would like to mention the technical details also in the catalogue of the 5th Exhibition of Restorations held at the Istituto del Restauro in March 1948, as well as in the *Enciclopedia Italiana* in the addition to the item Restoration, p. 698-700; subsequently published in the article in the July 1949 issue of *Burl. Mag.*, namely, *The cleaning of Picture in relation to Patina, Varnish and Glazes* (p. 187 and 188, fig. 2 and 5).

Fit etiam pictura in ligno, quae dicitur translucida, et apud quosdam vocatur aureola, quam hoc modo compones. Tolle petulam stagni non linitam glutine nec coloratam croco sed ita simplicem et diligenter politam, et inde cooperies locum, quem ita pingere volueris. Deinde tere colores imponendo diligentissime oleo lini, ac valde tenues trahe eos cum pincello, sicque permitte siccari.

The sole difference between Theophilus and Coppo lies in the fact that Coppo used silver rather than tin and that he extended the procedure to every stratum of colour.

From the above, it can be discerned that even for more ancient works one must keep in mind the possibility of the coloured varnishes as a function of velatura, and that, rather than assuming the exceptional nature of the procedure, one must set off with the opposite assumption: always placing the instance of the velatura first.

In Coppo's painting, evidence of the extension of the technique of velatura can be found in even the most commonplace examples, which can be found also in other paintings from the 1200s and the 1300s, such as the shadows marked with velatura in the cloth behind the throne, the cushion on which the Virgin sits, the cloth with which the Child is supported. If one then thinks that, in the ignorance of the technical procedure of translucent paint, there has been a case of ancient colours removed, even recently, only because the silver leaf was seen underneath, it would not be an exaggeration to highlight the contribution of this restoration intervention.

Lastly, one should note, with regard to the conservation of colours, that in the Madonna on the throne of the archpriest's

church in Pomarance¹³, imitated by Coppo's Madonna by hand of an unknown provincial local, at the end of the 13th century, the colour of Madonna's vestment is identical to that of the Madonna from 1261, that is, a dark lilac, similar to that of the pages of purple codices. This evidence is important because the Madonna of Pomarance does not have the particularity of translucent colour and therefore the tone of the vest, being reproduced with the usual technique, could not have turned out in the same way as the translucent one.

The discussion on Coppo's style extends beyond this report, on the basis of the evidence provided by the radiographies of the heads: a style quite different to that of the Madonna dei Servi in Orvieto, but not such that we should doubt the attribution. One must, however, highlight the details of the concentric curves on the pommels, the tip of the nose, the lip, details of pure musal derivation, that can be found in the circles of the Berlinghieri, in Giunta and in Siena where they are to be seen in the disputed Madonna dei Mantellini (Lucchese, Sienese, Pisan?), but not in Coppo's Madonna in Orvieto. In the painting of Orvieto (after 1265) even the harsh breaks of the Sienese picture soften and vanish in the Crucifix of the Duomo di Pistoia painted by Coppo with his son Salerno in 1274. These are not evidently reliefs which could comfort the complete overturning, now being attempted¹⁴, of the influence exercised on Coppo by the paintings of the circle of Guido of Siena. The next report on the restoration

13

It can be seen reproduced in the repertoire of E.B. Garrison, *Italian Romanesque Panel Painting*, Florence 1949, p. 45, n. 26. It was exhibited in Volterra at the exhibition of local works of art at Palazzo Guarnacci in 1949 (n. 4 in the catalogue, edited by Enrico Fiumi) and had previously been cited and described as a copy of Coppo's Madonna by Weigelt (in *Art Studies*, cit., p. 201-202, n. 3), and afterwards also by E. Sandberg Vavalà (*L'iconografia della Madonna col Bambino*, Siena 1934, p. 46, n. 128).

14

of Guido's Maestà will do the rest.

See R. Longhi in *Proporzioni*, II, 1948, p. 35-36 and the *op. cit.* by Garrison, p. 15-16 and 40. E. Sandberg Vavalà also talked about Coppo in *Art in America*, 1940, p. 47-54; also G. Coor-Anchenbach, in *Art Bull.*, 1946, p. 233-247 and in *Burl. Mag.*, 1947, p. 119-129.

The Restoration of the Basilica Superiore of S. Francesco in Assisi

It is rare to feel such an intense emotion from a visit to a monument one knows like the backs of one's hands and which has only been restored. But in that "restored" may hide an abyss, a great precipice may reveal itself. One need only think of the infamy of the restoration (why so use such an honest word?) of S. Maria di Collemaggio in L'Aquila, vandalistically mangled, mutilated, degraded. The complete opposite of what has happened at the lower Basilica in Assisi, because this is what we are referring to, and which, after years of obstacles set up by the Court of Accounts, the Istituto Centrale di Restauro has finally, with the Superintendency to the Galleries of Umbria, has returned to a splendour which nobody, I think, could have imagined possible, which is all the more worthy as it isn't a false splendour achieved with underhand methods and insidious repaintings, but truly and solely a bringing to light of the pictorial surfaces which, almost miraculously, had remained conserved underneath a thick layer of dust, carbonates and moulds.

The restoration of the vault segments, the transept and the chapel of Mary Magdalen had already been done, years ago. But the lower Basilica is such an organic complex that the inequality of the conditions, with regard to its various sections, causes an imbalance which reflects poorly also on the parts that are in order: imagine then if, among these parts, there is the chapel of St Martin by Simone Martini. Now all this, with the small exception of the decorations of that kind of narthex-atrium which precedes the nave, has been restored, over two kilometres of frescoes. Perhaps, to those who are not much acquainted with these things, the two kilometres may impress more than the

names of Simone Martini, Puccio Capanna, Andrea da Bologna, and other painters still under discussion, but all of an excellent level. Two kilometres, therefore, treated as if they were miniatures, as far as the restoration was concerned, cleaned with the maximum care, and which has in all places been spared a precious veil of patina, with a sensible integration of the lacunae, carried out in an orthodox method, i.e., *a rigatino*. Therefore the restoration not only produces this unforgettable overall impression, but also satisfies in its details as an impeccable philological operation, of which I must be especially grateful, and not only generically as a scholar, to my former students: firstly the current director of the Institute, Giovanni Urbani, whom I nurtured up from the start of his apprenticeship and whom I now have the pleasure of seeing holding true to the principles I have supported and promoted for thirty years. Urbani brings to life the *optimum* of an art historian who is also a restorer, and knows the problems of painting not merely in a bookish or hearsay manner. The equilibrium with which he has directed this restoration work of pictorial pages which represent an apex of 1300s painting does him great honour, as it does to the department for the Administration of Fine Arts, of which, for once (it happens so rarely!) we can speak well of. The hope of everyone, and it is a veritable religious obligation, is that the same treatment may be carried out this year for the frescoes of the upper Church, the restoration of which, no less pressing, was interrupted due to bureaucratic and administrative quarrels almost fifteen years ago. Urbani will gain importance in the eyes of culture, not only at the national level, by resuming it with the Istituto Centrale del Restauro which reveals itself more and more to be an indispensable hauberk for the artistic heritage of Italy.

But immediately after Urbani, who has the merit of having orchestrated this great work, full recognition should go to Paolo and Laura Mora, as the authors and directors of the actual complete execution. And here there are two great sequences to be

highlighted. Firstly the extraordinary impression the 1200s nave's decoration makes, probably executed under the direction of the Master of Saint Francis, who did the side frescoes. It is an architectural decoration, in perfect union with the ribs, and richer than would be expected in other such cases. Its dynamic is ancient, rather than vernacular, but with brilliant colours which create such a fresh and sparkling feast, that it amazes one not to have noticed it before, reason being the dulling and flattening of it due to dust and smoke. Indeed, the Gothic vault of the atrium-narthex, which is equally decorated, but has not yet been cleaned, gives the impression of being an 1800s imitation.

One does not imagine, without having seen it, the solemnity of this nave which so grandly introduces one to the vault segments and to Pietro Lorenzetti.

But upon entering the chapel of St Martin by Simone Martini, one's emotions rise like the tide. The admirable frescoes, which are an almost intact series, have regained a clarity which not even the panels possess. They seem to be painted on ivory. The general tone is that of ivory, with that calm luminosity, the silvery tones, pinks and greens, the opalescence of the vaults. This transparency of images must not be understood as an enfeeblement, in the same way that the transparency of a stained-glass window does not deaden its imagery: it is namely the result of an extremely rare equilibrium which has kept, with the light veil of patina, its legacy of time, and it is this very legacy which is expressed in the chromatic relationships which develop the panels in the clearness of the recovered tones.

The Orsini Chapel, in the transept, is another spectacular example. It need only be said that, up to now, before the restoration, one would doubt whether it should be attributed to a Sienese or a Florentine master. In its cleaning, it has found once more the pearly tones which clearly show its Sienese ancestry but also its Florentine parentage. And in my opinion only one name can be uttered now, Lippo di Benivieni, probably with

some help from Rimini. Here the restoration staff, students of the Institute, Spada and San Martino, also deserve great praise.

Lastly, the chapel to St Catherine, decorated by Andrea da Bologna, brought by Cardinal Albornoz, gave unexpected results. The whole is most beautiful, the details, it is known, somewhat arid, the composition is modest. But the restorer, Giantomassi, also a student of the Institute, found a happy equilibrium which more than ever makes one desire to see the cycle complete with the restoration of the atrium-narthex.

For Saint Francis, who wrote the Canticle of the Sun, the Canticle of Frescoes has now been intoned. It should be continued to the very end.

The Maestà by Duccio di Buoninsegna

Given the close collaboration which the restoration phases of the Maestà demanded between operators, critics and scientists, it was preferred that the final report also be presented as a unitary piece. It would be fair, however, to indicate below the authors of the chapters and the executors of the various operations linked to the restoration.

The chapter regarding the structure and the conditions of the support was under the care of Paolo Mora, restorer.

That on the restoration of the support is by Dr Roberto Carità.

Of the chapter on the state of conservation and restoration of painted surfaces, the section on the Stories of the Passion was under the care of Dr Giovanni Urbani; that on the front façade of the Maestà was under the care of Dr Carlo Bertelli.

The analysis of the wood, the identification of pigments, the solvents used for cleaning are by Mr Paolo Mora with the collaboration of Dr Giorgio Torraca.

Dr Ada Capasso took care of the exam of a canvas fragment, of the original adhesive of the support boards, of the original varnish and the added varnish, as well as the analysis of the binding media in the preparatory layer, while the analysis of the gypsum preparation under X-ray diffraction and the colourimetric analysis were carried out by Dr Manlio Santini. Antonio Giralico, restorer, collaborated in the execution of the sections and the analysis of the media.

Nicola Costantini executed the graphs and drawings, the photographs were taken by photographers Mr G. Ciarniello, Mr F. Peleggi, Mr M. Tonelli.

Coordination was carried out by Dr Giovanni Urbani.

The restoration of the Maestà was carried out by restorers Mr

Paolo Mora and Mrs Laura Mora. Mr O. Verdinelli and Mr A. Bellafemmina collaborated in the execution of the parqueting.

Restoration to Piero della Francesca

Three paintings by Piero della Francesca needed restoration, to various degrees, and, entrusted to the Istituto Centrale del Restauro, underwent the treatment to be specified for each of them. The paintings were the following: the Flagellation and the Madonna di Senigallia from the Galleria Nazionale in Urbino, the Polyptych of the Galleria Nazionale of Umbria in Perugia.

The first of these paintings, which is also the most famous, suffered from two grave inconveniences, one concerning the support and the other on the pictorial surface. The support, at a time that has been impossible to ascertain because of shortcomings in the archive logs, had two iron bars applied, screwed on in the opposite direction to the fibres of the wood. These bars, which evidently must have been conceived in the naïve hope of halting the warping of the two support axes, actually caused two new cracks at the base of the dovetails with which it had previously been hoped to stabilise the two parts of the support. The presence of these bars, besides causing the grievous cracks, represented an on-going danger and rightly concerned sharper scholars, who had already pointed out the problem.

With regard to the pictorial surface, the presence of a crude and patchy paint, probably added at the same time as the dovetails, took away the distinctness of the chromatic composition of the painting, altering the light balance of the illuminated areas and those in the shadow.

Once, therefore, having received the famous painting at the Istituto Centrale del Restauro, the first action undertaken was its documentation in as extensive and meticulous a way as possible. Then photographic reconnaissance was carried out in black and white, actual size with 15 photos, a colour photograph of the

whole, a photo of the back and an ultraviolet photo. As for the radiographs, these produced very poor results, and where in any case geared to ascertain the condition of the edges of the joints of the two support axes, where it was suspected there could have been tiny particles of the authentic colours hidden by the stuccowork.

After having carried out the set of photographic documentation and, with the need to intervene on the support, this was carefully examined, while subjecting it to gassing to kill off woodworm in a gas chamber.

With regard to the support, it was already possible to notice, after an attentive, close examination, which was absent in the reading of the painting, that this, at some time, had been taken off the two axes it is set on, and that these were not then reattached correctly: in fact, the lines of the grooves in the columns and other undisputed architectural elements did not match from one side to the other of the horizontal junction of the axes. During this operation of detaching and reattaching, doubtless, the application of butterfly or dovetail joints was carried out, to set the two axes between them, a method which, it should be mentioned in passing, is still carried out, generally, but is extremely risky. The application of dovetail joints, which the support was not originally planned for, had to be implemented because, originally, the painting doubtless had a fixed frame which acted as a supporting structure for the painting. But, as always is the case, the fixed frame, by imprisoning the wood, caused the painting to detach from the frame at the points of least resistance, as well as the separation of the two support axes. Thus, the frame having been destroyed and fearing that the two axes would separate again if they were to be merely glued together, swallowtails had to be used. But these act as a "stop" which immobilised the wood fibres contained in the joint's bite, and then, when the fibres were no longer able to contract and expand naturally, bent the axes. Erroneously thinking of

remedying the warping with fixed bars, new splits were caused in the board.

Thus having reconstructed the history and the evolution of the damages, we then moved to the treatment. Since the treatment planned the detachment of the two axes, with the removal of the swallowtails, as well as a certain number of horizontal cuts, both to restore the horizontal level of the board and to stop the tendency to warp, before intervening on the support of such a famous oeuvre, the opinion of a top wood expert, the late engineer Mr Cormio, director of the Civica Siloteca in Milan, was sought out. After the arrival in Rome, the consultation continued for five days, so as not to leave, as much as possible, any problem unsolved. All the sides of the issue were examined and, after the approval of the damage diagnosis and the treatment method, a small sample of wood was taken, then identified by Mr Cormio as poplar, and the position of the straightening cuts were decided, in his presence, in order to allow a slower, more gradual recovery. One issue remained and still remains unsolved: the cause of the transversal direction of the flaking on the pictorial surface, which did not correspond to the wood fibres and did not receive an adequate technical explanation.

Having decided the work to be carried out on the support, we then had to ensure the stability of the colour, with regard to the flaking, as well as removing the stuccowork between the two axes, before detaching them; this was carried out with the utmost care, allowing some small pictorial elements to be uncovered from the stucco. The flattening of the surface protected by paper and *colletta* significantly decreased the cracking, without going so far as levelling it out completely, out of caution.

Afterwards, after removing the swallowtails, the axes were detached, with no difficulties from the state of degradation of the intermediate glue layer, consumed by mould, as shown in the macrophotographies of the internal cut of the axes and the

phytopathological analysis.

The straightening was carried out on the separated axes and, for the reunion of the axes, a non-hygroscopic adhesive was used, as well as in the application, in the cuts for the gradual straightening, of extremely fine cuneiform strips of Sessile Oak from Slavonia. On the other hand, for the other support treatments – the edges of the axes, the left corner eaten away by woodworm, the tails of the dovetail joints – seasoned poplar wood segments were used, to allow a similar dilatation index as the support, wood which was sampled, furthermore, by axes known as *mezzoni*, which provide better stability and uniformity in the inevitable contractions of the fibres.

Concerning the reinforcement of the support, that is, to equip the wooden fibres with cracks with sliding rails, since the general condition of the board was good and the thickness sufficient, it was preferred to examine the application of two sliding rails rather than one whole parqueting. It was actually with this painting, which raised many legitimate concerns, that the study of reinforcement on wooden supports was furthered and this, which continued up to today, led to a radical innovation of the reinforcement on paintings on wood. And we like to point this out in relation to this restoration work, which was at the basis of the now completed studies. These studies, which may only be mentioned in passing here, were carried out with the international cooperation offered by ICOM and promoted a more in-depth awareness of the behaviour of wood and drew attention to the structure of the support, which had been considered only sporadically. There is in fact a substantial difference, due to the behaviour of the support in relation to thermohygroscopic variations, where this is composed of axes made from the centre of the trunk, which are called *mezzoni* and *radiali*, or from tangential axes. As the axes' material's origin moves further from the centre of the trunk, they tend to bend, in a convex manner with regard to the diameter of the trunk. It may also be that,

unwitting of this constant law, the carpenter of old may have glued together tangential axes tending to curving in contrasting directions: and in this case it is clear how a single sliding rail may jam due to the opposite movements of the axes.

It was not by luck that this case concerned the support of the Flagellation, composed of a *mezzone* axis that is almost radial, convexly warped, and a tangential intermediate, also convexly warped (with respect to the painting). Therefore, following the advice of Mr Cormio, two sliding rails were planned, to be made of Sussile Oak from Slavonia, the wood most suitable according to Mr Cormio himself, who personally went to all the wood deposits in Rome to choose, with the chief carpenter of the Institute, the radial axis to be used for the sliding rails for the precious painting. These sliding rails, which behave very well, were replaced a year later with two metal sliding rails in duraluminium, in accordance with the system which was meanwhile perfected by the Institute and which definitively guaranteed the inevitable movement of the fibres, by way of an apparatus of small, mobile, metal bridges. This system, which has finally resolved the problem of parqueting and which will be in turn described, deserved mention here, to document the excellent treatment by the Institute on this most precious of precious paintings.

Once the flat support is obtained, free but controlled and supported in its movements, the protective paper was removed from the pictorial surface. It should be noted that the previous flattening was carried out with the old *colletta* system with which the protective paper was applied, rather than with the mixture of wax and resin, precisely to keep to the use of traditional materials that would not give rise to reservations over the opportunity of using a method less used and less known in Italy, i.e., setting with the use of infra-red rays.

Having removed the protection it was then possible to irreprehensibly state that the straightening had not at all modified

the network of cracks and had actually, in a small way, eased the collimation of the edges. There are, in fact, some fears, even among skilful operators, that the straightening could cause new flaking, but the fears are unfounded if the cutting and subsequent straightening operations are carried out in an extremely progressive fashion, without any haste, and after an in-depth study of the wood to be straightened.

The second part of the restoration, concerning the cleaning, thus began. Before the velatura with paper, a minute particle had been extracted, from the extreme edge of the sky, for a stratigraphic section, to document the presence of additional varnish. The aim was to remove, or at least to thin the irregular, granular, brown paint, without reaching the pure layer of colour. In this case, in fact, one could not be mistaken into thinking that all of the original varnish would have been conserved, and there is no doubt that the additional varnish had been applied *ad arte*, in such an irregular and rough fashion, to confuse the previous risky cleaning work the painting had been subjected to.

Even though documentation on the Flagellation is scarce and of a much later date, it is sufficient, for those who made the effort to look for it and ascertain that the painting had to undergo rather drastic interventions even in just the brief *historical* course, for want of a better term, of this last century. From a first, explicit quotation of Passavant, it seems, in fact, that the painting contained, according to the exegesis by the right-hand Sibylline group, the following inscription, from *Psalms II, 2*: “Convenerunt in unum” [et principes convenerunt in unum adversus Dominum].

In the translation of Passavant's oeuvre, which was made in Italian, it seemed that the inscription had disappeared already by the time of Passavant, but there can be no doubt that the original German text was seen and read by Passavant himself, in 1839: “... im Vordergrund stehen drei junge Männer... *Dabei steht: Convenerunt in unum.* Es ist eine Satyre... Das sehr zart

behandelte Bildchen hat noch folgende Inschrift: opes etc.” Now, in the Italian translation (1899), this last part sounds “brings even today” [“porta anch’oggi”], which suggested that the first inscription, though the text declared “here written” [“evvi scritto”], had already disappeared and that Passavant was familiar with it due to hearsay, an interpretation which supported what was inscribed between the parentheses (tradition says), placed after the interpretation of the missing text like that of a satire. One must therefore believe that, in 1839, the painting of the Flagellation had not yet undergone the drastic intervention which led to the deletion of the text, since it was later mentioned in an incorrect form. In fact, it became (in Pichi) “convenerunt in eum”, which does not correspond to Biblical text or Passavant's lecture; had the biblical text been better known, with that evident reference to *members of the court* (principes) and the *Lord* (Dominum), even the controversial interpretation by the group would have offered fewer footholds for doubt. That which is certain, in 1864, is that the inscription had already declared lost by Cavalcaselle, who commented, in 1898: “The colour of this painting was damaged by the excessive cleaning work.”

It must have been during this inauspicious intervention that the imbalances in the coffered ceiling were produced, for instance. In fact, however much the immortal light of this painting is not “centralised” as is the perspective, there being not one but two sources of light, the illumination of the central part of the coffered ceiling is baffling, and in any case it remains incontrovertible from Anderson's photograph dated 1911. It is clear that, together with the inscription, some broad velaturas must have been started, in some place. In any case, one could never “correct” that probable, ancient mistake with a tasteful velatura, and therefore, the duty of the Istituto Centrale del Restauro was to reduce the interventions on that worn and precious chromatic surface to a minimum. In fact, one had to limit one's work to thinning the layer of added paint, so as to

reduce it to a film, as uniform as possible, and which, without uncovering the colour's varnish, would ensure an equal visibility of the chromatic timbres beneath. That is what was done, with an almost exaggerated graduality and a continuous documentation with black and white photos, colour photos, macro- and microphotographs, which are absolutely advisable to study even on first-hand copies.

With regard to the integration of the lacunae, one had to realise the very special character of a painting which was carried out with an execution that is almost miniature-like. Often, the falling off of the paints concerned "incompletable" parts: the tip of the nose, the mouth, an eye. Therefore, not only could one not expect the possibility of completion, but one also had to try to conserve the lacunae in their now familiar, historical appearance; so, in some cases, even the old *stuccatura* were left intact, where the statics of paints permitted. Only in one point was it necessary to intervene, and this was with regard to the horizontal cracks, as these truly affected the frame of the perspective, and therefore constituted *active* damage. But the minimum completions, for closing the cracks, were carried out in the way with which the Institute carries out completions, with the thinnest threads of water paint, so as to be always recognisable and immediately discernible at a close distance.

In no other part of the painting, having now assured oneself of the firmness of the primer even where the surface was broken up by small lacunae, were completions, nor even *stuccatura*, carried out.

The precautions, the extreme care, the prudence with which this restoration was carried out, and, lastly, the exorbitant documentations in monochrome and in colour, were to shelter it from any criticism, but not from slander. The Institute began to be accused of no less than causing the two new cracks: it was easy to prove the cause of those cracks and their emergence, which was, in any case, clearly documented in the photographs

made by the Superintendency of the Galleries of Marche two years before delivering the painting to the Institute. After this accusation fell, it was insinuated that “in any case, the painting appears diminished”. Now how can a painting be diminished when not only can one check its absolutely identical consistency with actual-size photographs before and after the restoration, but one can also clearly check, with regard to the cleaning operation, that the added layer of paint – which was so obviously added on that it could even be found in the cracking – was not completely removed, but left as a protective veil? Such murmurs could not leave one not unperplexed about their good faith and serenity, were one to consider, furthermore, that none of these ever formulated a reasonable criticism through the press when the painting, with extensive documentation, was exhibited at Palazzo Venezia after the restoration.

It has, however, been recently taken into account when, for the Florentine Mostra, the restoration of the Flagellation was especially criticised by Roberto Papini with regard to the excessive – in the critic's opinion – splendour of the colour (“extremely harsh blacks” and “greys that have become flashy” were mentioned), due to an alleged “cleaning to the bone” carried out by the Institute, which he claimed destroyed the *tonal* accord reached by Piero.

Yet even Longhi, in his famous book on Piero, spoke about the *local* and not *tonal* colour of the painting: “the mineral brilliance of the painting of the *Flagellation*, that ineffable price of the material dressing the form and, assayed by a pearly sun, the substance. Pilate, on his throne, is clothed in azure and purple vestments which appear stolen from a treasure of Limousin glazes... ”; and, before Longhi, Adolfo Venturi made use of terms such as “emerald vitality” and “splendid turquoise”.

What has been said also applies, evidently, for the depreciative description of “most deplorable” which Longhi then attributed to the Institute's restoration work, evidently basing

himself, as he does not add anything of his own, on Papini's report.

The restoration of the Flagellation was the most cautious, or the least risky possible. In full coherence, that is, with what is the habitual practice of the Institute and with the principles of the underwritten, which is a fierce supporter of the respect for the patina and who has even founded a basic axiom of the *Theory of Restoration* on this respect.

The Madonna at Santa Maria della Grazie in Senigallia, now at the Galleria in Urbino, had previously been mentioned, in the relative literature, concerning the poor restoration it was subjected to. Cavalcaselle and Morelli, in 1861, who saw the painting while it was still at the church (where it remained until 1911), noted "Painting that has suffered from restoration work"; later, Cavalcaselle repeated, in most past, the annotation: "The painting has suffered and was restored". In a note dated 1892 it was suggested: "it would be opportune at some time to study some remedy to the reappearance of the *fioritura* of some parts of the wood painting attributed to Fra' Carnevale (i.e., the Madonna of Senigallia)". But Longhi added: "much altered by poor restoration, especially the headdress and the face of the Virgin". Something similar and somewhat different was asserted by Clark: "it appears to have been subjected to an extensive and extremely skilful restoration, especially the heads of the Madonna and Child". However, upon the positive examination of the facts, all these deprecated restorations were very much diminished in their proportions and the most insidious was shown to be that of the Child's loincloth, which nobody had noticed.

In fact, the ultraviolet scans provided a perspicuous, unmistakeable reading, while the radiograph, however clear, left some doubts on the effective consistency of the authentic painting underneath the wide area of the Child's loincloth. After producing a stratigraphic section of this, it was possible to

ascertain the at least partial existence of the original painting, even in that zone, and it was therefore possible to remove the added varnish. But, more than from the *extremely few* repaintings, the oeuvre was suffering from two problems: a warping which tending towards to be more and more accentuated, and the stains and *fioritura* of the added varnish, to use the expression used when this damage was detected in 1892. Therefore, firstly, the board had to be straightened, an operation which in this case presented more difficulties than usual, since the board, an extremely rare exception, was made of walnut, which is much harder and more compact than the poplar used usually. Even in the use of walnut, the influence of Flemish technique is clear. Therefore, having revealed the painting in the usual way, the straightening began with cuts in the more curved area, while the *sverzatura* was applied gradually, starting from the inner edge, so as to avert the risk that they “leave a mark”. The board was perfectly straightened.

Moving on to the pictorial surface, the old varnish-based restoration work was removed, as was the *stuccatura* filling the cracks, caused by the colour as it contracted, on the azure lapel of the Virgin Mary's mantle. This is a characteristic which was previously seen in the youthful Polyptych of the Misericordia by Piero, and which induces one to legitimately presume the use of linseed oil in the primer, even though not the only primer used, based on which one may suppose the same of Van Eyck's paintings, and which is as yet still difficult to ascertain scientifically due to the minimal fractions of material that can be used for tests. In any case, another technical element should be added, reducing the gap between this painting and the Flemish school: the extreme fineness, indiscernible except under a microscope, of the background preparation (*preparation*).

Having removed the repaintings, the rest of the cleaning had to be carried out with a scalpel, removing the altered varnish, which covered an older patina, which was conserved. The

completions of the lacunae became very minor, since the painting had but a few excoriations, once the stains of the repaintings were removed.

The Poyptych now at the Galleria Nazionale dell'Umbria in Perugia was previously at S. Antonio delle Monache in Perugia, and shows the Virgin Mary on the Throne with the Child, among the saints Anthony, John the Baptist, Francis and Elizabeth of Hungary, in the cimasa the Annunciation, in the base St Agatha and St Rosa, and in the predella, and 9) the Stigmata, a Miracle of St Elizabeth and one of St Anthony. It was moved to the Pinacoteca Civica in Perugia in 1810. It doubtless was, at various times, subjected to deterioration and restorations (the last in 1920).

Cavalcaselle did not particularise the state of the painting other than in relation to the three parts of the predella: "all the said three tablets are in very bad shape, and mostly repainted, seeming more akin at a glance to copies, rather than originals, of Piero". Generally, the Gothic involution of the Poyptych and the aerial perspective of the moulding, the almost strident diversity of this, the median part of the Polyptych and the predellas, have raised significant differences in opinion among critics, which provide important elements also for documenting the state of conservation of the various parts over time.

Cavalcaselle had already noted of the Polyptych: "It isn't one of the best oeuvres by Piero. Perhaps an assistant or scholar worked with him on it." Witting translated the difference between the various parts in an audacious hypothesis according to which the Annunciation of the cimasa would be more recent than the rest, although this had been already been recorded by Vasari together with the other parts of the Polyptych. Support for the hypothesis came especially from the difference in the lighting and the colouring of the moulding with respect to the other parts; this was insisted on in the *Fülle von Helligkeit* and on the intensity and the variety of the timbres. Witting's hypothesis was

rejected, but, even recently, Clark insisted on the difference between the Polyptych and the moulding, mostly retracing Witting's arguments with regard to the use of light, going as far as to almost suppose the Polyptych to be an exercise *in the ancient style*, or as an oeuvre put together by Piero himself using disparate pieces from the workshop.

The supposition is less audacious than may be believed, if one takes into account certain findings from the restoration: firstly, the board of the moulding was narrower than the Polyptych. Here and there, listels had been added, originally. Secondly, however much of the stiff-leaf decoration (or *gattoni*) of the Gothic arches was left completely re-gilded or remade, there is no doubt that it existed there originally: now, the edges of the painting do not exactly *follow* the profile of the arches. Generally, as in the Polyptych underneath, the background preparation remained blank where the frame had been. In this case, the apertures of the arches did not appear to be planned, or at least, it did not seem that they had been planned in the present fashion.

The stepped progression of the cimasa has, however, been ascertained, where, though the frame is false, it is clear that the painting stopped at the current limit. Therefore, the possibility that the Annunciation be thought of separately gains a certain consistence, strengthened by the radical diversity of the painting.

This diversity was especially felt during the penultimate restoration, so much so that it was thought to *balance* the various parts of the oeuvre between them, applying a general *polish* to the Annunciation, using a greyish tempera *beverone*, which was applied uniformly both on the ancient painting and on the *stuccowork* and the previous *restorations*; thus there was no doubt that it should be removed. In truth, however, it was not entirely removed, and it was opted to render it thin and uniform with a natural patina of time. In many intermediate photographs, both in colour and monochrome, the large samplings left by the

abovementioned *temperone* are easily and unmistakably visible, crossing old restoration work and stuccatura, already camouflaged and made uniform by means of the ashen smear. Besides, even in the sampling square left in the lower part, the *consistence* of the *temperone* is so perfectly recognisable that another benevolent critic insinuated that it had been *dyed* on purpose to make the results of the cleaning more obvious! This exegetic finesse, on the other hand, counter-balances the other, of an excessive cleaning.

The obvious diversity between the moulding, the polyptych and the predella which, regardless the restoration and even from previous restorations, gave rise to the mentioned hypotheses, it is clear that it could not be reabsorbed in the new restoration, so the difference of timbre between the moulding and the Polyptych cannot be linked to the state of conservation either, but rather to an evident collaboration, which is however denied by Longhi. This collaboration, as we previously mentioned, is documented in a *strident* area of the vestment of the Virgin Mary, in which the technique used to produce the golden brocade suddenly changes. And while in the part near the neckline it corresponds to the brocades in other more characteristic works of Piero, the less fine, almost confused, treatment of the rest of the brocade gives away a quite different, trembling hand.

With regard to the other restoration operations, as far as the support for the three compartments with the Madonna and the Saints is concerned, this was free of fixed transversals, but showed a curve (convex to the painting), which dates to an unknown period, though it was known to exist in 1920 and does not appear to have worsened since. This was unequivocally deduced from the fact that, in the reapplication of the predella with the round portraits of the saints, a predella which is attached to the upper paintings, the previous restorer had compensated for the curve of the compartments with two layers of rough rendering, so as to allow the “tangential” application of the *flat*

boards of the base. This showed that, in a period estimable to be approximately of approximately thirty years, the wood of the compartments did not warp further and therefore, having been considered to be *stabilised*, it was prudent not to proceed in straightening which, since the curve was very minor, was not too noticeable in the overall appearance of the oeuvre.

The opposite was true for the Annunciation, where the fifth axis (with the figure of the Madonna) had to be detached a long time ago and was not reattached perfectly, also due to the different curves of the fourth and fifth axis, after which the straightening was carried out and the new joint was added.

Significant recoveries could be made in the three tablets of the predella, already broken and repainted appearing, as was said by Cavalcaselle, more like copies than Piero's originals. In the Mircale of the Child fallen down the well, the exact position of the mutilated male figure on the right was recovered, after his feet had been remade in an incorrect position and with a colour different to the original red. The large lacunae in these scenes were filled in with slightly coarse stuccatura, so as to remove the sense of grievous obtuseness assumed by the stucco made in a so-called neutral tint.

The previous restoration operations that were briefly described in the Catalogue of the exhibition which, with other restored paintings, was held last year at Palazzo Venezia, were not published in the *Bollettino dell'Istituto Centrale del Restauro*, both since they required more than four times the illustrative material than the very modest amount here, and because this material, to be truly explicit and persuasive, needs to be seen in the original. Therefore, the Institute plans to publish folders with original photographs in black and white and in colour, along with all of the most minute technical observations. These folders will include the most important restoration operations carried out in recent years: the paintings of Angelico, these by Piero della Francesca, the frescoes of Ambrogio Lorenzetti and Simone

Martini in Siena, Giotto's Boniface VIII in S. Giovanni Laterano.

The Crowning of the Virgin Mary by Giovanni Bellini at the Museo di Pesaro

The crowning of the Virgin Mary with St Paul, St Peter, St Jerome and St Francis: 2.62m x 2.40m.

In the two pilasters: St Catherine of Alexandria, St Lawrence, St Anthony, St John the Baptist. -- the Blessed Michelina, St Louis of Toulouse, St Bernardino, St Andrew. ht. 2.70m.

In the predella: St George, ht. 0.40m x 0.36m; the Conversion of St Paul, ht. 0.40 x 0.36m; the Martyrdom of St Peter, ht. 0.40m x 0.42m; the Nativity, ht.0.40m x 0.42m; St Jerome, ht. 0.40m x 0.42m; the Stigmata of St Francis, ht. 0.40m x 0.42m; St Terentius, ht. 0.40m x 0.36m.

(All the elements of the altarpiece are made of poplar wood.)

Pesaro: Museo Civico.

This is the famous altarpiece painted by Giovanni Bellini for the church of S. Francesco in Pesaro, circa 1475, of which the upper part, with the Pietà, is located in the Pinacoteca Vaticana. It constitutes the main oeuvre for knowing Bellini's art, having passed the gravitational field of Mantegna.

The state of conservation, generally good with regard to the statics of the colours, was however much compromised in the central part, due to the poor restoration works which had made the patina uneven and had not removed the main cause of the cracking and the warping undergone by the axes that the main board is composed of. The last restoration intervention, ascertained by an inscription on the back, was dated 1915.

When the painting was delivered to the Istituto Centrale del Restauro, it had a large crack on the upper right, a filling of stucco and wood on the crack which crosses the figure of Christ,

grave warping on all the axes, varnish oxidisation; stains and areas with scraped patina.

Firstly, the old frame on the back of the board had to be removed, one which was the original one used by Bellini, but which had then become the primary cause of the damage. It was found, in fact, that the nails holding the frame were those the square heads of which could be seen clearly underneath the painting. Next, various elements were glued back, the edges were repaired and butterfly cramps were applied. The straightening was carried out by sverzatura. Lastly, a frame with fixed and mobile elements was applied. With regard to the cleaning, it is documented that the painting was delivered looking mottled and opaque. Gamba wrote: "cleaned perhaps with excessive timidity today produces an effect of relative unevenness". This "timidity" does not stem from prudence. As for us, we immediately noticed that the painting still had its original varnish, which as such deserved the due respect. In fact, where the incautious previous restoration work had removed, in the attempt to clean the work, the gold of St Peter's halo, applied with an adhesive, it was noted with surprise that the painting still had, beneath the gold, the ancient varnish. This prudence was advised by the fact that, in the compartment with St Terentius, in the predella, it was found, and can still be observed today, that where the thick yellowish varnish was removed, the strokes illustrating the hewn stones of some steps came off at the same time: this showed that part of the painting was finished with velatura and with velatura applied with varnish. The chemical analysis showed traces of yellow glaze in the ancient varnish.

Therefore, the cleaning was limited to removing the stains and the repaintings; the ancient patina was respected and reintegrated so as to restore the maximum equilibrium to the pictorial surface.

Bibliography

The oeuvre is remembered by all scholars, so we merely indicate, besides the article by R. Longhi in *L'Arte*, 1914, 242-249, the two most recent works on Bellini:

C. Gamba, *Giovanni Bellini*, Milan, 1937, from p.76

V. Moschini, *Giambellino*, Bergamo, 1943, from p.20

The reconstruction of the frescoes of Lorenzo da Viterbo

There is a legend about this church's excellent title, which linked it to a miracle which took place in 1446, with the apparition of the Madonna to some children, or *mammolini*, but reliable documents date the same title one century earlier. The chapel containing the frescoes of Lorenzo da Viterbo was built in the second half of the 15th century by Messer Nardo Mazzatosta of Viterbo, and it is not known in which year the last fresco of the *Sposalizio* (1469) was painted. The decoration of the cross vault includes, for every panel, a prophet above, and in the centre, an Evangelist with a Father and a Doctor of the Church at his sides: in detail, starting from the vela over the altar, Ezekiel, St John the Evangelist, St Augustine, the Venerable Bede; on the left, Isaiah, St Luke, St Gregory, St Peter Damian; on the right, David, St Matthew, St Jerome, St Bernard; over the entry archway, Daniel, St Mark, St Ambrose, St John Chrysostom. On the back wall is an Assumption of the Virgin Mary, on the wall *in cornu epistolae* is the Annunciation and the Adoration of the Child; on the wall *in cornu Evangelii*, the Presentation of Mary at the Temple and a Betrothal of the Virgin. Underneath the entry archway are various saints drawn, rather weakly, by a different hand.

With regard to the inscriptions, 4 couplets were to be found underneath the Adoration, of which the following remain:

A) O dives rerum humanarum respice Christi – Si casae si fuerint aurea tecta tui. B) Natu mater adest pueri natique parentis – Filia tam cast sponsa pudica viri. C) Quae maiora tuae poteras optare senectae – Gaudia quam tanti pignoris esse patrem?

Underneath the Assumption:

A) Virginis ista piae meritis pictura ministrat – Quae spes humanis unica rebus inest. B) Haec est quae gremio Viterbo continet urbis – Moenia miraculis moenia tuta suis.

Lastly, underneath the Betrothal there were four couplets of which only three remain and, in the middle, the date 1469 and the initials L.V.:

A) E Regione vides sese referentia miris – Ora modis proprium nomen et artificis. B) Hactenus haud lustris opus istud quinque peractis – Condidit. O quanti est pictor utrinque vide. C) Si tam perspicuo spondisset digna labori – Munere in hac duxeris certe parem?

The bomb fell on the façade of the church, destroying half of it and causing half of the roof to collapse. The Mazzatosta chapel was hit by some shrapnel; these and the air's displacement caused the vault to detach and about three quarters of the frescoes on the panels, a third of the Presentation and four fifths of the Betrothal to fall. The Annunciation, the Adoration and the Assumption, which were further away from the entrance, suffered less damage, but unfortunately they were also the less important frescoes. In fact, the Annunciation and the Adoration, which are located against the light, were treated with a much more cursive hand, and (if there wasn't a long time gap between the execution of the various parts of the chapel) the aid of a student in painting the Assumption is probable.

The gathering of the fragments did not take place until one month after the liberation of Rome, in June 1944, when not only had the unwitting public walked over the precious remains, but there had even been misguided protection operations which aggravated the already tenuous state of the fragments still on the

walls.

The destruction appeared to be especially irreparable for the Betrothal, reduced to a few marginal figures and the residues of the figures above and below, as the air's displacement caused the frescoes to detach where the work sessions' edges connected, hence the distinct, horizontal cuts, which may surprise laymen.

It was necessary to come up with a new technique, seen as never had one tackled a fresco shattered like an earthenware vase. Therefore, the first steps were made using archaeological techniques.

From the collection of the fragments, I concerned myself with maintaining their position on the floor as much as possible. Therefore, a square grid was devised in the chapel, with each square being made to correspond to a box filled with vetroflex, and the collection began, first tracing, like a trench, from the arch at the altar and then extending the collection to the sides, keeping double numbering. Since each box was not to contain more than one layer, there were often two or three boxes for a single square on the grid. These were then marked with letters of the alphabet. With this system, almost 20,000 fragments were collected, scaled to a maximum size of 20 x 10 cm² to a minimum of a few millimetres (see the ear of the Madonna), with an average of 2 x 3 cm².

Once the fragments had been collected and placed in the boxes between two layers of vetroflex, they were transported to the Institute, where we could re-establish their layout in the Mazzatosta chapel.

But the initial difficulties were immense, because the photographic documentation prior to the disaster was scarce and completely insufficient for the vault. Neither had we colour photographs to set us off on a first selection for identifying the provenance of the fragments of the figures. Meanwhile, the use of almost flat tints, the repetition of a few basic tones, created difficulties which at first seemed insurmountable. Furthermore,

due to the fact that both the fragments of the vaults and of those of the wall inevitably insisted on the same locations made the problem even more complicated. The only solution was provided by the reference point of the place each fragment was found with regard to the figures on the vault and the walls, and however much the air's displacement and the treading over these may have moved these, I can say that had this topographic precaution not been taken we may never have been able to recompose, and certainly never in such a brief space of time, such a minute and illegible mass of remains. And it is a pride of the Institute that the work was undertaken, and now completed, with restoration students only. One must consider that for almost every fragment, the photographs had to be studied under heavy magnification, often relying on old restorations, imperfections and faults on the pictorial surface, which may have fortuitously been conserved photographically. Often months would pass for one to understand which way a single fragment was to be viewed. Nonetheless, having the selection having been carried out, the first links made, the first groups coagulated, the problem of recomposition reared its head, especially thorny at first due to the fact that there were many possible solutions for continuity, making it easy to lose one's sense of the proportions. Without a model of the frescoes, we had to create an approximate model from the few existing photographs. The study to obtain these magnifications took a long time, because we could not extract the measurements of anything but the few fragments recovered and joined by us, among which we had to avoid, as much as possible, those with sutures which, though made with the least amount of glue possible, still, inevitably dilated the surface.

Also, one had to consider the deformation caused by the lens itself, which, invisible in the regular format, caused a major displacement in the magnification.

But once having reached the goal, with the best approximation, it was necessary, due to the lack of photography

paper of sufficient size, to execute a drawing from the projection of the slide onto frosted glass. This model was then put on a support frame, with a canvas prepared with lime caseate, and on another transparent sheet of paper, also mounted on a frame. On that first support frame, with careful levelling, the fragments corresponding to the drawing were attached, easing them on a bed of sand and caseate. But in order to be certain that the fragment, once fitted on the drawing, remained perfectly immobile, the other, clear frame made on transparent paper was overlaid on it, and it was set with hinges on one side of the support frame. Thus, between the two congruent images, a perfect collimation was achieved.

Afterwards, the work was made faster by the recovery of the Institute's photographic operator, Mr Peleggi, who, in collaboration with the chemical staff of the Institute, manage to impress and directly develop the canvas on which the fragments were being recomposed. Thus, while lowering the fragment into its place, it was the selfsame picture, as it was in the past, although in black and white, which was available to the restorer and which allowed a more exact and convincing placement.

And this is a brand new restoration technique.

After the application of all the surviving fragments on the frame and having closed up, with suitable stuccowork, the intermediate lacunae, a very solid and rigid sheet was realised which could challenge time and which would be applied in the location of the fall corresponding to the fresco. But this is not a very taxing technical problem, the real difficulty to be solved was another, since, had the whole of Lorenzo da Viterbo's chapel been reduced to rubble, there is no doubt that the restoration could have been halted at this purely archaeological phase of the bare recomposition of the fragments. But this was not the case. In fact, having accurately consolidated the rest of the frescoes in place, there was a legitimate and universal need for those portions, recovered and joined together after so much work, to

become once more a whole with the monument. Leaving the fragments in their raw, archaeological state, one would be substituting, in the best of cases, the fresco with a mosaic effect, producing an unbearable discrepancy with the parts remaining on the walls. Therefore, I devised a system of completion which, though remaining visible and recognisable under close scrutiny (not only by experts but also by the lay observer), recomposed, at a given distance, the unity of the image, which the fragmenting of the plaster unfortunately reduced to a kaleidoscope. The technique consists in many thin, filaments close together, vertical and parallel, which produce, with watercolour, the form and colours as in the fabric of a tapestry: while they unmistakably distinguish themselves from the fresco's broad application, from far the image coagulates and blooms once more. Where the lacuna is too large it still provides the shape of the image, though in monochrome.

One must, in fact, consider that, in these cases, the structure of the image is destroyed, so if the restoration is a critique of the text, we find ourselves like a philologist who must try to recover, not only historically reliable words, but also a meaning, from a fragmented and corrupted text and after having reduced it to the best reading. And it is the *meaning* which, in effect, would have been lacking from the figures of Lorenzo da Viterbo, had we merely provided a topographic placement of the fragments, without joining them in any way.

The *Annunciation* by Antonello da Messina

Canvas (moved from panel): A) 1.70m x 1.70m. Syracuse, Museo Nazionale

The painting was in an extremely grave state of deterioration when it was published by Lionello Venturi (in *L'Arte*, 1906, p. 452), but the restoration work carried out by Cavenaghi in 1914, however much it may have been praised (see A. Venturi, *Storia*, VII, 5, p. 37, n. 1), it did not improve the condition of the oeuvre. The decision to move the work onto canvas from the original support was very grave indeed and was not executed well, as a photographic comparison shows the cracks in the painting became much more obvious after the operation. Furthermore, Cavenaghi completed the whole upper part of the work by wholly repainting it, leaving parts in a neutral colour only in the lower part. With regard to the cleaning of the oeuvre, this was carried out in a drastic and unequal manner, and not all of the old restoration work was removed (they were not always detected: see Bottari, *Antonello da Messina*, p. 135). When the painting was once more to be entrusted to the Restoration Cabinet of the R. Galleria degli Uffizi in Florence, all the repainted sections had begun to detach themselves from the painting and had to be removed entirely. The problem of the new filling in of the lacunae had then to be faced, which was tested out in various ways, from the illusionary fashion by means of *quadrettatura*, which appears similar to the original when observed at a short distance, to more generic manners with a single, base colour, varied from *quadrettatura* to *punteggiatura*. The ministerial Commission appointed for the purpose did not find itself in agreement on any of these tests, though they were executed very well (the Institute has kept the documentation for it with the

colour photography), so the Minister for National Education ordered that the painting be moved to the Istituto del Restauro, where a uniform fill was applied with a tone similar to ancient stuccos, as in the case of Antonello da Messina's *Triptych*. The work of the Institute, for now, was limited to this.

***The Beheading of Saint John the Baptist* by Caravaggio in St John's Co-Cathedral of Valletta, Malta**

The great canvas depicting *the Beheading of Saint John the Baptist*, painted and signed by Michelangelo da Caravaggio during his sojourn in Malta, is situated at the back of the Oratory of St John annexed to the Co-Cathedral of St John in Valletta.

The painting appears to have been carried out on a canvas composed of 4 sections sewn together horizontally. The seams are noticeably raised, though this is mostly due to the imperfect re-canvassing. When observed under oblique light, the painting reveals various relief bumps, underneath the canvas, which are doubtless due to poorly applied paste granules. Currently, the varnish applied to the painting after the last war – putty-based varnish, very dense – does not seem to have dried perfectly and still reveals itself to be adhesive to the touch. One must, however, notice that a flake, detached from just below the bosom of the figure of the kneeling woman, clearly shows that the varnish is excessively thick, uneven and tends to exercise a mechanical action on the painting.

In order to exactly locate the individual exams to be carried out on the painting, let us suppose to divide it into 6 vertical strips of equal size, to be denoted by the letters A through F, starting from the left:

A) Towards the left border, one notices many small areas where the colour has fallen, a long time ago. At the bottom, along the frame, the work has been repainted entirely. The gown of the female figure with the basin is mostly repainted, as is the bow on her back and the *fichu*. Throughout, one notices that the colour tends to rise up and detach along the minute fragmentation of the cracks.

B) This strip appears better conserved and therefore features fewer repaintings. Very important observations can be made with regard to Caravaggio's technique, to be kept in mind in case one needs to clean it or remove previous restoration interventions. The arm of the younger woman, the head of the elderly woman, the shirt sleeve of the man wearing the *farsetto*, are obtained directly from the background – of a colour with a tone similar to burnt sienna – with only *a corpo* highlights and slight transparent velaturas of red and yellow. The head of the elderly woman is the worst conserved part, with many small losses of paint.

Here, like in other places, are also some of the small bumps mentioned earlier, at the tip of which the colour has often fallen off.

C-D) It is observed that the executioner's head is intact. Along the spinal column, the seam, a major repainting, and similarly, in parts of the upper arm and the left arm. One should take note, here also, of the characteristic technique of long *strokes* applied *a striscio* in painting lashes and moustaches, the black shadow, applied *a striscio*, of the beard. One should also note the *expeditive* technique used to depict the right foot of the gaoler which, where the leg descends below the wall, remains, at the malleolus, entrusted almost exclusively to the preparatory layer, while the profile is painted black, until it joins the black background where it then lightens in colour. The head of the Baptist shows the light colours applied *a corpo*, while the shadows and the hair have been produced by making the preparatory layer show through.

These are technical characteristics which can be found also in Caravaggio's Sicilian paintings, made just a few months afterwards, and especially in the *Nativity* in Messina. However, seen as the conservation of the *Beheading* in Malta is better than that of the Sicilian paintings, it is interesting to carry out similar recordings for the purposes of restoration, so as not to falsely attribute to the removal of velaturas what is actually a rare,

technical characteristic which is without a doubt a trademark feature.

With regard to conservation, one can see a repainting of the cheekbone of the head and a lacuna on the forehead. There is then a raising of detached colour, precarious at the bottom, to the right of the signature, where the bloodstain also appears to have been repainted. There is a large ovoid part where the canvas has risen up and detached from the lining canvas beneath the cords of the Baptist's belt, on the ground. Many cracks are also noticeable with the loss of minute particles on the left of the grate.

E) An ovoid raised part is noticeable, like that mentioned earlier, underneath the cord of the grating on the right.

The above minute observations show the need for the Beheading of St John the Baptist to be subjected to a thorough restoration, which implies a re-canvassing and the removal of previous restoration interventions. With regard to this, one must exclude, due to the characteristics of Malta's climate, a wax-based re-canvassing. As for the removal of the repaintings, as we are dealing with a masterpiece which is the artistic heritage of modern painting, there must be extensive, multiple and exhaustive documentation. That is, there must be documentation under UV light and other infra-red and sodium photographs, radiographies, microscopic sections for the repainted parts and to see the strata of varnishes superimposed upon one another, colour documentation of all the stages of the course of the restoration. The frame will also have to be made in a special manner, with new spring hinges perfected by the Istituto Centrale del Restauro. Such a restoration, if the above mentioned provisions are to be implemented, would be very difficult to carry out in Malta, so if the painting is to be sent elsewhere, it is essential that it is not rolled up but rather placed in a chest after the precarious parts are properly reinforced with silk paper.

It should also be kept in mind, whoever is to carry out the

restoration, that the use of solvents must be strictly controlled, and that one must be very careful about the most ancient layer of varnish which, were it to be removed, causing significant physical damage, would almost certainly cause the loss of the velaturas previously observed and of any as yet undetected due to the current conditions of the painting.

N.B. -- *It is not to be excluded that the observation of the painting, if it could be carried out in a different location and with means other than those the current location allows, may give rise to even more detailed and exhaustive observations on the state of conservation and the provisions to be carried out. The current report limits in situ the validity of a recording carried out with only the human eye and reflectors.*

The Burial of Santa Lucia by Caravaggio

Michelangelo Merisi da Caravaggio (circa 1569-1610).

Seppellimento di S. Lucia: Canvas A. 4.12 x 3.00.

Syracuse: Church of S. Lucia.

Of this extremely damaged painting, generally dated after Caravaggio's return to Malta, between 1608 and 1609, R. Longhi identified a copy, also certain to be of the 1600s, in Palestria, shown here just the same.

The copy showed various interpretative uncertainties, like the door on the left archway painted to be a tent, but generally seems to be prior to the rifacimentos of the 1700s, despite how perfidious it is with its chromatic intonation rendered in a style much more leaning toward the Venetian.

From the restoration operations, it became clear that, unfortunately, there is very little left of Caravaggio's painting: the lacunae are such and so many that, after the tests, the pits have, in a way, closed up again, where only the 1700s stucco could be found.

It is, in fact, also one of the tasks of restoration to safeguard the historic visage, though it may be altered, of a work of art, when there is no longer that which should have been saved.

So the head of the undertaker on the right, completely false, was not removed, as well as those, just as false, of the bishop and the nearby figures, and the lower parts of the two undertakers' legs.

The profile of the undertaker on the left, however, was uncovered, and, in general, as many of the original fragments as possible were re-exhumed.

The painting was also reframed.

St Sophia of Ohrid

The Conservation and the Restoration of the Building and its Frescoes

Report of the mission dispatched by UNESCO in 1951 by Ferdinando Forlati, the leader of the mission, and Cesare Brandi, Yves Froidevaux

Foreword

The mission of experts, of whom the current report reveals the results, was the second of the missions organised by UNESCO with regard to the conservation and restoration of monuments.

It was after a request by the Yugoslav Government that UNESCO decided, in November 1951, to organise a mission of experts in the conservation and restoration of monuments and frescoes, and to send them to Ohrid to study the problems relative to the restoration of the Church of St Sophia and its precious mural decorations *in situ*.

Despite the changes it has undergone over the centuries, the monument holds, in effect, considerable historical and artistic interest, as much architecturally, being an example of forms derived from the Byzantine style characteristic of Medieval churches in the Balkans, as it is with regard to its frescoes, which still exist on its walls, underneath layers of distemper, which further covered them.

The present state of the monument, notwithstanding some restoration work carried out recently, still constitutes a matter of legitimate concern, as the alterations to the primitive structure

have had an effect on the static equilibrium of the construction, while the changes to the environmental conditions gravely compromise its conservation.

The task the mission was to accomplish, with the collaboration of the relative Yugoslav authorities, therefore consisted in drafting a report analysing the current state of the edifice and the causes of its deterioration, as well as studying technical means to halt the worsening of this deterioration via judicious restoration.

The chosen experts, upon the suggestion of the Yugoslav Government, were:

Mr Ferdinando Forlati, architect, superintendent of monuments in Venice (Italy), leader of the mission;

Mr Cesare Brandi, director of the Istituto Centrale del Restauro, Rome;

Mr Y. Froidevaux, chief architect for the historical monuments in Paris.

The experts went to Yugoslavia in early December 1951; they stayed there for three weeks and worked in an atmosphere of cordial collaboration with the relative Yugoslav personages in charge in the field.

This collaboration moreover progressed tangibly over the following months, when specialised technicians from the Istituto Centrale del Restauro in Rome were able to arrive in Ohrid and carry out the most urgent works for the conservation of the frescoes of St Sophia for the relative Yugoslav authorities.

The report of the mission to Ohrid constitutes the fourth volume of the series *Musées et monuments*, inaugurated, in fact, for the publication of the report of the mission of experts sent by UNESCO to Cusco (Peru)

The Frescoes

The remarkable ensemble of interior frescoes is for St Sophia

d'Ohrd one of its main points of interest. Indeed, the ensemble of these frescoes, which accurately reflect the different cycles of construction from the 11th to the 14th century, are staggered throughout these ages, giving a rarely encountered big picture of Byzantine painting in the same region of Macedonia through the most important centuries of its evolution. This circumstance should be highlighted as it vests the ensemble of frescoes with an importance and an interest which it would not deserve if any of the ages were to be considered individually.

If the poor state of the edifice were not to require the numerous measures listed below, it would be possible, in order to ensure the conservation of the frescoes, to envisage interventions a little different to those proposed in this report. In fact, the injections of cement into the walls, as well as the operations required by the state of the southern wall, are indispensable and require the transposition of many frescoes; their conservation *in situ* would either hinder the operations on restoring the masonry or damage the paintwork irreparably.

The work are then set by the necessity of guaranteeing, first and foremost, the repairs required by the state of the edifice; had there not been vaults to repair and cracks to fill, the preliminary operations would have been aimed at scouring the lime distemper off all the surviving frescoes, of which almost three quarters need to be freed of the daubing of the Turkish era. One is therefore obliged to envisage a first phase of operations which will not be taking into account the scale of values corresponding to the quality and the age of the frescoes. This first phase should not be limited to the transposition of the paintings, but also, in certain cases, the scouring of the lime coating, the preliminary cleaning and setting of the pictorial film.

On the other hand, if one had a team of numerous restorers at one's disposal, it would be possible to work simultaneously in different parts of the church; however, in the present case, due to the lack of restorers with familiarity of the field, it is very

improbable that one could be able to carry out the numerous operations we have suggested in different parts of the edifice and at the same time.

The transposition of the frescoes

On the southern wall of the church (third span), there is, first and foremost, the grand composition, of which more than half has been lost, of the *Nativity of Jesus*. This composition, albeit very damaged, holds great interest, as it belongs to the most ancient period of frescoes, between the end of the 11th and the middle of the 12th century. Ruined and eaten away by humidity and mould, it needs to be moved together with its *intonaco* (mortar), as nothing would remain if one were to try and move only the layer of colour.

Next, on the left of the window, lie two superposed layers of frescoes, which will have to be detached in two successive operations and without the *intonaco*. Opposite, two fragments of standing figures must also be transposed.

Also on the southern wall, the frescoes of the diaconicon must still be uncovered from underneath the distemper. On the vault of this diaconicon, the transposition poses a particularly difficult problem due to the centering which supports it. In order to save these paintings, currently not visible but presumably in a poor state of conservation, a very delicate technique is necessary: one must free the vault of its centering piece by piece, temporarily lowering the keystones with wooden wedges and filling the open joints with plaster, in order to restore a degree of cohesiveness to the vault. After gluing the canvas, the frescoes will be separated by section according to the part of the vaults they were taken from: these fresco fragments will later be rejoined together.

Due to the deformation of the vault, which will require its reconstruction, it would be futile to take a cast of the present

curvature.

It would be useless to go into how many problems will be faced for the recomposition of the fresco fragments thus transposed. This delicate operation demands a great amount of experience, without which the instructions given will be futile.

The surface area of the frescoes to be transposed in this part of the church is of about 99 m².

On the western wall of the Cella, it will only be necessary to transpose one fragment of the fresco superposed on the right of the door, with a surface area of about 1 m², of which one must free the most ancient layer.

On the northern wall of the church, although no masonry work is planned there, some frescoes will have to be transposed, in particular the remains of the *Presentation of the Virgin*, which has almost disappeared following a previous restoration intervention: in fact, the artisan used – it appears – plaster to set the raised areas, he has also repainted, possibly with glue, and “refreshed” the entire surface, which currently presents itself under a bluish mist. That makes an area of 10 m² to be transposed by removing them along with the *intonaco* in order to permit something to be saved.

However, it is recommended to leave in their place, although with some consolidation work, the superposed frescoes, above and on the right of the door, of which the most ancient layer appears to be greatly damaged and of which some fragments of the second layer have already fallen away.

Leaving the church to go to the Olive-Tree Chapel, one can find some 14th-century frescoes which must be transposed (about 20 m²), as well as the ones on the level of the first narthex (which date to the same period) and those of the triforium (with an area of 8 m²), with the exception of the paintings still to be cleansed.

The vault on the level of the narthex must still be freed of the lime distemper. The central part has no paintings, but what is remaining on both sides must be freed and the remains of the

decoration will have to be transposed, although it is not currently possible to know if one will have to transpose everything that will be found.

At the level of the second exonarthex, it is necessary to transpose all the remains of the 14th-century paintings on the interior wall on the side of the façade, as well as those on the wing walls and the frescoes discovered under the *scialbatura*. These have a total surface area of 64 m².

The total surface to be transposed is therefore of 202.5 m².

The transposition of the frescoes may be carried out, except in the specially mentioned cases, by removing the mere pictorial layer, *a strappo* in Italian. This simplifies the work and gives perfect results if the technique is carried out with a sound mastery. But one must also consider that the particular composition of the *intonaco* of the fresco may sometimes make it inadvisable to use this technique: hence, before proceeding with the gluing of the canvas, one must always carry out some tests on a small surface area. When it is not possible to carry out the *a strappo* method, one must remove the fresco with its *intonaco*, but this second method demands another technique and very different proceedings.

In the transposition of frescoes, one must not neglect to choose the hottest and least humid season. One must also, in order to conserve the detached frescoes, have a completely dry and well-aired storage space available. One must not pile the frescoes one over the other, but rather place these in plank frames. In fact, humidity, by causing mould to grow on glue, will forever damage the pictorial surface.

After the repairs on the masonry, one must wait for the walls and the coatings underneath to dry completely before attaching the frescoes to the lime caseate, this operation must be carried out when the weather is hot and dry. It is essential to recommend never to place the frescoes in direct contact with cement, even when very dry – fearful cases have been experienced on walls

where cement injections have been carried out.

For these operations, which also include a long cleaning and polishing process on the back of the detached frescoes, several months will have to be allotted, as much for the removal as for the period of rest, and this with a large team, of which half must be accomplished restorers. The best time for these works is from the 15th of May to the 15th of October, in order to avoid the periods of relatively high humidity and low temperature of other months, during which it will not be possible to provide heating.

The cleaning of the frescoes

The surfaces still covered in lime amount to a considerable area of 509 m². Generally speaking – especially for the frescoes of the central apse – these paintings possess an extreme resilience and will not flake off easily when freeing the surface of the fresco in one go and dispensing with proceeding with the very difficult task of removing the veil of lime which almost always, in this case, remains on the pictorial surface. This difficulty, well known to restorers who, in these last few years, have made numerous cleansing and scouring tests, is even greater in the present case, in the apse and in the lateral aisle, due to the fact that the *intonaco* on which the paintings are found is composed of coarse sand and strands of straw. This special composition greatly increases the difficulties of cleansing, because, as it can be seen on the greater part of the frescoes, even on those which have been recently cleaned, the use of the scalpel risks shaving off or puncturing the original colour.

The technique of this cleaning must therefore be in two phases: the first, in which mechanical means will be used to destroy the layer to the depth at which the pictorial surface becomes visible; and the second, in which copper-wire brushes will be used to avoid dislodging the grains of sand and the strands of straw, which would fatally damage the painted

fragments.

It should also be emphasised, before beginning the cleaning of the lime layer, that one must not neglect to ensure that the *intonaco* which is to support the fresco adheres soundly to the wall; if this is not the case, otherwise it will be necessary to carry out injections of lime caseate and wait for this to solidify before removing the lime.

If, after the cleaning, the surface of the fresco becomes discoloured or its colour comes off on slightly damp cotton wool, one must set the unstable coloured surface in the most formal fashion, by empirical means, such as with onions or potatoes. In order to set the surface which threatens to change tone, one would advise the use of a solution of white shellac diluted in alcohol. But it must be kept in mind that this substance must be of the highest purity. It must therefore be analysed, as it cannot be synthetic or have any acidity. This suggestion is not the only one, so one must experiment different procedures in every particular case.

Due to the relatively high level of humidity in Ohrid, which is exacerbated by the proximity of the lake, the walls, even after their restoration, will always keep some traces of humidity (interior condensation due to changes in the weather or the capillary absorption of precipitation). This humidity remains the great enemy of the frescoes of St Sophia, as it is namely this humidity that causes the discolouring of paintings free of the lime: they lose their primitive resilience and become slightly more plastic. It will therefore be necessary to test the setting of the colour with a very weak solution of shellac. The preliminary surface analyses will still be required in order to identify the kinds of moulds found there, in order to then proceed in a gas disinfection to sterilise the spores.

The highlighted difficulties render the scouring and the final cleaning particularly very long and difficult. One must therefore presume that the operations described above must take place

over a certain number of years, if one does not have available a strong team of well-trained restorers. One mustn't think this necessity can be avoided.

In the work proposed up to now, the pictorial problem has not been examined, that is to say, that which should be done to remedy, in some way, the mutilation and damage suffered by the frescoes.

It is suggested that one simply disguise with watercolour and in a neutral colour the filled-in lacunae and cracks and the points that are too white. One must obviously avoid any pictorial restoration directly imitating the painting, or also in undertones, as has been done in many fresco restorations. Even if one finds traces of pick blows underneath the layer of lime, one must do no more than disguise the blemishes thus caused on the pictorial surface, without filling them in.

This final restoration thus reduced will not greatly prolong the works.

Conclusion

This expert report bears witness, as we said at the start, of a study carried out *in situ* with Yugoslav technicians. This professional cooperation between tradesmen from different countries with the aim of saving a work of art is to be prolonged through meetings, the products of which may be fruitful for the common aim of those involved: the conservation of humanity's artistic heritage.

If the Italian and French experts sent by UNESCO were able to visit some of Macedonia's most characteristic monuments and works of art, if they were able to understand the efforts carried out by Yugoslavia for the study and the protection of its works of art, it seems desirable to plan a visit by Yugoslav technicians to Italy and France, where great work has been carried out over more than a century in this field, and in particular, in recent

years, for the saving of oeuvres damaged by the war. Decisions have been made and projects have been initiated in order to allow these visits.

In Italy, restorers of frescoes will follow the work of the Istituto Centrale del Restauro; also, architects must visit many towns to complete their training by studying and visiting monuments and the conservation work that is being carried out. Furthermore, upon the arrival of Yugoslav technicians in Italy to study the procedures of restoration, Italian specialists will at the same time go to Yugoslavia to better familiarise themselves with the characters of the monuments that are to be clarified under the care of the Yugoslav authorities in charge of historic monuments.

In France, an official project is being developed and is well on its way to completion: scholarships have been planned to allow a number of architects to visit over a period of about 4 months, over two consecutive years, in order to attend courses on ancient monuments and their conservation; furthermore, the Compagnie des Architectes en Chef will be organising visits for these students to the main restoration sites currently operational: Vincennes, Rouen, Caen, Lessay, Évreux, etc.

Finally, a field trip is planned for a certain number of architects and conservators, to allow them to gain a holistic view of the methods used in France and of the operation of the offices for historic monuments.

These cultural liaisons will help contribute to achieving a better knowledge of the common riches of the past and a better comprehension of the cultures of different countries.

REFLECTIONS AND EVALUATIONS

Note on the Marbles of the Parthenon

Even before the war, rumours had spread about a very grave damage caused to the so-called *Elgin Marbles* of the British Museum in London. Then came the war; the marbles were taken away or buried under the earth. The war ended, yet the marbles still could not be seen. In 1948, the undersigned received a clear refusal, even though he justified his request with the need to compose an essay on Pheidias. It is only in the last few months that the famous marbles were again presented to the public. We are not aware of any protests from scholars for the treatment those most famous sculptures suffered. We have not seen any and cannot understand why, as the field had previously risen up in protest for such a thing. But perhaps, after so many years, the memory of the prior conditions has become feeble, such that even the declared adversaries of the *totalitarian* methods of restoration used at the National Gallery believed the marbles had not suffered any treatment. And this, in fact, is the rumour that is trying to be confirmed as the truth. It is because of this that we are obliged to speak on the matter and openly denounce the most grave and irreparable outrage that has been carried out on the most precious treasure in the world.

We are not referring, here, to the current *arrangement* of the sculptures, though there would be much to object to with regard to those very shiny, black, onyx slabs on which rest, reflected as in a mirror, the sculptures of the pediments; on tissue-paper sky-blue bases; on the azure baseboards – is it possible the Greek sea? -- which lies beneath the frieze. All this is ephemeral, and tomorrow another magnate, or the very same, may give new bases for a new arrangement, a little less akin to a health clinic. The most grave fact consists in the treatment

they were directly subjected to, *intus* rather than *in cute* by the greater part of the sculptures.

They were *scraped*.

Not for the patina, nor washing, however appalling it may be to remove the first or carry out the second without the greatest and most meticulous care. In this case they underwent a fierce, irreverent *scouring*, such that the first *epidermis* of the sculptures was removed, along with any residue of that original *oxidised surface* or *plaster* which still partially survived (and is now visible in the few intact marbles) on the statues*. There is

*

* We mentioned an original *plaster*, even though we know this has not so far been *detected* by scholars, who generally interpret the parts of the sculptures which still bear major or minor fragments as a tawny coloured skin, as an oxidation that has taken place over the centuries due to contact with the atmosphere. To this traditional hypothesis, we have the following to point out: that, firstly, these surfaces, which we interpret to be plasterwork, present a constitution quite different from the ordinary appearance of marble with visible crystals. It is a compact surface, with a colour clearly distinguishable from the other parts, which have the typical reddish patina derived from the iron salts contained in the Pentelic marble. It is the same colour of the plaster on the columns of the 5th-century temples in Agrigento: same colour, same appearance, compactness and consistency.

Where it is most consumed, the surface appears not *worn away* but rather *exfoliated*. One can see the difference between the normal *patina* and the presumed *plaster* in a fragment of the frieze left *in situ* in the Parthenon (fig. 1).

Besides, the need for plaster is justified by two reasons: the continuous presence of veins and impurities in the marbles used for the sculptures of the Parthenon; and the fact, though not ascertained for all the sculptures, that at least a part of these must have been painted. For the purposes of restoration, it is clear that whether the surviving parts be interpreted as the oxidised surface of the marble or plaster, the categorical imperative of any restoration was that of leaving them be: indeed, especially if they are oxidised surfaces, though it is indubitably that, if it is plaster, it can only be the *original* and not a later

therefore no question that the patina should be conserved, which has all the right to be conserved: those responsible cannot reply that it is a simply problem of taste or that they are not obliged to follow the theoretical role we give the patina. Here we are dealing with a *scouring*: the marbles no longer have their original surface, even where this had remained intact for centuries. The form has been *defoliated* of its topmost veil, and is now exhibited flayed like St Bartholomew.

Luckily all the sculptures of the pediments were spared this ordeal, excepting the figure of *Iris* or *Hebe* of the eastern pediment, the part of the frieze from figure 28 to figure 61 and the part of the northern frieze from figure 12 to figure 44. All the remaining parts of the friezes and all the metopes were abraded.

Such an arrest, tardy but always timely if it is achieved, is

surface, given that it can also be identified and recognised on the *back* of the statues of the pediments, which had never been removed until Lord Elgin. So one could not claim these to be Byzantine or Turkish plaster.

Given this, we wished to have an experimental confirmation in order to ascertain the nature of the surfaces removed from the London marbles. Thus we went to Louvre to examine the metope kept there.

Thanks to the kindness of Prof Charbonneaux and Dr Hours, the director of the Scientific Laboratories of Louvre, a photography of the detail was made (figures 2 and 3) where the *oxidisation* or *plaster*, situated over a small relief *softens* the live angle of the relief on the back. Next, very minute samples were taken from the surface, which will be examined simultaneously and independently in Paris and in Rome at the Institute, so as to be able to ascertain, as much as possible, the nature of the same stratum. We say "as much as possible" as one must not forget the minuteness of the fragment we are forced to work with and the nature of the plaster, if it is plaster, which is very similar if not identical to that of the marble, being composed of marble powder and lime, that is, calcium carbonate.

The results of these studies and analyses will be given in subsequent editions of the Bulletin. We wished to announce these immediately and thank the courtesy of our Parisian colleagues.

such that it by itself denounces the treatment suffered by the abraded parts. Of these, while photographs have not been or *will not be provided* after the treatment, there are some photographs *in view*, placed under the metopes or under the frieze, in the case of completions achieved previously with tracings. Since the tracings were not included with the current marbles, the photographs show the marbles before the scouring, and testify *in situ* the irreparable damage the sculptures have suffered. They show this even to those who, either due to a lack of attention or sublimation, before such masterpieces, failed to approach these to see the horrendous scratches and streaks the irons inflicted on the marbles.

Now more specific indications will be provided with regard to individual sculptures, albeit warning that, without photographs, it is not possible to offer anything more than some summary descriptions. The numbers correspond to those with which the sculptures are *currently* exhibited at the British Museum.

Eastern frieze. -- From figure 7 to figure 24, one can see violent scratches streaks inside the folds and the contours of the sculptures rising from the back. There are particularly violent scratches under the scabella of figures 24-25.

Northern frieze. -- From figure 45 to figure 74, the entire sculpture has been scraped.

From figure 78 to 134 there doesn't *appear* to have been as drastic a treatment. But without a comparison of the photographs of the prior state and the consequent situation one cannot be certain. However, one has the impression that the frieze, here, has only been washed. There are no signs of scratches or streaks. There is however no trace of plaster or oxidisation, excepting very minute fragments in the hoof of horse 132 and in the feet of figures 133-134.

Western frieze. -- Figures 1-3, which are the only ones in London on this part of the frieze, show the same scraping treatment, markedly with the scratch produced by the pointed tool which *decontoured* the figures where they join with the background.

Southern frieze. -- Starting with the first figure (n. 4) which was scraped all over; remnants of plaster and patina remain in the deeper depressions: only where the marble had very badly flaked was it left intact. In the hasty and drastic work which was carried out, apparently with a knife or an eraser, a *shaving* was executed, unconcernedly, while the patina and the plaster remained in the lower depressions, in the imperfections of the marble, as well as in the unevenness of the relief. And this was especially in the background parts which were thought to be smooth. Of the little remaining part of the ancient patina and the plaster or oxidisation, it is easy to recognise that the patina had assumed the same colour of the plaster except darker, almost verging on a rusty colour.

With regard to certain large, yellow stains, almost sulphur yellow, in figures 13 and 71-72, for example, it is difficult to express judgement for now, unless they are due to a new attempted reapplication of patina or perhaps from imperfections in the marble which the abrasion of the plaster and the patina has now further exposed.

The *shaving* decreases the intensity where the marbles are more exfoliated, but restarts vigorously from figure 47. At figures 116-117, on the bull, there are clearly all the streaks left by the iron used to hastily scratch the marble. The same can be seen on bull 125. In other places, it was the natural streaking of the marble which took place mostly where exposed, with veins of quartz or selenite: as in the background of figure 126. In fact, as much due to the wearing away due to atmospheric

agents, as due to the difficulty of the work, in the case of tougher veins, these were conserved at a greater protrusion from the background and the iron which committed the abrasion, removing the patina and the plaster, violently exposed the very crest of the veins, while the patina remaining in the grooves further sharpen the unpleasant issue.

Metopes. -- They have all been scraped. Of particular note are:

2nd. -- The background is completely streaked: at the joining of the figures with the background, the streaks of a sharp tool which traced the contours.

4th. -- The photograph exhibited, showing the state before the restoration, gives here the immediate chance for a tragic comparison.

5th. -- The left hoof of the centaur is particularly worn away.

6th. -- The last, scarce remains of the plaster in the grooves of the tail below are visible. The vestment is extremely abraded.

7th. -- Here again, we can see the prior state in the exhibited photograph with the heads traced in.

8th. -- Particularly abraded. The effect it has now is of freckled marble, since the patina has remained at the bottom of the holes and other small depressions of the surfaces.

9th. -- Here too, the prior state can be seen in the photograph.

31st. -- Above, under the *regulum*, are the remnants of plaster: also visible below and on the centaur's hoof.

East pediment. -- The figure of *Iris* or *Hebe* has been scraped in the usual way, losing all the remaining plaster which had survived and which can be seen in the photograph.

Cesare Brandi.

Fig. 1 – *In situ* picture of the frieze of the Parthenon: arrow n. 1 points to the surface of the marble solely covered by patina, arrow n. 3 points to the surface covered by plaster or oxidisation. Arrow n. 2 points to the stratum of marble below the plaster or oxidisation.

Fig. 2 – Paris, Louvre Museum: Metope of the Parthenon. (Arrow n. 1 shows the plaster or oxidisation; arrow n. 2, the place where the sample was taken for the analyses; arrow 3. shows the part of the photograph shown in fig. 3)

Fig. 3 – Detail of the metope of the Parthenon shown in fig. 2. The arrow points to the point where the live angle of the cloth with the background is covered by the stratum which even more singularly appears to be plaster rendering rather than oxidisation.

More on the Marbles of the Parthenon

*Since it seems not everyone is convinced that the sculptures of the Parthenon were covered by an extremely thin layer of coloured plaster, as precious as the epidermis of the marble, as was stated in n.3-4 of this Bulletin, we hereby exhume some passages of a work which should have been food for thought for those responsible for the sculptures. It is the ponderous volume which was edited in Paris by I. I. Hittorf in 1851, *Restitution du temple de Empédocle ou l'Architecture polychrome chez les Grecs*, in which the author, besides some of his debatable and discuteti reconstructions, presented a great number of direct observations, gathered over decades of travelling in Greece or Magna Graecia, comparing them with laboratory research carried out by illustrious chemists, including Faraday. We leave the readers the pleasure of drawing their own conclusion.*

Page 38: Mentions a yellow, luciti and compact stucco found both on the ceiling of the Theseion and on the columns of the Parthenon.

Page 45: This stucco is identified in the Theseion by Donaldson (*Transaction of the Institute of British Architecture*, I, 1, pages 85-86).

Page 44, note 3 (Parthenon): "M. Raoul-Rochette, *Lettres archéologiques*, p. 189. 'According to Mr Paccard, the yellow is most abundant on the columns of the Parthenon. We ourselves have noticed that the columns of the temple of Jupiter in Aegina are covered with a yellow stucco', E. Burnouf, *Le Parthénon*, *Revue des Deux Mondes*, December 1847. In a

letter from Mr Monégghetti, who is also studying the monuments of Athens, this architect wrote to me ^{on} the date of the 30th of September, 1846: 'I am submitting to you, not only my opinion, but those of various other artists whose decision may help clarify my words. After much research, we are all convinced that the temple of Minerva must have been painted, and here are the observations which allowed us to reach this opinion. While visiting the southern façade, this was found covered with a crust of a *golden yellow* colour, usually attributed to the influence of the sun; but while carefully searching the opposite façade, which is not under the same influence, we also identified a less vibrant crust of colour, yet *yellowish*, and which seems, to all effects, to be a coating; lastly, while measuring the pediment of the same side, we discovered clear traces of colour under the mouldings of the right angle.

Page 545: Mr Bracebridge... (stated, with regard to the head of Minerva) the ostensible apparition of the colour seen on the hair of the same head when washed with water.

Page 547: Chapter LXXX, *Analyses carried out by Mr Faraday of the coatings and the colours taken from the monuments of Athens by Mr Donaldson.*

The analyses of the famous English chemist state:

.....

6th, Lastly, that these pieces of ochre colour, scraped ^{on} the statues of the Parcae, show a deliberately prepared artificial layer (that is to say, not accidental, and originating, for example, from contact with the elements and air). "Having been put, Mr Faraday says, in a weak acid, a portion of the adherent material dissolved and the main part remained quite intact. After being washed and dried, it was found that it

contained some calcium carbonate and a combustible substance which protects the carbonate from acid. When this combustible substance was heated up, it was destroyed, leaving carbon; then, the acid could attack the calcium material. The combustible substance may have contained wax, but did not leave definitive traces of this; it was in a small quantity, compared to the wax contained in Mr Donaldson's samples. There were no mineral colours in the pieces analysed, except a small amount of ferrous colour which I think was probably accidental. I cannot say with certainty if an animal or vegetable substance was used."

Regarding the Plasters of the Parthenon

In the previous issue (3-4) of this Bulletin, we published an article on the marbles of the Parthenon. Giving you the sad news of the treatment the famous *Elgin Marbles* suffered in London. But with regard to the specific problem, that is, whether the surfaces removed should have been considered to be applied *plasters*, with colouring, on the sculptures or, as was the tendency of the more ordinary archaeological tradition, an oxidisation of the marble, we announced we would move to conduct detailed analyses. We then said that, courtesy of Prof Charbonneaux and Dr Hours, director of the Scientific Laboratories of Louvre, it was possible to obtain minute fragments of the presumed plaster, as well as of the back of a metope, indeed, from the metope at the Louvre Museum. The results independently achieved in these microscopic examinations and analyses conducted in Paris and Rome are now published below.

It can be seen that the response was identical and that the presence of plaster on the metope has been confirmed.

The the sake of completeness, the analyses on the metope samples was accompanied by other analyses of column and sculpture fragments also from the Parthenon and of plaster fragments taken from the temples of Selinunte and Agrigento.

Laboratoires du bâtiment et des travaux publics
12, Rue Brancion, Paris ((XV)
Dossier n. XP, 2794-

Abstract

Tests carried out on the request of the [French] Ministry of

National Education.

Direction of the Museums of France; Louvre Palace, Paris.

Subject: *Ecaïlle* (*Metope of the Parthenon*).

Location of tests: Paint laboratories.

Nature of tests: examination.

Sample received on 28 November 1950.

Time frame of tests: December 1950-March 1951.

Test Results

The sample submitted for our examination was very small and measured about 4 mm-6 mm, with a thickness of 1 mm to 1.5 mm.

This sample includes a large-faceted marble support (pentelic). The break is fresh, without any patina.

On this slender support, a translucent material of a brownish-red colour is firmly attached.

This material reacts to diluted hydrochloric acid and releases gas. The gaseous release consists of carbon dioxide. The liquid produced by the reaction contains calcium, made evident by ammonium oxalate.

The translucent magma is therefore a calcium carbonate. Its physical structure is distinctly different to that of its support.

It is that of calcite.

The reaction with the acid, which was carried out very slowly, without outside mechanical tampering, uncovered specks of a colour that is distinctly red, quite different to the colour of the magma.

By allowing the reaction to dissolve the lime deposited on top of the specks, these can be isolated.

These specks, of which even the colour is quite distinctive, react like iron oxides (ferrocyanides); they are specks of red ochre. They are coarse.

The presence of these specks through the entire volume of the magma and their homogeneous distribution disprove the hypothesis of their being a formation caused by wind or by other natural factors.

We believe this means they are a product of intelligence and, therefore, are the product of painting.

Besides the red ochre and the calcium carbonate, we have not discerned any traces of other substances.

Should one conclude straight away that the paint applied in antiquity and “maintained” many times could have been chalk-based paint?

It is very probable. But we must face the objection made by the cristallisation of calcium carbonate.

1. The calcium carbonate crust observed here appears to be more akin to a “calcination” formed by the evaporation of quarry water than paint applied on stone cut and sculpted long ago. A mark made at the quarry with red chalk would, in this case, be capable of producing the same result. To resolve the issue, one requires more than a sample of 4 mm-6 mm, and one should know whether the pentelic marble undergoes “calcination” after it is quarried.
2. We do not know where the sample was situated on the sculpted block. It is possible that it belonged to the wall of a drain for rainwater or a crack for draining water from the mortars. In this case, the calcite formation would be easily explained.

These two objections, which only an examination of the site can resolve, could explain why the red paint can be found only at a few points where it was “set”.

Conclusion

It is certain that red ochre paint or marks were applied to the minuscule fragment we examined.

We did not find any trace of binding agents. And it is very probable that the binding agent used was simply chalk.

This chalk transformed naturally into calcium carbonate, but only a study of the whole metope and its location in the construction can explain the crystalline form of the calcium carbonate.

Paris, 6 March 1951.

Chief of Paint Dept: M. Pupil

Annexe

The concentration of the hydrochloric acid used for the reaction was: *normal*.

The carbon dioxide released was observed through the violent release of gas and by bubbling in baryta water.

The calcium dissolved is seen in the reaction:

[formula]

The iron was observed as follows:

- by the ammonium sulphide which produced the following reaction with a black precipitate:

[formula]

- 2) by the ammonium hydroxide which produced a brown precipitate
- 3) by the yellow potassium ferrocyanide which produced a Prussian blue colour.

Furthermore, a general study of anions and cations was carried out, producing only an insoluble white and very scarce quantities (SiO_2 and Al_2O_3).

No appreciable traces of other substances were found in the small samples analysed.

The proposal of reconstruction of the Temple of Zeus in Selinunte

Discussion over the proposal made by Rosario Romeo, of reconstructing Temple G, or the Temple of Zeus, in Selinunte, from its remains, is reigniting. Were it to be materially possible, after the precedent of Temple E, also in Selinunte, it is neither encouraging nor proficuous. In fact, it is not at all certain that a good result, or one different to that achieved, could have been possible even if Temple E had been better rebuilt, that is, after a careful dig, reconstructing firstly with pieces in scale, and with a systematic reconnaissance of the pieces probably part of the whole. It is not known if the columns would have been less crooked or eaten away, nor if the pitiful impression of an artificial and forced resurrection would have been lesser.

It certainly is not the case of the church of San Pietro in Alba Fucense, for which a perfect anastylosis could have resurrected a bygone monument: not one piece was lost, not one piece was out of place, with the aid of photographs prior to the earthquake. These were not available here, evidently. But, in the case of Temple E, history, forced to retrace its steps, avenged its irreversibility with a lame, clumsy, disgraced result. Even the aerial motif, differing from the original, of the transparent colonnade, which is the only thing added to the landscape, is but a meagre thing compared to the cyclopic and truly superhuman spectacle communicated by the piled up remains brought down by the fury of the earthquake.

Nor should one think of identifying this, which is correct with respect to the passage of time over a work of art, with romantic sentimentalism. Restoration must never be repristination, and never should one believe that it is really the

same as to glue together the pieces of a vase or of a statue or re-erecting the fallen limbs of a monument. This is not extraneous to the terrain on which it is erected, to the environment it inhabits, to the historical events which bind it to the place: even the earthquake is a historical event which is not erased on a whim and which, if one tries to delete it, as in the case of the reconstruction of Temple E, takes revenge by transforming a ruin into a bad scenario.

The Pergamon Altar, reconstructed in Berlin, is truly a bad scenario or, if you will, a kind of test tube baby. The fact that Temple E was reconstructed in situ does not justify the unpleasantness of the result: in no part does it seem authentic. For the Temple of Zeus there is the fact, practically the only fact known to be true beyond any doubt, that it was not finished, and that it is therefore extremely improbable that there were any sculptures when colossal boulders can still be found in the quarries of Cusa. What a great opportunity, then, for us to finish it, to add the missing fluting to the columns and also to put in parts which possibly never existed, all Doric temples are the same, anyways!

To the considerations of opportunity and false restoration, to the serious and non-romantic evaluation of the memorable spectacle that those piled up boulders suggest to all sensitive people and not only to poets, the crude question, already posed by others, should be asked: what can one do when, once having taken up the piles, one attempts what I believe is without a doubt an impossible reconstruction, so many are the pieces to be arranged to make the spectacle orthopaedic and pathetic like that of the many columns forcedly erected in the Fora and in other parts of Rome? One would then not even be able to recreate that great heap, which would be another counterfeit, or leave the pieces around like bones in the desert.

Precisely because archaeology is serious and is modelled on the concept of science, one must beware of allowing the

neglecting of considerations which are not purely archaeological, but are also linked to the connective tissue of history and human values, leaving the economic issue last. With the ever more grave and deteriorated state of our artistic heritage, even if the reconstruction of the Temple of Zeus could be done with the ease with which boxes on bingo cards can be filled up, it would be the last thing one would want to do. Nor should it be believed, in the end, that a temple re-erected would constitute such an extraordinary attraction: it is more of a curiosity than an attraction, while the ruin, as it is, almost stuns people to the ground and is a spectacle unique in the world, so enormous are those boulders, so imposing the cumulus, so extraordinary is the landscape they create. Destroying this spectacle would be a folly akin to straightening, were it possible, the tower of Pisa.

The Recovery of the Zisa in Palermo

The Zisa, in Palermo, the most important Arab-Norman civilian monument, is slowly moving towards recovering its image after the disaster a few years ago which left almost half of it in ruin.

What happened is common knowledge, but its history is almost lost in the mists of time. Reduced to hosting the homeless, or almost, it had finally been freed. But the sad issue of the restorations had already begun.

This began before the last war with completely erroneous interventions. The superintendent for monuments – his name omitted out of shame – ignorant of Islamic architecture – as, the Zisa even though built by Normans, is absolutely Islamic – stripped all the walls and stalactites hoping to find, in his mind, the original stone: the problem was that the stone had never been visible and that, though covered with lime and possibly painted, the thick plaster was mostly original.

Nor were the mosaics of the great hall on the ground floor ever designed to be in contact with the stone: nor were the high wainscot of various marbles, with mosaic strips as in Monreale, ever meant to be limited to a wall of bare stone blocks.

After this first, most unhappy intervention, after several years, came the second, in which, naturally, among the other errors, it was hoped to “repristiniate” the architecture to a usual, ineffable, original state.

So the baroque interventions were removed, as was, first and foremost, in a bout of madness, the stairs added in the 1600s, cutting through the original vaults. Having removed that structure, which if not a load-bearing structure, cemented together the right wing of the edifice, this, on one wretched night, collapsed. No support structures or buttressing were

placed.

With the collapse, a terrible tear was formed in the outer wall, in the back, and all the vaults fell from the ceiling to the ground floor.

The disaster, which filled all those who considered art and history to be more than a superfluous ornament with rage, finally caused the State and the Regional Authorities to intervene. The executive project, which firstly involved a strong, stabilising intervention, was entrusted to the office of Prof Caronia, with a special commission superintended the works.

Basically, one had to abstain from any repriming or imitation of the past; the parts to be remade due to stability demands had to be clearly marked with visible delineations, dates or depressed sections which would show, with the difference in level, that the part had been remade.

With regard to the collapsed floors, it was decided not to remake the vaults or the floors, which would bar the vision of the perimetral principal structure.

However, in the meantime, an anti-seismic law was passed, which is certainly healthy, but which brought everything back to square one, demanding a solid bond between the various walls and therefore bringing about the proposal of reconstructing the vaults to gain momentum again.

This would have been a colossal counterfeit and, furthermore, would be almost impossible to realise, except with the crudest of approximations.

But it was not impossible to return to the first project, integrating it with greater stability precautions. It would be tiresome to go into too much detail here, but the general idea was that of not neglecting the perimeter of the walls in their height.

Thus the niches with the stalactites, the only remains of the primitive structure, would be visible from within, bare, without

additions, while the external part with its outline re-established, would be silhouetted by a metal wire which would visibly mark the limit of the necessary reconstruction.

Rather than using, for the roughcastings, different materials or plasters, it was preferred by a large majority to preserve the unity of the chromatic image of the monument, filling in the lacunae with a slight depression.

Other extremely important details, such as the window fixtures, which are indispensable, will be decided at a later stage, with an opportune test to allow less strident solutions with the ancient and incomparable monument.

For this reason, among others, the Sicilian Region is working on a law which will establish a department for the protection of moveable and immoveable properties in Sicily, led by a consulting committee, the constitution of which is supposed to be less plethoric and incongruous than that planned in the new law for cultural property and which received much attention from the press.

This department is to take care of the acquisition of the state property of the Region, with adequate funds, via expropriation, as well as for the restoration of properties of special historical, artistic and cultural value and interest.

Therefore, of these, there is also an adequate section concerning the Zisa to allow the re-establishment of the citrus grove-garden and the large basin of water before the “splendid” edifice.

Of course, horrendous skyscrapers loom over the area and there will not be cypress trees tall enough to hide them from sight.

The past is irreversible, unfortunately. But if the law is passed, a step forward will have been made.

Will even the ill-fated Arab bath of Cefalà Diana, on which this publication has touched on a number of times, finally be expropriated before it collapses like the Zisa? That is our hope.

Of all the planned expropriations, the councillor for finances was telling me, it takes priority.

Restoration in Florence

The ignominy of the time in which we are fortunate to be living is such that not even cities that appear to be intangible such as Florence or Venice manage to save themselves. Just yesterday, a cry of alarm was raised over the planned Hilton hotel at Torre del Gallo. But, having been away too long from the city which almost saw me born, by which I mean Florence, I was unaware that we were facing a systematic alteration of the historic centre, based on an *ad libitum* interpretation of the norms in the Master Plan of '62, which prescribed viable zones for rehabilitation, and these, coincidentally, are the most ancient parts of Florence, such as Santa Croce and S. Frediano.

However strange it may seem that conservative restoration were planned for all of the 19th-century parts of Florence and not for the older parts, one doesn't need a Della Crusca dictionary to figure out that rehabilitation is not reconstruction. But such was the interpretation adopted by the authorities charged with the conservation of this incomparable heritage that is the city of Florence, which does not exist in virtue of the Giotto's Dome or the Bell Tower, of Ponte Vecchio and of the Palazzo della Signoria, but due to the inestimable network of palaces and houses, the physiognomy of which constitutes the physiognomy of Florence.

Were we still in the age when town planners and architects postulated the possibility of inserting the new into the ancient, it would be understandable, albeit not condoned, this aberrant interpretation of restoration: but nowadays town planning institutes and institutes for the protection of historic centres have dispelled the illusion that such insertions could be made without causing fatal damage. There are no doubts over the interpretation of rehabilitation: there is only captiousness or

deceit.

Yet, in this way, the worst acts of destructions can take place lawfully.

A few months ago, the *Burlington Magazine* dedicated a concerned but extremely shocked editorial on restoration operations on Florentine monuments. These included monuments such as Brunelleschi's Spedale degli Innocenti, S. Jacopo Sopr'Arno, S. Maria Maddalena de' Pazzi and three other trifles.

These seemed to be like fairy tales: it couldn't be true. A mixed commission was established by the Superior Council: they went, they saw, they confirmed it. It was all true. That wasn't enough: since the inspections were limited only to the denouncements of the *Burlington Magazine*, some other little issues had not been seen. Here are a few more examples. On Via San Gallo, the Palazzo delle Mantellate, a monumental edifice marked in bold to be among the untouchable objects on the regulatory plan, was demolished and reconstructed, not restored, reconstructed in a false 1500s style, saving only the parts in stone. In the garden, with full approval of the authorities, a five-storey reinforced concrete edifice was inserted, when the Master Plan explicitly prohibited any reduction in green areas, which are already so rare, in the historic centre.

On Via degli Alfani, a most beautiful and characteristic street, among the oldest in Florence, a monumental edifice by Ammannati is altered, in the façade overlooking the garden, by a raised platform in order to host a garage, so that the windows appear deeply set like those of a casemate.

There are at least another score of cases that are equally indecent, in addition to the restorations deplored by the *Burlington Magazine* and the Superior Council. Thus Florence, while still mourning the flood, sends around the world, as if it were Togni's travelling circus, the exhibition of “rescued”

frescoes (which for the most part had nothing to do with the flood), and then, at home it carries out, promotes and approves these wonderful rehabilitations, in terms of integral demolitions of old structures, or inserting new constructions into old contexts, as on Via Nuova dei Caccini, with an offensive new building constructed right next to a monumental building and like on Piazza Mentana in the S. Croce district.

Well, isn't the National Library also ugly? If the National Library can stay then so can the rest. The beautiful Florence that comes out of it, the beautiful civilisation of the Renaissance, the beautiful lesson of culture and restoration of this city which was a teacher and a beacon of light for seven centuries. The light has gone out, that's all.

The Restoration of the “Adoration of the Mystic Lamb” by Van Eyck

Belgium has set an example of the greatest civility at the restoration to be carried out in that kind of palladium of Flemish civilisation that is the great polyptych of the *Adoration of the Mystic Lamb* in Saint Bavo Cathedral in Ghent. Instead of closing itself up jealously in the circle of local specific competence, high though it may be, this small and highly civilised town decided to call in for consultation, around the famous work, an international assembly of critics, chosen with regard to the *state of advancement* of restoration activity in their respective countries.

For us, who claim restoration to be first and foremost an operation of critique, in which science gives the philological subsidy and practical execution represents the implementation and the continuation of critical judgement, the fact that it was art critics and not restorers who were assembled is a precious historic confirmation of the quick road which ideas can be made to travel by at times.

If, in fact, instead of critics, it had been restorers that had been called together, the problem would have inevitably slid to the *method* to be used in the restoration, to the *means* that were to be employed. And since, however useful the light of physics and chemistry can be at times, the choice of the available methods is an empirical decision, not unlike what happens in medicine, there would have been, with all probability, a vain academic convention in which, for the honour of the task, everyone would have exalted his or her own specific expertise.

But from the very beginning, the discussion which sprang from the restoration of the famous work went by another path. There was no discussion on either the abilities of restorer

Philippot or the mixture that would be used to halt the minute flaking of the painting. I do not mean to say that such a discussion could not have been legitimate, but in this case nobody doubted that the treatment of such a famous painting, would not have enjoyed the greatest scruple and thoroughly tested substances.

The discussion, which emerged and was diffused in the newspapers, in cultural circles, in associations such as the “Amici dei Monumenti”, even appearing in a very vibrant poster¹⁵ and causing the Minister of Education to convene an

15

The poster (see *Nation Belge* dated 5 November 1950) was the following: *La restauration de «l'Agneau Mystique»*.

A severe warning against restoration.

The Belgian section of the International organisation for the protection of works of art, sharing the emotions provoked in opinion by the plan proposed to the relevant authorities to proceed with a lightening, as well as an elimination, of the layers of varnish of the *Agneau Mystique* draws the attention, in a statement, of personages responsible for the risk of similar operations and on the dangers that will be faced by this inestimable œuvre.

The signers declare that they know more that sixty masterpieces in the museums of Europe which have been completely destroyed and reduced to the state of secondary paintings, and this in the name of science. These oeuvres, which they have viewed previously in their beauty, arousing admiration and educating the youth, are now no more that sad laboratory scraps. The damage has only redoubled in recent years.

The authors of this request, conscious of the exceptional gravity of the situation, believe they must express their hope that the aesthetic values, the only ones which count in the final analysis, will be protected and that risks affecting the entire scientific experience, the results of which are unpredictable, will be avoided.

This communiqué is signed: chairman, Pierre Bautier, honorary conservator at the Royal Museums of Fine Arts; secretary, Suzanna Sulzberger, professor at the Université Libre de Bruxelles; members: Edmond De Bruyn, member of the Royal Academy of Belgium; Baron

international commission of critics in Brussels, was a discussion on the limits to be observed in restoration, and the Commission was elected and consulted on this basic point.

Of course, the reason why this was possible and could be achieved so quickly was due to the fact that, precisely in those days, when the polemic had grown much harsher, the *Commission de l'ICOM pour le traitement des peintures* was seated in Paris, so a large part of the experts invited to the discussion was not situated too far from Belgium. But this does not diminish the importance of the meeting – the first of its kind – nor the merit of its promoters.

Yet it is extremely instructive to summarise the reasons for which such a strong feeling had spread throughout Belgium on the announcement of the intention to restore the Ppolyptych of the *Mystic Lamb*. First of all, one must consider that in a country, such as Belgium, with such a high cultural level, the echo of troubles in London with regard to the cleaning of paintings, -- given also the proximity of the two countries -- had produced such a strong agitation, fuelled by the polemic caused in the neighbouring Netherlands of the cleaning of the *Night Watch* by Rembrandt, a cleaning which was carried out in a dissimilar manner and with quite different attenuating circumstances.

The better, needless to say, of the Belgian *intelligentsia* was much more apprehensive, because, in many cases and with the support of a notable and authoritative current, even Belgium had witnessed totalitarian cleaning interventions that had received prompt praise. I myself know something of this out of experience, given that, when I took part in a conference in

Descamps, member of the Commission of Museums, Brussels; Dr De Winter, chairman of Amis de Bruges; Richard Dupierreu, art critic; Edouard Michel, honorary professor at the Université Libre de Bruxelles; Viscount Terlinde, professor at the Université Catholique de Louvain; Max Winders, member of the Institut de France and the Commission Royale des Monuments.

Brussels in 1948, upon the invitation of Dr Paul Fierens, director of the Musées Royaux, in which I supported the concepts on patina, cleaning and on the function of restoration as critique (those same concepts this Bulletin and the practice of the Istituto Centrale del Restauro are very closely informed of) besides broad consensuses, I also ran into significant resistance when I declared that, after its cleaning in 1934, the famous Madonna with Canon van der Paele in Bruges, the indisputable masterpiece of Jan van Eyck, should be looked upon no longer on the original in Bruges but rather on the 1500s copy in Antwerp. It is a fact that the cleaning of the famous Madonna was received, at its time, with such praise that it would have intimidated anyone wishing to put forth a less enthusiastic opinion than that, which then revealed itself to be so faulty, imposed by the *intelligentsia* of the time.

It was fated, therefore, that it was precisely at the cleaning of this painting that the dismay began to spread with regard to the devised restoration of the *Agneau Mystique*. It was a doctor, a physician, that is, one of those who might have gone looking for the incorruptible hydropic children, also known as seraphim, of Perugino or a presumed colour blindness in Beccafumi, who, without disturbing the trumpets of Judgement, struck the definitive blow at the presumed scientific restorers, those who created a kind of legend around the unreachable solidity of ancient paintings, especially that of the Van Eyck family.

A solidity immune to the strongest solvents, almost bomb-proof. A solidity which in turn *dissolves* all these imaginary claims of very delicate coatings, of paints that were originally coloured and easily removable, that a decadent, Neo-Romantic critique tacked together to leave paintings in the deathly or jaundiced state in which the decomposition of paints and the stratification of the same reduced the greater part of masterpieces in museums. Such a critique, which claims one

should observe the painting from behind the veil of the patina, resembles the confession of a sinner behind the confessional grate or, rather, a kind of self-flagellation based on a complex a psychoanalyst would do well to analyse: the complex of the critic, the failed artist, who tries to diminish the work of the successful artist, hiding its splendour behind a veil of dirt or of decomposing paints... Actually, this psychoanalytical interpretation of our respect for the patina has not yet been attempted, but we offer it chivalrously to our Anglo-Saxon friends, so often inconvenienced by our theories, so that they can vary the arguments they reproduce both in defence and in offence.

Going back to Dr Jules Desneux¹⁶, this man noticed, while examining the two faces of the Canon van der Paele, that before the cleaning in 1934 and that after the cleaning, that the shrewd restorer had freed the defunct Canon, some centuries now after his decease, of certain skin imperfections bestowed to him by nature and, later, age.

The terrifying precision of Jan van Eyck had not only fixed in the lenses of the Canon the emergence of his myopia, but had also not failed to paint the ingrown hairs of his beard, and a series of verrucae, moles, calluses, to which – to the great anguish of the critique, who have no intention of talking about the *portrait of Ernesto* – was even worthy of his good Latin or Greek name, a *naevus*, a senile keratoma, a keratotic plaque... It is precisely this latter feature, a horrible, crusty bubble at the corner of his mouth, which had carelessly removed *in effigie* by

16

In *La Presse médicale*, n. 38, 14 June 1950, p. 708. An extremely recent publication of a pleasant and meticulous study of the same author expands, corroborates, enriches the basic contents of that first memoir: Dr Jules Desneux, *Rigueur de Jean Van Eyck*, Editions des artistes, Belgium, 1951.

the restorer, too certain of the unassailable strength of Jan van Eyck's painting, tougher than the varnish. The same bubble, in order to avoid misunderstandings and fertile hypotheses about possible and disrespectful attempts at repainting, reappears in the ancient copy in Antwerp, but not in the portrait of Van der Paele previous to that of the Madonna in Bruges, an ancient copy of which is kept in Hampton Court, London. A senile keratoma: it was the last gift of age to the illustrious prelate.

It is difficult to imagine the commotion the small note by Dr Jules Desneux produced in Belgium. This *post mortem* operation was disliked by all. The restoration of the Arnolfinis in London had already given rise to grave criticism in Belgium; now the case being dealt with was that of the *Adoration of the Mystic Lamb*: a work which is in Flanders akin to the sum of the Arena, the Brancacci Chapel and the Sistine Chapel. Never mind bubbles, moles and calluses, much more could have been taken out of that famous painting, with the manias of thorough cleaning. Who would have known if the cypresses had also *departed*, trees which, together with the central composition with a slight perspective, insinuates many *Italian* suspicions in the autochthonal Flemish masterpiece...

The public agitation increased when it appeared, after the information was leaked out, that the assembly to gather around the patient was going to exclude an expert which was known to be solidly set against radical cleaning and wholesale removal of varnishes. But this did not happen and when the assembly convened, however many proud, die-hard paint-strippers and cleaners participated, a very moderate line of conduct was decided on¹⁷. How was this possible? Not merely, it must be

17

The Commission was composed as follows: M.Ile Benoist d'Azy, Secrétaire de l'I.C.O.M.; C. Brandi, Directeur de l'Istituto Centrale del Restauro à Rome; Ph. Hendy, Directeur de la National Gallery, Londres; R. Huyghe, Président de la Commission internationale pour la restauration des peintures; N. Mac Laren, conservateur à la National Gallery, Londres; G.

said, because of the awareness of that kind of *popular outrage*, had they decided on a complete stripping of the varnish. The remission of the most tenacious promoters of total cleaning – who were all present – was not even owed to the efficacy of the arguments of aesthetics and historical critique, which, in the long run, managed to pass through even the *heavy water* of certain straggling cultures, but was rather, faced with the empirical scientism in which these very cultures believe to be regenerating themselves, due to the irrefutable argument produced by the splendid micro-photography of the section of

Rivière, Directeur Général de l'ICOM; G. Salles, Directeur des Musées de France; G. L. Stout, Directeur du Musée de Worcester; K. G. Van der Haagen, Directeur du Département des Musées de l'Unesco; A. Van Schendel, Conservateur du Département Peinture du Rijksmuseum.

The following scholars and Belgian officials were also invited:

Mgr. O. Joliet, Vicaire général du Diocèse de Gand, président du Conseil d'Église de la Cathédrale; M. le Chanoine De Keyzer, membre du Conseil d'Église de la Cathédrale de Gand; M. I. Bogaert, attaché au Cabinet du Ministre de l'Instruction publique; L. Christophe, Directeur général des Beaux-Arts et des Lettres; P. Coremans, Directeur des A. C. L.; J. de Borchgrave d'Altena, Conservateur en Chef des Musées royaux d'Art et d'Histoire; E. De Bruyn, représentant de la Classe des Beaux-Arts de l'Académie royale de Belgique; Descamps, membre de la Commission de peinture ancienne des Musées des Beaux-Arts de Bruxelles; P. Fierens, Conservateur en Chef des Musées royaux des Beaux-Arts à Bruxelles; L. Grimonpont, Directeur général des Cultes, représentant du Ministre de la Justice; A. Jansens de Bisthoven, chef du service iconographique (ACL); J. Lavalleye, professeur à l'Université libre de Louvain; I. Opsomer, représentant de la Commission royale des Monuments et des Sites; A. Philippot, restaurateur; D. Roggen, représentant de la Classe des Beaux-Arts de l'Académie royale flamande de Belgique, professeur à l'Université de Gand; R. Sneyers, chef de laboratoire (ACL); W. Vanbeselaere, Conservateur en Chef du Musée Royal des Beaux-Arts, Anvers; G. M. Vander Veken, restaurateur; O. Van Mulders, Directeur à l'Administration des Beaux-Arts et des Lettres; G. Verecken, Conseiller aux relations extérieures; J. Van Lerberghe, Secrétaire d'administration à l'Administration des Beaux-Arts et des Lettres.

the pictorial stratum, carried out by Dr Coremans in his well-equipped laboratory. From this evidence it became apparent, *lippiis et tonsoribus*, that there were superimposed coatings, without a doubt original, besides the three layers of varnishes; indeed, between the first and the second of these strata there was also a layer of dust. Thus, the ascertained existence of the coatings, rendered in the fluorescence of the ultraviolet rays clear as translucent varnish, shushed even the most restive of mouths. In conclusion, from the very probity of Dr Coremans who, at the time, was the grand culprit in the opinion of the public, unleashed the reservation most effective in containing the restoration.

However, once the circumstances of the superimposed varnishes were ascertained, a partial paint-stripping had to be imposed. The judgment held by the restorer Philippot, in this case, on the *Eremiti* panel, which was presented to the Commission, was perfectly plausible, given that, when called to act, one must *inevitably* trust in an *average result* guided by the taste and experience of the restorer, it being impossible, evidently, to reduce a painting into so many microscopic sections to then proceed with a rigorous removal of one layer of varnish from another. What is important, in these cases, is to remove that much which ensures preservation from damage, without changing the face of the painting, and to achieve a regeneration of the varnish which is left *in situ*. The minute flaking produced on some panels, with a limited stripping of varnish, and with the regeneration of the mixture with a base of resin, wax and turpentine applied by Philippot, with a moderate heat from a set of lamps and minimal applications of pressure, could have been safely be overcome, given the overall excellent state of the painting with regard to the support and the imprimature.

The undersigned also thought to suggest, with the full support of Dr Coremans, the conservation of those repainted

parts, after the disastrous 1800s fire which, based on the radiographies, did *not* hide any part of the original painting.

With these criteria and the prudence of the operator, there is no doubt that all the opportunities for a good restoration had been set in place.

The most considerable conference Dr Coremans came to hold in Rome¹⁸, with the support of magnificent colour photographs, both of details and of microscopic sections of the painting, gave the impression that those initial opportunities had even been improved on. This makes us all the more keen to

18

The communiqué was as follows:

The International Commission of Experts formed upon the invitation of the Belgian Government to give advice on the opportunity for treatment of the *Agneau Mystique* polyptych, undertaken by the Central Laboratory of the Museums of Belgium.

Considering that Mr Coremans, director of this laboratory, has clarified in the programme submitted to the Commission that he « ne songeait nullement à se livrer à de savantes expériences » mais entendait “carry out on the polyptych a conservation intervention such as will prolong its existence without upsetting the equilibrium and the value of the tones.

Considering that the work programme essentially proposes:

1. Saturation with a wax-based substance on the reverse side of the panels and their pictorial surface.

2. Reduction of varnish up to a degree determined by l'état du volet des Hermites.

3. Potential removal of repaintings.

1. Approves the wax treatment proposed to combat the humidity of the two faces of the polyptych.

2. Fully relies on Mr Coremans with regard to the reduction of the varnishes in the manner of the example by him presented.

3. Agrees with Mr Coremans in removing only those repaintings which could hide the ancient paint or cause its degradation.

4. Wishes that the deadlines set for the completion of the works will be extended if necessary for their proper execution.

see, at the next meeting of the ICOM Commission in Belgium, the final result of this most important restoration intervention, to which the critique and the practice of restoration owe such a high proof of civility and an example which some countries should do well to follow.

APPENDIX

Regio Istituto Centrale del Restauro

The R. Istituto Centrale del Restauro was created with the Law of the 22nd of July 1939-XVII-1240.

Minister Bottai placed Cesare Brandi (Superintendent for Monuments and Galleries and Acting Inspector at the General Directional Office of the Arts) to head the new organisation.

The premises of the Institute were granted for thirty years by the Governorship of Rome, on the basis of a trade-in with the Ministry of National Education. They were composed of four floors in the Convent of S. Francesco di Paola (Piazza S. Francesco di Paola, 9).

The customisation works, which began in September 1940, were carried out, for the construction part, by the Superintendent for Monuments of the Lazio Region, Alberto Terenzio, implementing the plan elaborated by the Director of the Institute and according to his instructions: as for the overall architectural set-up and the furnishing of the ground floor and the fourth floor, this was taken care of with the concourse of Silvio Radiconcini. The concrete implementation plan for the physics and chemistry cabinets was under the care of Selim Augusti, Director-in-Chief of the scientific cabinets of the Istituto Centrale del Restauro.

The photographic cabinet was placed under the charge of Vito Coppola, Director of the Photographic Cabinet of the Ministry of National Education, along with the photographic section of the Istituto Centrale del Restauro.

* * *

The Istituto Centrale del Restauro was conceived with special regard for paintings to remove the restoration of such oeuvres from the empiricism of the time and to found, on rigorously experimental bases and with every available scientific subsidy, a

controllable practice for the conservation of the works of art.

This demanded the restorer to be a technician, not an artist, who, guided by the art historian, could reach an exhumation of the original text and, with the aid of photographic, radiographic and physical analyses, to determine which substances should be used that would not damage the oeuvre, which setting procedures should be adopted, which environmental conditions would be most favourable. Thus the Istituto Centrale is composed of restoration technicians, chemists, physicists, radiologists, photographers and collaborators of artisanal expertise: the whole under the control of a permanently technical Commission.

Its organic constituency includes:

a) a vast restoration laboratory with special ateliers for restorers and annexed workshops for carpentry, smithing, stuccowork and gilding;

b) a photography atelier and a radiology atelier;

c) a physics atelier and a chemistry atelier, endowed with the most modern tools;

d) a Hall for Exhibitions and Museographic Experiments fitted with an air-conditioning system, which will allow the modification of the temperature and the humidity to a great degree compared to room temperature and humidity: this is to allow the testing, before use, of certain materials for restoration, the behaviour of these materials at different temperatures and with varying percentages of humidity;

e) an archive in which scholars may consult technical and graphical elements, in relation to all works of art restored (expert assessments, analyses, photographs, radiographs, chromophotographs);

f) a specialised library of art history.

Furthermore, the Institute will also include, from next year, a four-year restoration course for a very limited number of young students (those who appear to have the most potential in the field of restoration) from the major cities of Italy, either with

scholarships granted by the cities, or with government scholarships: one of these scholarships was dubbed “Adolfo Venturi”, by the Ministry of National Education, .

The aims of the Istituto Centrale del Restauro are decidedly cultural and, as such, are not merely limited to national interests: in fact, the Institute, by its founding law, can accept jobs from the private sector and from abroad, and may also receive foreign students.

The Institute is based in very spacious premises: it has required thirteen and a half months of customisation works and a very large sum of money for its equipment. It will publish precise and documented reports on the restoration work, documentary films in black and white and in colour, and will act as a centre for research, experiments and consultation for all scholars.

**1.1. Main members of the current staff of the R.
Istituto Centrale del Restauro, established
under the General Directional Office of the
Arts.**

Chairman of the Technical Council – His Excellency the Minister for National Education, Prof. Giuseppe Bottai.

Director – Prof. Cesare Brandi.

Members of the Technical Council

Prof. Pietro Toesca

Prof. Roberto Longhi

Prof. Giulio Carlo Argan

Prof. Arch. Guglielmo De Angelis d'Ossat

Prof. Pietro Romanelli

including, by right, the Director of the Institute.

Secretary – Dr. Gaetano Predome.

Restorers – Chief Restorer Mauro Pelliccioli

-- First Restorer Enrico Podio

-- Restorer Augusto Cecconi-Principi

-- Restorer Luciano Arrigoni

Pictorial Techniques – Prof. Antonio Donghi

Director of Physics and Chemistry Cabinets

Prof. Selim Augusti

Director of the Photographic Cabinet

Vito Coppola

Bursar – Ernando Cerreto

The Institute as an organisational unit

Let us move on now to examining the features of the organisational unit that ICR represents. It should be remembered, in this view, that the period we are looking at is that of the first years of the existence of the Institute, which coincides more or less with the directorship of Cesare Brandi.

The boundaries

Let us begin with the *boundaries* of this organisational unit, which were well outlined from the very beginning in the founding constitution, as well as being self-delineated through the activities and authority of Cesare Brandi, which promoted the realisation of a strong professional and group identity. In time and as external and internal events took place, ICR gradually modified its openness with regard to its own field of reference. Thus, from a relative initial closeness, during which the only input and output was through the institutional channel (the National Education Ministry, the General Direction of Antiquities and Fine Arts, the Superintendencies), the Institute moved progressively to a broader and more diversified openness to the outside world.

There is a twofold explanation for this phenomenon: firstly, political issues and wars, which delayed the formation of a connecting network with existing laboratories abroad and caused an initial closeness; secondly, the necessity, shared also by other organisational cases, of forming one's own robust group identity (a culture, a language, an informational system) before opening up to critique and contributions from abroad.

An interlocutor other than the institutional one could have been, in the initial stages, the group of experts forming the

Technical Board, charged with supervising every decision and professional activity. In reality, however, these scholars were members of a forcedly small community, selected on the basis of conditions set by Bottai's Ministry and therefore unable to oppose the chosen cultural policies, which were exclusively autarchic and coercive.

Finally, a strong, initial restriction with regard to private sector contributions was adopted, namely due to the fact that the Institute was born out of the criticism of the operational methods with which restoration was being carried out in the private sector; only a small group of “artisan” restorers (the most qualified) was employed (on a temporary basis) in the first works carried out and awaiting the conclusion of the first cycle of the Institute's school.

After the war, with the first professional successes – theoretical and empirical – and with the changes in national policies and administration, the Institute gradually transformed its relationship with the environment, in its broader sense: the scientific community, external agents, other restoration laboratories, industrial science laboratories, etc. As time passed, in fact, the system structures itself, or rather, creates itself with the entry of restorers that were formerly students of the first courses of the school: in these years, an intense divulgation takes place through the activities of many components of the group (especially those of the director), with numerous publications and participations in international conventions. Furthermore, an effective exchange role with the outside has always been exercised by the restorers trained at the Institute's school, firstly as students and then as the best vehicle for information with regard to the quality of the work carried out there.

The Objectives

It is common knowledge that a simultaneous presence of

many kinds of objectives may be found in work organisations – individual, collective, structural – which constitute the final aim of all the actions its members take. It is equally well known how the majority of conflictual or cooperative moments of an organisational unit may be better explained once the greater part of its objectives are divulged.

As far as ICR is concerned, it is easy to identify the existence of both *institutional objectives*, established by law, and of clear *group objectives* (resulting from the integration of discrete individual objectives), which have rarely given rise to conflictual situations in the very early years – evidence for which are, amongst other things, certain marriages and friendships that were formed at the time. The explanation for this cooperation between different objectives may be understood by remembering that Brandi and Argan firstly carried out the role of founders for the Institute and, subsequently, that of its major representatives. It is their presence, thus, which generates an initial consensus toward the institutional objectives, which were then shared and adopted by the rest of the group.

Among these objectives we firstly find the strong desire to innovate all the stages of restoration activities and to reduce as much as possible the *areas of uncertainty*. And it is in the function of these that a brand new organisational structure is created (due to the presence of science laboratories and restoration laboratories with the aim of reaching a common objective, with respect to their operational characteristics and the values of main professional models), with the ability to memorise (the archives) and transmit the acquired knowledge (the school and the Institute's "Bulletin").

4.3 The Expectations

The absence of conflictual situations can be explained also in the light of the mutual expectations of roles within the group led by Brandi. Reconstructing this organisational story, one can, in

fact, find the absence of contradictions and contrasts between that which the individuals in their roles expected others to do and that which the others actually would do (and vice versa). This coincidence in the mutual expectations is born from a careful definition and self-definition of the roles' boundaries – which simultaneously show a strong integration and interaction – and from the consensus the individuals gave, as persons, to this organisational design, consequently keeping true to all the commitments made.

In addition to these internal expectations, of *availability* and *professional skill*, are those from the ministry, of *carrying out an “excellent” activity*. Subsequently, this strong expectation of high professional skill and capacity for innovation gradually spread also to the community of Italian and foreign experts which, in exchange, conferred great international prestige to the Institute.

4.4 The Organisational Model

The Istituto Centrale del Restauro, as has already been mentioned, is an organisational unit within a ministry, and as such coherent with the bureaucratic administrative model of its pertaining structure. Nonetheless, the intrinsic features of restoration work and the need to pursue effectiveness rather than productive efficiency have caused a model other than the bureaucratic (relegated to the solution of management and administrative issues) to prevail in the Institute's internal organisation: the restoration work is carried out on the basis of the individual projects and the objectives, an organisational model in which the work of art is the start and the finish of every action and for which it is acceptable to operate without regard for “market conditions”.

Therefore, due to the strength of the subject theory – which imposes itself like a scientific paradigm that is opposed to other

paradigms – the Institute moved to define the objectives to be achieved and then to act accordingly, using an already tested method if there was one available, or a method invented specifically for the case, as with the “tratteggio” with the frescoes of Lorenzo da Viterbo.

In brief, an organisational model was therefore chosen that had the aim of reducing and controlling areas of uncertainty, where *theoretical uncertainty* especially would be minimised – thanks to the fine elaboration made, especially by Cesare Brandi – while *technical uncertainty* would gradually be reduced also thanks to the contribution of the Institute's scientific component, which worked to carry out cutting-edge research on the issues of decay prevention and on the quality of the materials used in restoration. This progressive reduction of areas of uncertainty involved the group as a whole: the scientist, the historian, the restorer, the artisan or the technician, due to the high level of professional ability achieved, were able to manage and solve *variant* situations with an ample margin of operational discretion, profound connoisseurs both of restoration theories and of the main scientific ideas developed or imported by the Institute.

4.5 The Product

For the restorer, the product of one's work is an article of handiwork, in which:

the physical consistence of the oeuvre must necessarily take priority, as it represents the specific place of the manifestation of the image, ensures the transmission of the image to posterity, and thus guarantees its reception in the human consciousness.

Now, if it is true that:

with the term restoration, one generally means any activity carried out to prolong the conservation of the physical vehicles to which the consistence and the transmission of the artistic image is entrusted, and one may also extend the concept to include the *reintegration*, in an approximate fashion, as much as possible, of a *mutilated artistic image*

it therefore follows on that both the process of recognition of the work of art as such – as an object for *restoration* – and the intervention of the restorer add content to the work of art itself: these irreversibly incorporate into it the product of human reason, represented by the scientific knowledge of the matter in its consistence of image and physical structure, made visible by the modification of the previous state that the restoration necessarily involves.

The differentiation of the interventions, having ascertained their theoretical irreversibility, will thus consist in the *certain* quality of the methodology, which must therefore ensure the reversibility, if only physical, of the materials used and the repeatability of the restoration operation. The works restored by ICR, which have almost always reached the Institute in a state of advanced degradation and indeed avoided by the restoration laboratories of the Superintendencies, have therefore had guaranteed to them, by the unanimous recognition given by scholars, this added value: in other words, they were incorporated with an additional value, that of being a product of absolute “excellence”, even, paradoxically, in the case that no intervention were actually carried out on the material support of the work of art.

The intervention of repristination or consolidation or reinforcement or even mere cleaning carried out with brilliant results by ICR has nonetheless caused an appreciation in the collective perception – against the wishes of the same restorers and in contrast to the intentions of the founding group – of the

image of the restorer as:

a charismatic professional, called in to provide his services only in desperate cases. Hence the perverse necessity that the restorer carry out the intervention with *inevitably* stupefying results, such, that is, that would make the restoration, any restoration, appear as a true and proper resurrection.

4.6 The Process

Accepting the distinction between the work process involved in the *transformation* of input into output, that of the *coordination* of these activities and that of their constant *maintenance and innovation*, it is necessary to consider that the more a restoration is carried out with critical and scientific methods, the more the productive process carried out is made explicit and repeatable, and therefore confutable.

ICR has without a doubt been the top promotor and supporter for the necessity to make explicit the theoretical decisions made and the methodologies adopted, especially in its publication and divulgation of its theoretical decisions and methodologies. Thus, reading the scientific and technical report, drawn out during the restoration intervention, as is the norm, it is possible to follow its steps and identifying its essential stages.

In order to try and accomplish this process of delicate intervention on a work of art ourselves, we have chosen three extracts which offer as many points for observation: that of Argan, art historian; that of Giovanni Urbani, restorer and art historian; and that of Salvatore Liberti, chemist of the Institute.

Let us start with the extract by Argan, who in 1947 describes the “actions of the restorer” for the *Ulisse* magazine – in this case the subject is a painting – as they were carried out at the time at ICR:

The first actions of the restorer target the physical conservation of that object of canvas, chalk and glue and colouring materials that is a painting. Each of these substances has specific physical qualities, reacts differently to heat and moisture and brings in itself its own causes of corruption: it is this disparity of the physical properties of the substance that is the main cause of the damage that is suffered by an antique painting. In order to eliminate the causes of damage and guarantee the stability of the painting, a series of extremely delicate mechanical operations must be carried out: the twisted or warped boards must be straightened and reconnected, the worn canvases must be replaced, the disgregated imprimitures must be healed, detached or crumbling paints must be flattened and set, sometimes the painting must be moved from the old support to a new one; and the physical qualities of the materials used in the restoration must be kept in mind, so that all the various strata of the oeuvre may react to external factors in an analogous fashion, without causing those disorderly *movements* which cause the raising and detachment of the paints. Once the materials of the painting have been consolidated, the cleaning operation begins, the most difficult and risky part of the restoration.

To bring into light the original elements of a work of art it is necessary that one be able to recognise and evaluate these: thus, the restoration, which had been so far a mechanical operation, becomes a scientific activity, a continuous critical reflection. It is well known that various substances accumulate on and encrust an antique painting, substances such as dust, mould, candle smoke, etc.; but in addition to this grime, unfortunately, there are the colours and the glues and the varnishes, and, lastly, all the disparate organic and inorganic substances that have been used by the restorers of old. Each of these substances has its own resistance to the action of solvents; this, which here cannot affect an exceptionally tough encrustation, may just yonder go so far as

to eat into the defenceless pulp of the colour.

Beneath these confusedly layered strata, the scraper of the restorer must know how to find the genuine *skin* of the painting, the final layer of varnish placed by the artist, furthermore most difficult to separate from the last veils of colour. From here stems the necessity of being able to stop in time, sometimes pushing one's scruples to respect certain ancient restorations, beneath which lies the ruin and which, at least, bequeaths a trace or faint, iconographic memory of the parts that have disappeared. But that genuine skin of the antique painting will most times present itself thick with lacerations and most difficult to read. Now, the aim of the restorer is not only that of conserving the matter, but also the value of the painting, that is, to reduce it to a condition of visibility which will permit all of its formal elements to be read and evaluated. It is therefore not enough for the cleaning to be conscientious and prudent, it must also be balanced. If in some parts the overlaid stratum has resisted the action of solvents and scrapers, if certain areas of colour have been chemically altered and some tones may have intensified and others faded, it is evident that these parts will clash intolerably beside the others, which may have been brought to their original clarity; the spatial unity of the painting will thus be broken, the reading gravely compromised. This is why the restorer must keep in mind the whole of the oeuvre during the cleaning and must proceed in such a way that the whole of the surface reach the same degree of clarity, even if, in addition to the balancing of the works, it may sometimes be necessary to sacrifice some brilliant partial results. At this point, the problem of the lacunae and their reintegration presents itself. Even the lacunae are *things* that inserts themselves into the heart of the pictorial surface, it interrupts its continuity and it alters and disturbs the values. It is true that our eye, if it is deviated or distracted by an integration or an interpolation, may naturally skim over lacunae and exclude them; but it is also true that the lacunae have themselves a shape

and a colour which *enter circulation* and engage nearby colours into casual and arbitrary relations. It is therefore necessary to re-establish a visual connection, as neutral as possible, between the original parts, but always in such a manner as to keep all the surviving elements in their proper situation, their proportion in the spatial and chromatic unity of the oeuvre.

The description by Urbani – who proposes a high level of technical detail – concerns the procedure developed by ICR for the transportation of colours in a wooden painting:

Once the painting is protected with a thin yet dense veil of cotton, the perfect adhesion of which to the colours is entrusted to an *paraloid* type of acrylic resin, one may proceed by covering the coated surface with an epoxy resin (chem-res, resamid), after the insertion, between the veil of cotton and the afore-mentioned layer, of a thin film of virgin wax, to work as a detaching agent. The painting is then allowed to float in a vat of water with the protected part above the water's surface. After a few days, the moisture reaches, having gone through the thickness of the board, the preparatory layers, which become softened to the point of no longer adhering to the board. The colours and the preparatory layers can be, at this point, easily detached from the support, in a manner facilitated by the consistency and the elasticity conferred to it by the protective layers over them. In the subsequent stages of the operation, the support and the painted layer are treated separately. The wooden support is made to dry with heat, imprisoned between metallic bars which prevent it from warping or twisting. Thus, the whole of the board remains flat and, at the same time, undergoes an almost permanent plastic deformation: this will prevent it, once freed and exposed to normal environmental conditions, to deform as it would before. Lastly, a glass fibre tissue is made to adhere, with paraloid, (together with titanium white and pumice powder,) to the surface

that is to receive the painted layer. The tissue's weave is levelled with a dose of the same resin. Simultaneously, the back of the pictorial layer is freed of all residues from the preparation. A thin film of rabbit-skin glue is spread over the bare colours; this adhesive is, in fact, traditionally employed in gypsum-based preparations. Next, a thin layer of epoxy resin is poured over it, so as to level out the surface perfectly. On this, with a para-based putty, a tissue of linen or cotton with a weave that is very thick, but nonetheless as flat as possible, is glued. The painted layer may at this stage be reapplied to the board; the gluing, using a mixture of natural resin and wax, is carried out between the surface of the tissue rendered supportive to the layers added on the back of the paints, and the paraloid surface (with titanium white and pumice powder) which covers, together with the glass tissue incorporated into it, the board.

The complexity of the whole system is due to the necessity of not making use of solutions which would render future interventions impossible or which would gravely compromise the conservation of the painting. In the solution described the paint can be detached again from the board either by itself, applying moisture to the rabbit-skin glue film which covers the back of it, or, together with the cavity of epoxy resin, applying heat to the layer of natural resin and wax beneath it. The layer composed of glass tissue and paraloid has two functions: that of completely isolating the colour from dilation and contraction motions the board may develop on the surface, (indeed, to stop it from curving, it will be properly boarded,) and to furthermore establish, with the addition in the paraloid of zinc white and pumice powder, a surface suitable for receiving the adhesive layer of wax and resin.

With the described procedure, one has the integral solution to the greatest restoration problem posed by board paintings: the stability of the pictorial layer.

In 1961, at the Convention of Italian Chemists that was held in Milan, Salvatore Liberti was called upon to give a report on his work at ICR: the result is a very detailed description that was, at the same time, not “staff only”, and from which one may easily learn part of the restoration process, especially with regard to its technological side. These are the most interesting extracts:

We follow the restoration of a painting on canvas or on wood at the Istituto Centrale del Restauro in Rome. A work of art is placed, as soon as it arrives, in the gas chamber, under atmospheric pressure, functioning with methyl bromide, especially chosen for its very low boiling point and its high vapour tension. The work of art, once disinfested, is subjected to all kinds of photographic documentation to record its condition at the time, and, afterwards, is subjected to various operations to identify the composition of its various parts and its structure. Next, black and white and colour photographs are taken under natural and artificial light, oblique lighting and in infra-red; after this, photographs are taken of the fluorescence caused by ultraviolet light (Wood's lamp) which varies from substance to substance and is dependent on time, oxidisation, polymerisation, especially with varnishes and pictorial binding media; then, the painting is subjected to a radioscopy, and then a radiography with soft and semi-hard X-rays. The Institute has an instrument built especially for paintings that has a number of functions, that are: frontal stratigraphic radiography carried out by turning the X-ray tube around 360 degrees; stereoscopic radiography carried out by moving the tube along a special track along an arc of 180 degrees so as to have angled radiographs (right and left image) to be examined with a stereoscope [fig. 11]. After the radiographs, minimal quantities of colour particles are taken from the peripheral areas of the painting. With the aid of a small diameter microscope, the sample from the painting is englobed in a quick-setting, synthetic resin; before it sets, it is placed into a perfectly

sealed recipient in which a vacuum is created: in this fashion, the solvents of the resin and all the air absorbed is extracted, so as to have a transparent resin block without impurities. Next, the block containing the particle is sawed and polished, still under the microscope, so as to have a surface containing all the pictorial layers, from the support to the preparation and on up to the pictorial surface, where the layers of varnish applied at different times can be discerned. A micro-chemical analysis of pigments and components is carried out on the aforementioned microscopic sections; if there are no other particles available, the analysis is carried out on the first sample. The pigments and pictorial components are then analysed with a spectrography and the micro-chemical analysis is alternated with a radiographic one, especially on various pictorial binding “media”. The Istituto Centrale del Restauro also possesses: a) a chamber for the uninterrupted exposure of materials to mist and saline vapours (chlorides, nitrates, etc.); b) a chamber for continuous exposure to rain and light. This equipment is used especially for the present study of the consolidation of rocks and statues of ancient monuments, to which the new method of imbibing of consolidations by electrophoresis is being applied.

In conclusion, we would like to point out how many of the techniques and instruments used in restoration are imported from the tool-cases of various scientific professions and artisanal trades. For example, entering a restoration laboratory, one may find tools and raw materials from a dentist's (the micro-drill and filling putty), a surgery room (the scalpel, the swabs and gauzes), a radiography room, a chemistry laboratory, or a tailor's workshop (the needle and the thread for tapestries), a goldsmith's, a mechanic workshop (the compressors), and with even “recipes” for mural paintings, which may even include milk among their ingredients.

All this equipment is used, after some work is done to adapt

them to their new function or, sometimes, as is. After a more in-depth analysis, one can note the distinction between a “generic” kind of technology, which we find used especially in the diagnostic phase of the intervention on all works of art (painting on canvas or wood, frescoes, marbles, bronzes, etc.), and a “specific” kind of technology (more delicate than the former), closely linked to the physical treatment chosen for the intervention on the work of art.

4.7 Summary of organisational features

Let us now look at a summary of the organisational features of ICR, defined firstly by the decisions made by Cesare Brandi, but then developed and modified by those who worked with him.

Certainly, the first organisational feature of ICR is that of having decided upon, from the planning stage, carrying out restoration activities through teams. We have spoken about how previously, in Italy, the restoration of works of art would take place in the workshop of a restorer, privately, with his students, or in museum laboratories, always focusing on the individual contribution of restorers with greater or less expertise. In ICR, however, the formula of a group composed of persons was chosen – a group chosen by Brandi on the basis of competence and “passion” for restoration – with each person acting in well-defined, but highly interactive roles, designed so that nobody should carry out merely executive functions. The result was a very flexible kind of organisation, where time – as could not be otherwise in restoration – is firstly a quality, rather than a quantity, and its unit of measurement is given by a certain chemical reaction or the drying out of a wooden support.

In those early years, the organisational climate featured a lack of competitiveness within the group (we have already mentioned the weddings and many friendships that were born, especially in the first years) but, on the other hand, there was also

a strong scientific competitiveness toward the outside: the battles waged by Brandi and his collaborators on the issues of the critique of restoration, such as that for the conservation of the “patina” of paintings, are famous. This group culture, which was characterised by the existence of a common language, of shared values, of a well-defined professional conduct, seems to persist even in those who leave ICT for various reasons: attending the Institute constitutes, moreover, a great point of prestige for every professional.

The second characteristic is that, already described, of having established the school for young student restorers (Italian and foreign) and that the entire organisation invested much energy into it: the director of ICR was also the director of the school and the professionals of the various sectors and laboratories were its professors. As for the didactic decisions, the objective was always that of not being limited to training, but of reaching a global qualification with regard to restoration. Because of this, the students were not only transmitted the discoveries and the inventions, not only were they dictated the recipes of a good restorer: that which the Institute set itself to do is to enable them to understand the entire restoration process, to act with critical judgement, even adapting (always in accordance to scientific method) the technologies used to their needs. In an activity in which it is essential to dispel routine and tedium, the capacity to brew an effective solvent, – following a tested formula – with components of which the intrinsic qualities are prized, (for example the odour or non-toxicity,) for example, assumes great importance.

The third feature is the interplay between disciplines and professions of the group, without barriers of any kind, established on the basis of the work of art, which persists as the starting point and arrival of every process. This has allowed ICR not only to significantly improve the quality of the work executed, but also to realise great restoration interventions which

a single professional could never have carried out, given the enormous qualitative and quantitative demands of the work.

The fourth feature is the effort to reach a synthesis between positions which had until then been deemed irrevocably opposite: tradition/innovation, individuality/collectivity, artisanal knowledge/scientific knowledge, theoretical thought/manual activity, rationality/passion, nationality/internationality, public/private, internal resources/external contributions.

The fifth feature is the decision to keep constant relations – possibly of a competitive or conflictual kind – with institutes and organisations with similar partial or final objectives, both formally and informally, through interpersonal friendships or mutual esteem. A dialogue was thus initiated with university chairs, industrial laboratories and restoration institutes in many countries, making the Institute an organisation with well-defined boundaries, and yet very open and interactive with the outside. This also allowed constant attention to be paid to the evolution of the major causes of decay of works of art in Italy and abroad: from the damage caused by war to that caused by atmospheric pollution, besides those due to human neglect.

The sixth feature is the constant openness to external individual contributions, from people that had left the Institute (alumni) or from people who never participated formally, as with the chemist Torraca.

The seventh feature, from which the above originated, is the style of participative leadership adopted by Brandi at the head of the Institute. A critic in high esteem in the eyes of Italian and international circles, he was a director that was respected more for his professional competence than deference to hierarchy, even after stepping down, in 1960, from the institutional office. In the early years of the Institute, Brandi was a young man that was capable of resolving the many organisational problems which arose with great style, such as by quickly replacing the first restorers, who were still too bound to the idea of a magical

and empirical restoration, with students from the first of the Institute's courses.

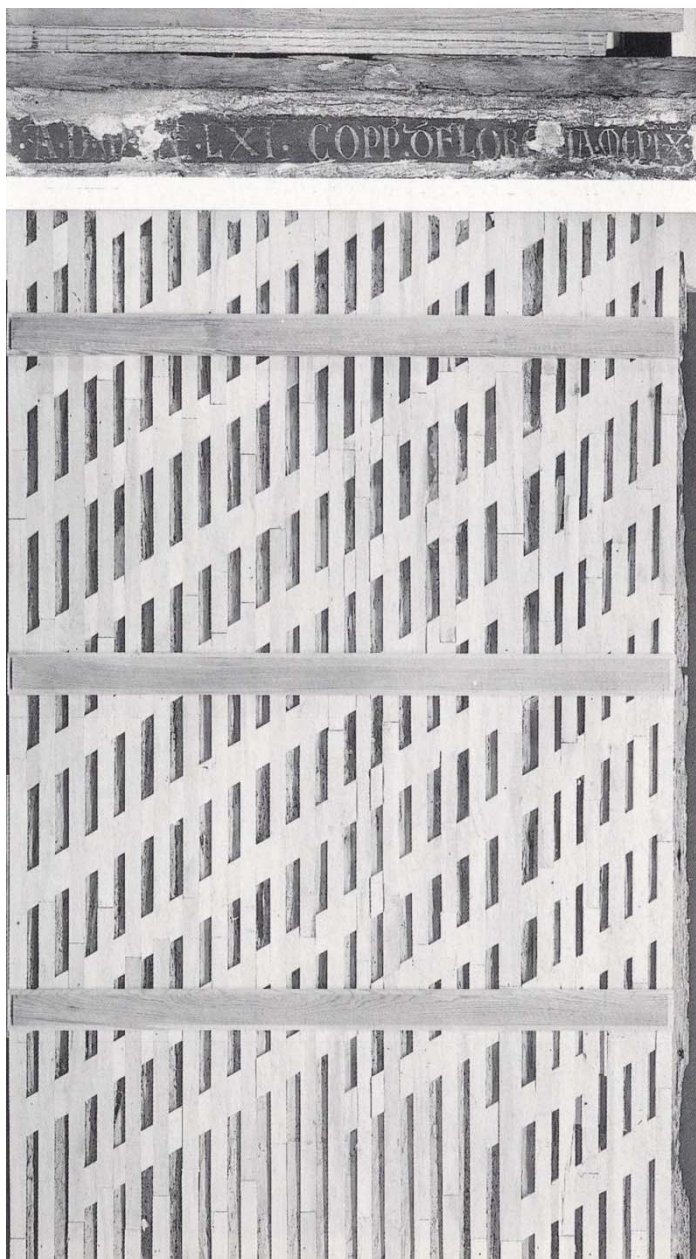
Lastly, the eighth feature, without a doubt the most important, is that of having reached the correspondence between object of restoration, people and organisational structure: that is to say, between text and context. Going back over the history of the first years of the Institute, one is immediately struck by the style of uninterrupted dialogue between the work of art and the restorer, between organisational needs and structure. It is an equilibrium which, unfortunately, is found in traces especially in the magazines of the time or in the memories of those who were there at the time.

Giancarlo Buzzanca, Patrizia Cinti

Illustrations



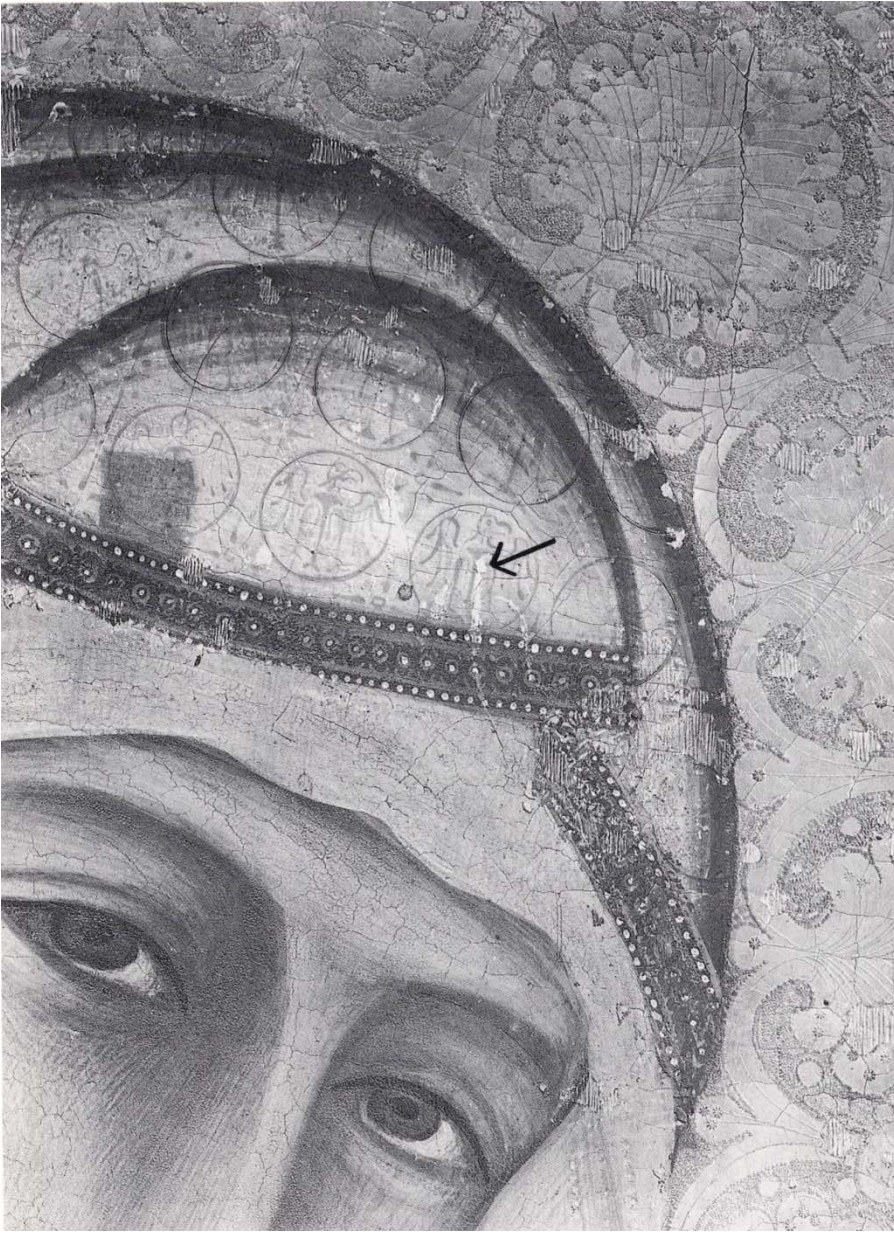
Siena, Church of Santa Maria dei Servi: Coppo di Marcovaldo, *Virgin Enthroned with Child and Angels* (photo by grazing light, before restoration)



Coppo di Marcovaldo, *Virgin Enthroned with Child and Angels* (detail of the original frame showing the signature and the woodwork on the back of the support)



Coppo di Marcovaldo, *Virgin Enthroned with Child and Angels* (X-ray of the head)



Coppo di Marcovaldo, *Virgin Enthroned with Child and Angels* (the arrow indicates a lacuna showing the white background with transparent yellow paint; above, painted eagles and other friezes)



Coppo di Marcovaldo, *Virgin Enthroned with Child and Angels* (one of the angels after restoration)



Coppo di Marcovaldo, *Virgin Enthroned with Child and Angels* (detail of cushion before and after restoration)

Tav. 234

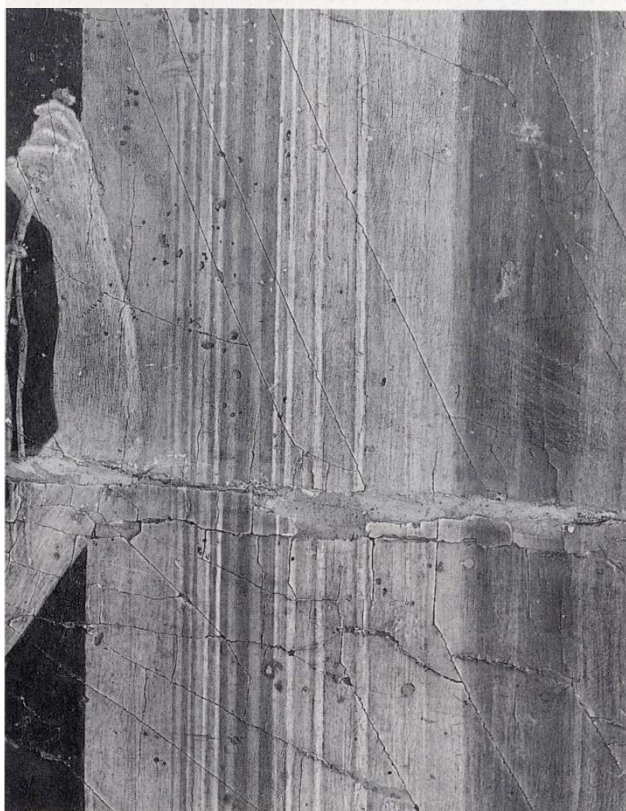


Coppo di Marcovaldo, *Virgin Enthroned with Child and Angels* (the whole painting after restoration)

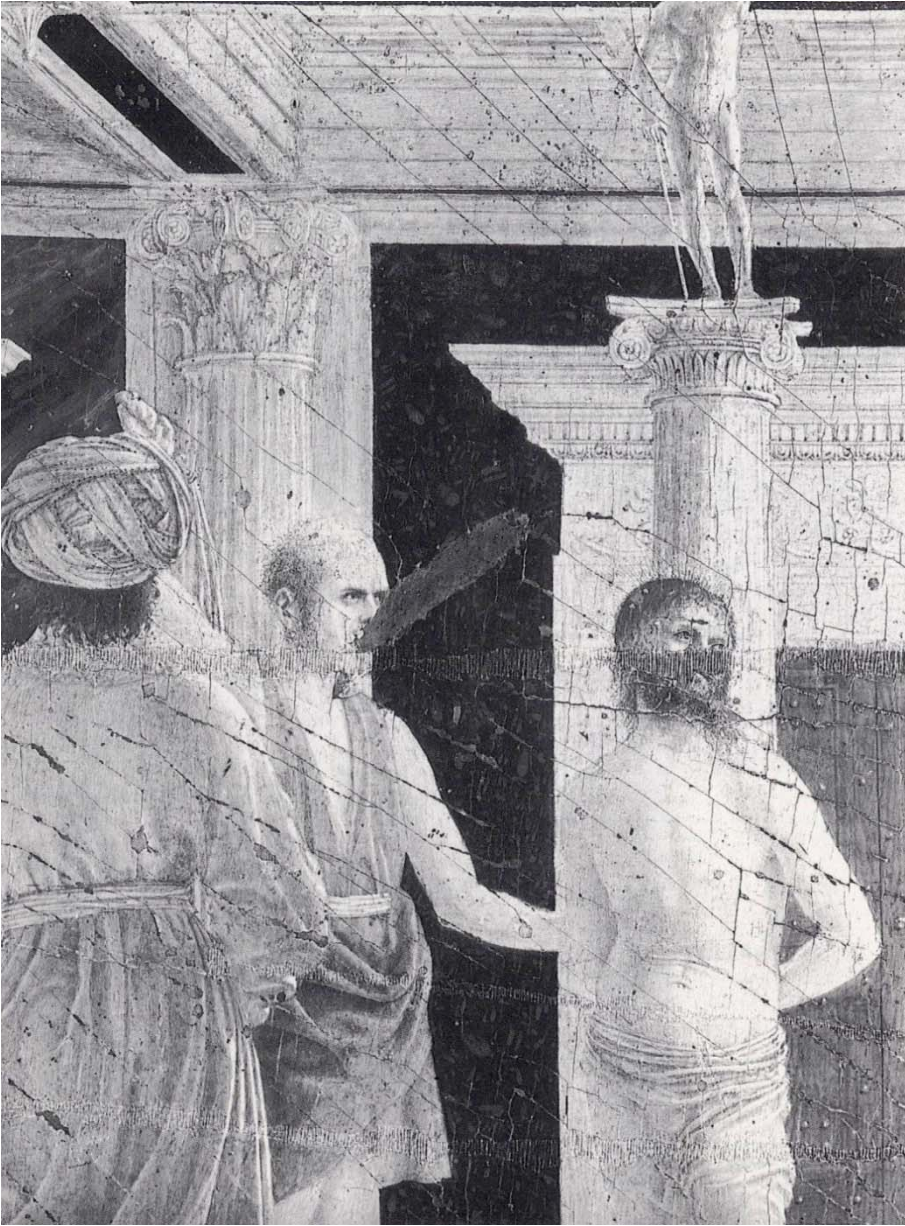


Urbino, National Gallery of the Marches: Piero della Francesca, *Flagellation* (before restoration)

Tav. 236



Piero della Francesca, *Flagellation* (detail before restoration by grazing light, and detail of wooden joints before restoration)



Piero della Francesca, *Flagellation* (detail after restoration: the stuccowork on the flagellant's face has been left)

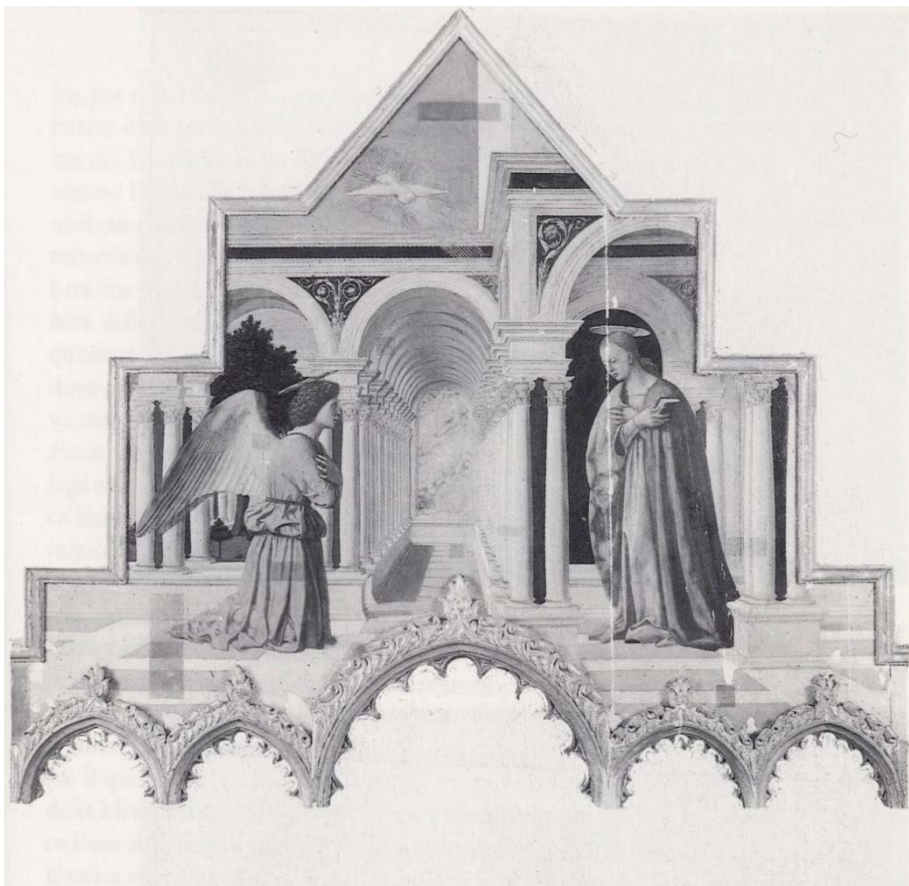


Piero della Francesca, *Flagellation* (after restoration)

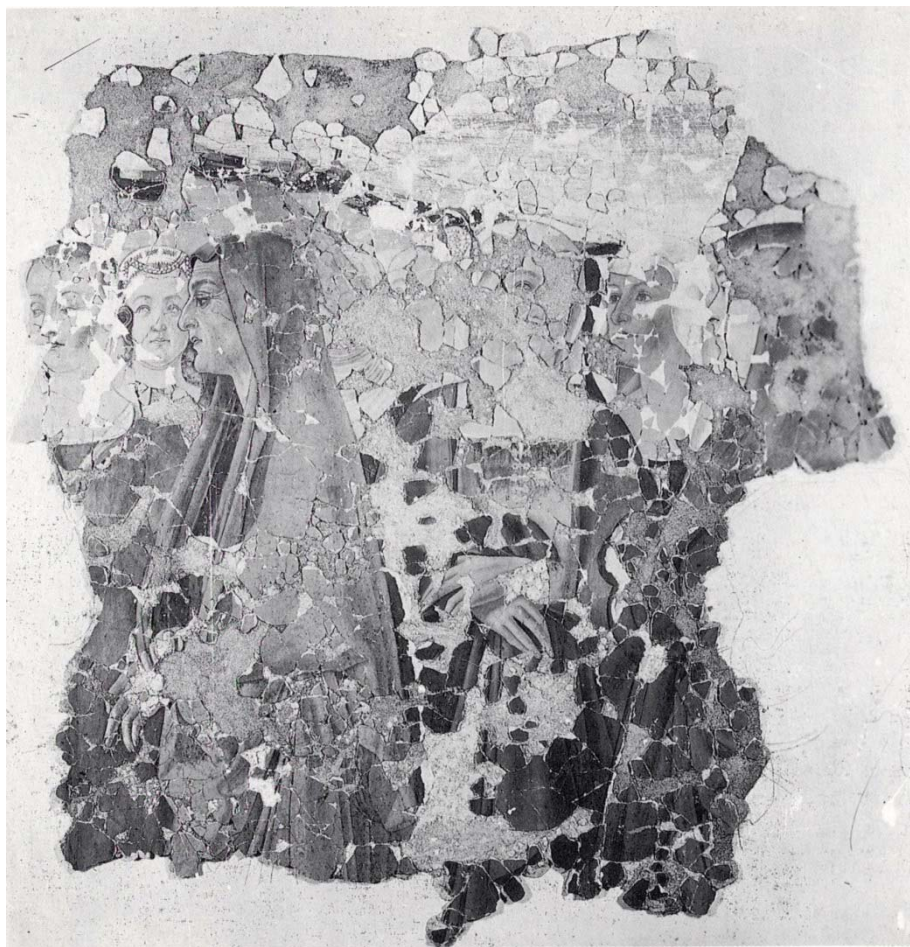


Perugia, National Gallery of the Marches: Piero della Francesca, Polyptych
(before restoration)

Tav. 240



Piero della Francesca, Polyptych (detail of the *Annunciation* during cleaning)



Viterbo, Santa Maria della Verità, Mazzatosta chapel: Lorenzo da Viterbo:
Wedding of the Virgin (detail during re-composition)



Lorenzo da Viterbo: *Wedding of the Virgin* (the same detail after completed re-composition)

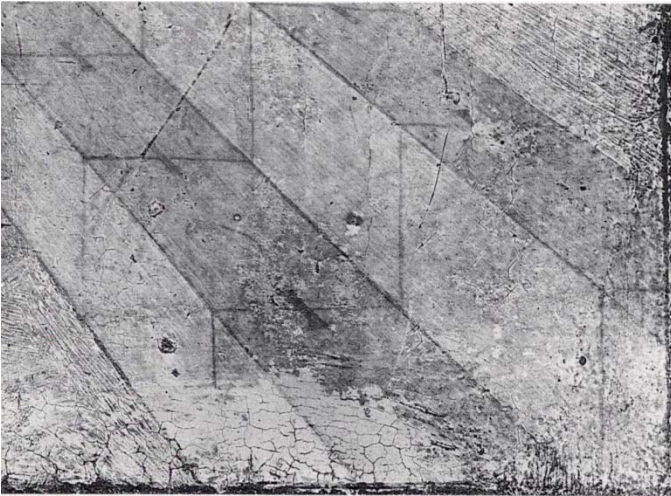
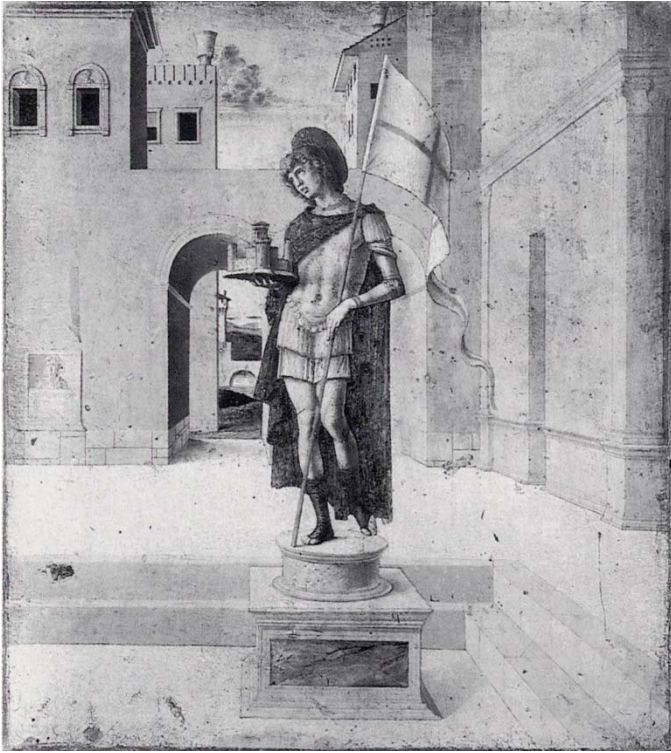


Wedding of the Virgin, Niccolò della Tuccia and followers (detail during re-composition)

Tav. 244



Wedding of the Virgin (the same detail after completed re-composition with integrations in watercolour *a tratteggio*)



Pesaro, Civic Museum: Giovanni Bellini, *Pala Pesaro*, altar step showing St Terence (detail after restoration and macro-photo of steps)



Syracuse, Regional Museum of Palazzo Bellomo: Antonello da Messina, *Annunciation* (after temporary restoration work in 1942)



Syracuse, Regional Museum of Palazzo Bellomo: Caravaggio, *The Burial of St Lucy* (after restoration)

Tav. 248



CESARE BRANDI

Cesare Brandi was one of the leading Italian art-historian of his generation. His remarkably diverse and prolific literary and critical output, ranging from aesthetics, art-history and travel, to philosophy and politics: among all *Teoria generale della critica*, *Segno e immagine*, *Le due vie*, *Struttura e architettura*, *Duccio*, *Giotto*, *Picasso*, *Morandi*, *Burri*, *Disegno della pittura italiana*, *Disegno dell'architettura italiana*, *Pittura a Siena nel Trecento*, *La prima architettura barocca*, *Viaggio nella Grecia antica*, *Verde Nilo*, *Budda sorride*. In 1963 he published *Teoria del restauro*, a summation of his thoughts on the issues posed by modern conservation.

Brandi's most lasting and influential accomplishment was the creation, in 1939, of the Central Institute for Restoration in Rome (ICR). Under Brandi's direction the Institute undertook numerous and significant restoration projects and, in parallel, continued to fashion an organic program for the professional formation of qualified conservators. He took part in organize many of the international conferences working closely with institutions such as ICCROM and ICI. His thoughts have had a significant influence on the development of the discipline of art history and aesthetics

Prior to this edition in English, a selection of Brandi's writings on restoration, collected in 1994 by Michele Cordaro, was published in Italian under the title "Il restauro. Teoria e pratica". Subsequently they were published with more or less the same title, first in French and then in Spanish. Since these writings date from after the publication of the *Teoria del restauro*, they were not included in it.

The current selection meets the basic criterion of the representative nature of the chosen "cases" at an international level, so as to obtain a more flexible instrument and, at the same time, a less dispersive one – without in any way diminishing the depth and complexity of Brandi's contribution over so many years of uninterrupted concentration on the most pressing problems in the fields of conservation and restoration.

However, it's not by chance that in recent years the rate of translation of Brandi's *Teoria* into other languages is increasing, and involving cultural traditions that are far removed from European humanistic values; but what is more important, setting up a useful dialogue on methodology or even forms of sharing and collaboration in the most advanced cases, not only at the operational level but also in terms of professional and vocational training: in China, Serbia, Egypt, Morocco, Afghanistan, Iraq, Peru, India.

ISBN 978-88-98957-01-9

