COURSE I
ARCHITECTURAL CONSERVATION

Conservation of cultural property, and historic buildings and historic areas in particular, has developed during the last decades into a specific discipline with its own methodology. Aiming in the first place at safeguarding genuine values transmitted through tradition and integrating them harmoniously with the development of life, conservation appears as a matter of high cultural responsibility even before it calls upon the particularly complex network of technical knowledge.

The courses of Architectural Conservation offered since 1965 by ICCROM originated from the development and internationalization of the "Scuola di specializzazione per lo studio ed il restauro dei monumenti" of the University of Rome, created and directed since 1960 by Professor De Angelis d'Ossat.

The course has been conceived as a mid-career study for participants having a university degree and at least four years of practical professional experience. It intends in a limited period of six months to give participants the broadest possible survey of cultural and technical problems of architectural conservation — stressing the methodological aspects dictated by an ethical approach to conservation problems. Advantage is taken of the fortunate location of the course in Italy, and especially in Rome, where the rich cultural heritage and long tradition in conservation can offer widely varied examples to illustrate the many facets of the course topic.

A broad knowledge of the history of architecture and a sense of historical problems constitute a fundamental background for conservation. However, as participants are expected to have already acquired this in their university studies, these matters have not been specifically included in the programme.

ORGANIZATION

The course offers a wide panorama of architectural conservation where all parts are complementary to each other and single elements should be seen in their context. For didactic reasons, the programme is divided into six sections in order to allow for a clearer and more concentrated consideration of specific aspects. The first section gives an introduction to the basic concepts and principles in conservation of cultural property; the second deals with survey techniques and analysis of historic buildings; the third, conservation technology of traditional building materials; the fourth, special aspects in conservation. The fifth section is dedicated to historic towns and their conservation, and the last section concludes the course with discussions on policy and legislation.

The programme consists of lectures and case studies, reinforced by laboratory and field exercises, guided visits, and seminars. Participants are invited to bring material to illustrate the problems and attitudes in their countries, and examples of their own experience. Each course member is also expected to prepare a course seminar on a specific topic in conservation.

Conservation is a cultural problem where attitudes and concepts may vary from country to country. The lecturers of the course are recognized experts in conservation who are invited from specialized institutions in different countries to share their most recent experiences, thus offering participants the unique opportunity to compare significant trends in international thought on conservation within a systematic methodology.

The twenty-four weeks of the programme are divided under the six major headings given below. The sequence or content may vary slightly from year to year.

COURSE PROGRAMME

Reception and general information

— Inauguration; introduction to course activities and to ICCROM;
— Outline of history of Rome; visits.

CONCEPTS

Introduction to basic concepts: origin and history of conservation

— Origin and history of consciousness of restoration and conservation, early theories, modern principles and guidelines; visits.

Evaluation of cultural property

— Role of conservation architect; multidisciplinarity in conservation;
— Introduction to historic research and documentation;
— Evaluation and listing of historic buildings and historic areas.

Attitudes; general guidelines

— Conservation attitudes in different countries; ethics, politics;
— International recommendations, charters of conservation.

ANALYSIS

Inspection and survey techniques

— Visual inspection and description of historic buildings and structures; reporting;
— Introduction to recording and measured drawings;
— Photogrammetry; aerial photography.

Structural survey; humidity

— Structural-historical survey, past repairs, historical evidence in structures, historical masonry techniques;
— Faults and repair methods in historic context;
— Dampness in historic buildings, diagnosis and treatment; climate control.

Prospection; archaeological survey

— Prospection and sub-surface investigation;
— Archaeological survey, presentation of sites.

Inventory and documentation

— The Hague Convention and protection of cultural property;
— Inventory and documentation.

TECHNOLOGY

Traditional building materials; synthetic plastics

— Character, behaviour and deterioration processes of traditional building materials; conservation laboratories; microbiology;
— Synthetic plastics, silicates, silicones.

Conservation of earthen structures, adobe

— Evaluation of traditional building technology; deterioration, conservation.

Conservation and repair of stone and brick, structures, binders

— Characterization and use of materials; maintenance, repair, repointing, cleaning, consolidation; quarries.

Architectural surfaces; installations

— Conservation of painted surfaces, mural paintings, mosaics, stained glass;
— Characterization, maintenance, repair of external renderings, paints;

— Installations in historic buildings; heating, energy saving.

Wood and wooden structures; metals
— Wood; characterization, inspection, diagnosis and treament;
— Metals; structure and properties, corrosion, maintenance, conservation.

CONSERVATION

Rehabilitation and use of historic buildings; museums
— Criteria for rehabilitation; technology, internal environment, cost control;
— Preventive conservation, safety, design in museums.

Structural consolidation; foundations
— Preventive action, structural consolidation, modern technology;
— Soil mechanics and foundations; causes of failure; testing, improvement.

Tour
Participant seminars on course projects

TOWNS

Historic towns and areas; identification of criteria for conservation
— Analysis and evaluation of historic towns and areas; urban typology.

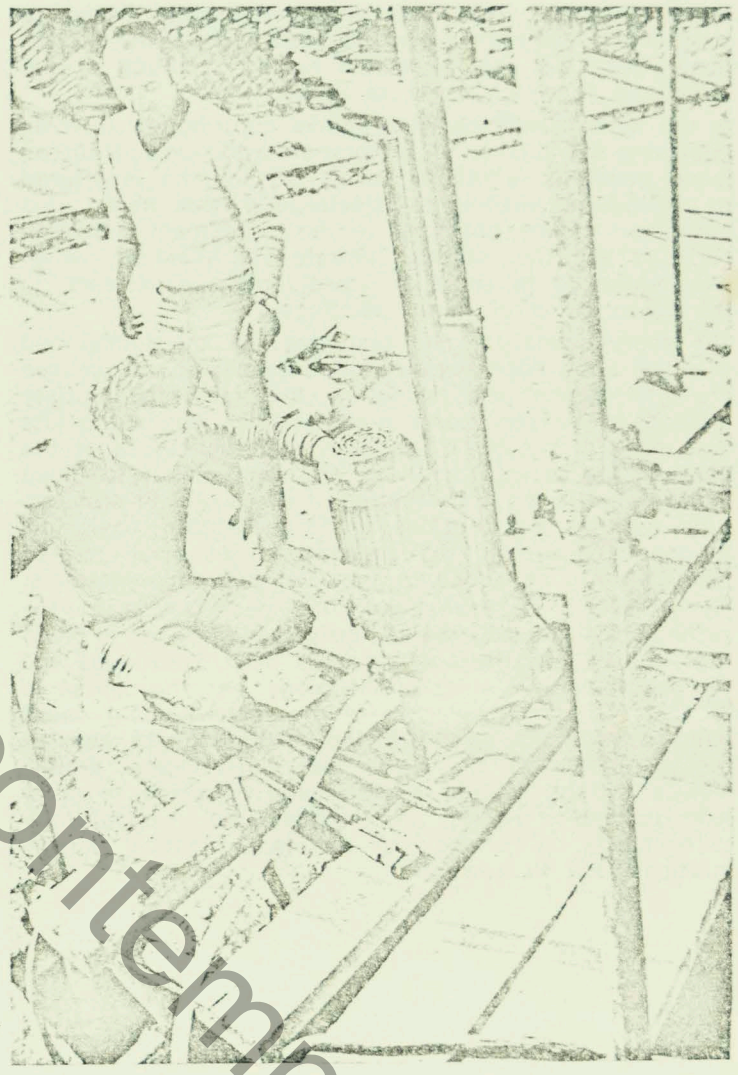
Socio-economic aspects
— Social and economic aspects in conservation; tourism.

Conservation planning
— Integral conservation, legal aspects, management.

POLICY

Criteria and policy for conservation; historic gardens
— Definition of conservation policy and aims; historic gardens.

Conclusions of the course



On-site demonstration of injection techniques.

REGULATIONS

Admission
(a) Educational background: architects, civil engineers, urban designers, art historians and archaeologists, with a university degree, engaged in the conservation of architectural heritage and historic sites.
(b) Experience: at least 4 years of professional experience in conservation.

Duration
6 months — from January to June.

Language
English — participants must know English at a technical spoken level. Italian is useful for social and discussion purposes.

Number of participants: 25

Course expenses
US $ 250 (subject to change). Additional fees will be charged to citizens of non-member states.

Certificate
ICCROM will give a certificate of attendance to registered participants who have regularly attended the lectures, actively participated in the laboratory and field exercises, and successfully presented the required seminar and practical work.

Note:
The "Scuola di specializzazione per lo studio ed il restauro dei monumenti" of the Faculty of Architecture at the University of Rome has many lectures in common with the ICCROM course on Architectural Conservation.

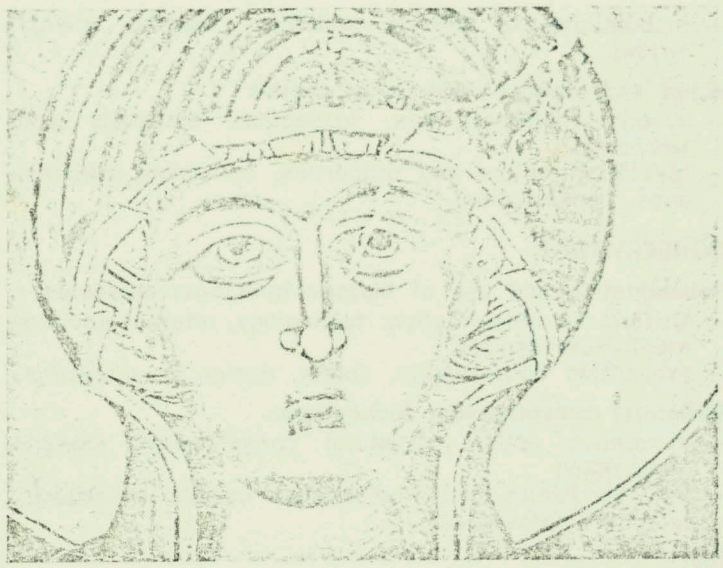
COURSE II
CONSERVATION OF MURAL PAINTINGS AND RELATED ARCHITECTURAL SURFACES

Mural paintings, technically and aesthetically linked to architecture, have their own particular conservation problems which are usually related to the condition of the structures in which they are found.

In the hope of making an effective contribution towards improving the quality of restoration work carried out on mural paintings, a regular course of training is offered to participants wishing to specialize in this field. This has been made possible by an agreement between ICCROM and the Istituto Centrale del Restauro, which has consented to share its considerable experience in the conservation of mural paintings.

The course aims to give restorers the theoretical and practical knowledge essential for diagnosing the causes of deterioration and selecting the most appropriate methods of conservation and restoration. Given the fact that many of the basic problems and techniques of the conservation of wall paintings are very similar to those encountered in the conservation of other related architectural surfaces, e.g. mosaics, stone and stucco, basic information concerning the conservation of these related materials will be added to the 1981 course programme.

Conceived as an introduction to specialization in the technological examination and preservation of mural paintings, the course offers participants basic knowledge and the principles of a strict methodology. As the course is of short duration, beginners in the restoration of mural paintings will not gain sufficient experience to assume responsibilities in the field, but conservation professionals will be offered a systematic approach to problems, up-to-date theories and methods, and an opportunity to exchange opinions during seminars, practical demonstrations, and field work.



Surface cracking: a typical problem facing the conservator of mural paintings.

REGULATIONS

Admission

a) Educational background: conservators, restorers, museum scientists, curators. Age between 25 and 40.

b) Experience: qualifications in order of priority:

— a position in a public service or non-profit private cultural institution;

— a college degree or a diploma and some experience in practical conservation, preferably on behalf of a public service or non-profit cultural institution;

— no degree or diploma but four years minimum experience in practical conservation, preferably on behalf of a public service or non-profit cultural institution.

Note: In regions where a Unesco Regional Centre for Sponsored Project) is active, the candidate should have attended the course offered and should enclose a copy of the relevant certificate of attendance.
These Regional Centres, or Sponsored Projects exist in Baghdad, Jos, Lucknow, Mexico City, Cusco, and Tokyo. Regional training is also offered under the Southeast Asian Ministers of Education Organisation (SEAMEO) in the SEAMEO Project in Archaeology and Fine Arts.

Duration

4 months — normally starting in mid-February.

Number of participants: 14

Course expenses

US $ 140 (subject to change). Additional fees will be charged to citizens of non-member states.

Language

Either English or French. Since practical work, demonstrations, etc. are sometimes carried out in Italian, some knowledge of that language is useful.

Certificate

ICCROM will give a certificate of attendance to participants who have satisfactorily completed the course requirements. A general evaluation of the participant's performance will be included.

ORGANIZATION

A. First month: Introductory Programme

Some months prior to their arrival in Rome, all participants are sent some basic material to help them prepare for an evaluation test which they will take at the beginning of the course.
On the basis of a general evaluation of the professional backgrounds of the participants, their command of the course language, and the evaluation test results, the participants will be divided into two groups for the first month of the course.

Group A: Basic Course

This group will include those participants who are found to need a review of fundamental scientific concepts in physics (humidity and light), chemistry and biology. Introductory lectures on the history and theory of conservation are also given;

Group B: Research or Field Projects

This group will be made up of those participants who are found to have sufficient scientific grounding to undertake an independent research project. (Group B participants may also elect to attend lectures intended for Group A.) Individual participants, or small groups, are confronted with an actual wall painting conservation problem which may be in the study or in the treatment phase. They must gather information on the problem, first by interviewing the conservator or scientist in charge, and second by consulting the relevant literature in the ICCROM library. At the end of the second week an interim (informal) report must be submitted to the tutor in charge. At the end of the fourth week a final (formal) report, containing a critical evaluation of the data collected, must be submitted.

At the end of the Introductory Programme:

Participants in Group A must pass a review test for admission to the subsequent course programme.

Participants in Group B must submit a satisfactory research report for admission to the subsequent course programme.

Participants failing to qualify for admission to the continuation of the course programme because of language difficulties or insufficient background, may be assigned, at the discretion of ICCROM, to a special internship programme.

B. Course programme (Months 2 to 4)

Theory

— Introduction to conservation of mural paintings
— Terminology
— Methodology and documentation
— Knowledge of component materials of plasters and mural paintings
— History of techniques
— Causes and processes of alteration
— Knowledge of products used in conservation
— Techniques of conservation
— Problems in presentation of wall paintings (cleaning, treatment of lacunae)

Practical Exercises

— Execution of mural paintings according to historical techniques
— Preparation and application of materials and products used in conservation
— Examination, diagnosis, documentation and restoration of mural paintings
— Detachment of mural paintings
— Construction of new supports and remounting of the detached paintings.

Work on Restoration Site

Restoration work "in situ" (approx. 2 months) with seminar discussion of the problems encountered:

— Examination and diagnosis
— Documentation
— Fixation
— Consolidation
— Cleaning
— Treatment of lacunae
— Detachment, if necessary

Guided visits

Excursions and guided visits to illustrate the problems of examination, conservation and restoration of mural paintings.
Short seminars on the preservation of mosaics, stone and stucco have been added to the course curriculum starting in 1981.

Examinations

At the end of the Introductory Programme, the period of study in Rome, and the field work at Sermoneta, participants are required to present and discuss the work that they have accomplished. Moreover, short review exercises on specific areas of information presented may be required.

COURSE III
SCIENTIFIC PRINCIPLES OF CONSERVATION

A deeper knowledge of the structure of matter and of the behaviour of materials as affected by the environment allows contemporary problems of conservation to be dealt with in the light of general scientific principles. Conservation techniques should follow naturally as a consequence of the knowledge of deterioration processes, attempts to arrest them and to minimize their unfavourable consequences.

The hypothesis underlying a course on Scientific Principles of Conservation is that it can be taught to anyone of a sufficient cultural level, and particularly that it can be taught to everyone concerned with the conservation of cultural property together when assembled in the same classroom or laboratory.

It is unlikely, however, that such a course will have the same effect on all participants: graduates in humanities, scientists, curators, restorers certainly reach different degrees of comprehension of the informative material offered to them, and the material retained may vary widely, both qualitatively and quantitatively, from case to case. It is assumed that each participant has his particular field of interest illuminated by the approach to the basic principles underlying deterioration processes, conservation techniques and methodology of restoration.

This course aims to show the basic principles through experiments, after discussing them in informal lectures and seminars. Its backbone is a series of exercises mostly performed by the students themselves. However, since often a totally practical demonstration is not possible, experiments are integrated with visual aids, visits, seminars, etc.

This course is not meant to be a restoration course. Participants interested in improving their ability in special fields must refer to specialized institutions where their skill can be developed through continuous application to actual restoration problems.

ORGANIZATION

A. First month: Introductory Programme

Some months prior to their arrival in Rome, all participants are sent some basic material to help them prepare for an evaluation test which they will take at the beginning of the course.

On the basis of a general evaluation of the professional backgrounds of the participants, their command of the course language, and the evaluation test results, the participants will be divided into two groups for the first month of the course:

Group A: Basic Course

This group will include those participants who are found to need a review of fundamental scientific concepts in physics (humidity and light), chemistry and biology. Introductory lectures on the history and theory of conservation are also given;

Group B: Research or Field Projects

This group will be made up of those participants who are found to have sufficient scientific grounding to undertake an independent research project. (Group B participants may also elect to attend lectures intended for Group A.) Individual participants, or small groups, are confronted with an actual conservation problem which may be in the study or in the treatment phase. They must gather information on the problem, first by interviewing the conservator or scientist in charge, and second by consulting the relevant literature in the ICCROM library. At the end of the second week an interim (informal) report must be submitted to the tutor in charge. At the end of the fourth week a final (formal) report, containing a critical evaluation of the data collected, must be submitted.

At the end of the Introductory Programme:

Participants in Group A must pass a review test for admission to the subsequent course programme;
Participants in Group B must submit a satisfactory research report for admission to the subsequent course programme.
Participants failing to qualify for admission to the continuation of the course programme because of language difficulties or insufficient background, may be assigned, at the discretion of ICCROM, to a special internship programme.

REGULATIONS

Admission

a) Educational background: curators, conservators, restorers, scientists, archaeologists, architects, archivists, librarians.
At least 10 years of schooling.

b) Experience: qualifications in order of priority:
— a position in a public service or non-profit private cultural institution;
— a university degree or conservation diploma and some experience in conservation on behalf of a public service or non-profit cultural institution;
— no degree or diploma but four years minimum experience in practical conservation, preferably on behalf of a public service or non-profit cultural institution.

Note: in regions where a Unesco Regional Centre (or Sponsored Project) is active the candidate should have attended the course offered and should enclose a copy of the relevant certificate of attendance.
These Regional Centres or Sponsored Projects exist in Mexico City, Baghdad, Jos, Lucknow, Cusco, and Tokyo.

Regional training is also offered under the Southeast Asian Ministers of Education Organisation (SEAMEO) in the SEAMEO Project in Archaeology and Fine Arts.

Duration

4 months — normally starting in mid-February.

Language

Either English or French.

Number of participants: 16.

Course expenses

US $ 150 (subject to change). Additional fees will be charged to citizens of non-member states.

Certificate

ICCROM will give a certificate of attendance to all participants who have completed at least eight technical seminars (see Section B).
A general evaluation of the participant's performance will be included.

B. Technical seminars

The course proper is subvided into eleven TECHNICAL SEMINARS, each lasting one week. Each seminar is directed by a specialist of international standing in his field. At the end of each month all participants are examined on the topics covered in all the technical seminars of the month.

A participant is considered to have completed a seminar when he has:

a) attended at least 75% of classes and exercises;
b) obtained at least a C grading in the relevant review exercise.

The seminar topics are given below:

Natural Organic Materials

— Fats and oils
— Natural resins
— Natural waxes
— Proteins
— Sugars
— Cellulose, starch and gums
— Detergents

Synthetic Polymers

— Macromolecules
— Addition polymers
— Condensation polymers
— Polymer modification
— Thermoplastics
— Thermosetting resins
— Ageing processes

Care of Collections

— Inspection
— Control and maintenance
— The museum laboratory
— Air pollution
— Storage
— Display
— Colour rendering

Inorganic Chemistry

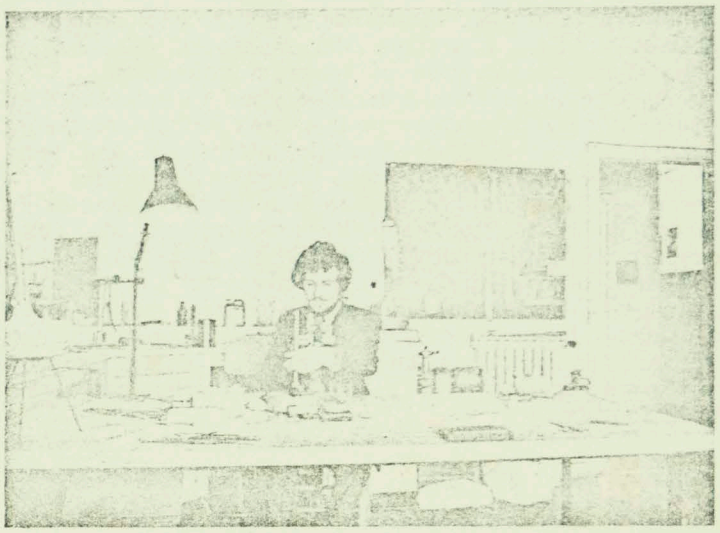
— Silica and silicates
— Silicones
— Carbonates, lime
— Hydraulic limes and cement
— Gypsum
— Porosity and capillarity
— Deterioration of porous brittle materials
— Salt crystallization and frost

Metals

— Metals and alloys
— Structure of metals
— History of technology
— Metalwork
— Deterioration, corrosion products
— Cleaning and conservation
— Reshaping and restoration

Ceramics

— Clay
— Forming and firing
— Clearing and salt removal
— Joining and gap filling
— Consolidation
— First aid and lifting



Demonstration of mechanical cleaning of metals in the ICCROM laboratory.

Ethnographic Materials

— Leather and skin
— Bone and ivory
— Vegetable products (basketry, bark etc.)
— Feathers
— Composite objects
— Ethical and aesthetic aspects

Wood

— Structure
— Deterioration
— Curative and preventive treatment
— Conservation and consolidation
— Waterlogged wood

Textiles

— Fibres and yarns
— Structure and manufacture of fabrics
— Deterioration
— Cleaning and bleaching
— Conservation and restoration

Paper

— History of paper
— Structure and chemistry of paper
— Deterioration
— Cleaning and bleaching
— Conservation and restoration

Stone

— Types of stone
— Stonework
— Deterioration
— Cleaning
— Consolidation and conservation
— Joining and restoration

COURSE IV
PREVENTIVE CONSERVATION IN MUSEUMS: THEFT, FIRE, CLIMATE, LIGHTING

Specialists in museum protection consider that judicious lighting of displays, control of climate, and protection against fire and theft are the measures essential to responsible conservation of museum collections.
Many museum curators are called upon to make choices fixing conservation policy in this area without sufficient familiarity with current scientific information and techniques to enable them to make informed decisions.
Therefore, ICCROM has prepared a refresher course intended to meet this need by touching on the basic aspects of museum protection today. Displays, demonstrations and lectures by specialists of international standing make up the eighteen-day course. It has been especially designed to aid the curator in understanding the technical problems with which he is confronted and in making decisions with a knowledge of the most practical solutions.

Trainees setting up a therme-hygrograph.

ORGANIZATION

The first week is dedicated to protection against fire and theft; the second week to climate control and lighting. Storage conditions are also stressed.
The course includes 14 half days of lectures and 3 half days for handling and using instruments, laboratory work, and visits.

Theft
— Analysis of the problem
— Theft and the structure of the museum
— Theft and museum personnel
— Museums and police
— Protection against theft
— Anti-theft installations

Fire
— Nature of fire
— Fire in museums
— Spread of fire in buildings
— Protection of buildings
— Fire extinguishers
— Risk evaluation
— Organization of fire prevention
— Salvage

Climate
— Objects damaged by inappropriate climatic conditions
— Objects and temperature
— Objects and humidity
— Measurement of relative humidity
— Control of relative humidity
— Case studies

Lighting
— Objects damaged by light
— Composition of light
— Visible and invisible radiation
— Measurement of radiation
— Control of lighting

Travelling exhibitions
— Transportation
— Theft
— Fire
— Climate
— Lighting

REGULATIONS

Admission
a) Educational background: curators, administrators, architects, librarians, archivists in mid-career;
b) Experience: approximately 10 years professional experience.

Duration
18 days — generally starting the last week of September.

Language
French, odd years; English, even years.

Number of participants: 15.

Course expenses
US $ 150 (subject to change). Additional fees will be charged to citizens of non-member states.

Certificate
ICCROM will give a certificate of attendance to registered participants who regularly attend the course.