EDUCATIONAL PROJECT
“RIO+20: THORNY PASS TO SUSTAINABILITY”
Devoted to the 25th anniversary
of Open Ecological University

Art and Environment as media
for Ecosustainability, Ethics and Aesthetics
Art, that is, cultural and environmental heritage, is linked to the history of man.

Our past is part of our future and the future is founded on our past.

This truth is the basis of my didactic activities and research as a technician in the Department of Histories and Methods for the Conservation of Cultural Heritage at the Alma Mater Studiorum University of Bologna, Italy.
Ecosustainability, Ethics and Aesthetics

Man aspires to an ideal world

It is true that there are those dominated by:

- justice
- love
- happiness
- beauty

synonymous with

- epistemological nihilism
- ethical nihilism
- skepticism
- moral relativism

It follows that man is:

- as an object of science, inside nature
- as the object of a conscience, outside nature

• lack of value
• lack of purpose
• absence of duty
  - will
  - guilt
  - merit
  - responsibility
So, in the course of his life, man works on the basis of these goals and nurtures aspirations and dreams. This is especially true if one refers to the Code of Cultural Landscape and Heritage issued in Italy in 2004 by the Ministry of Cultural Heritage and Activities, which comprises:

- all buildings
- and areas expressing historical, cultural, natural, morphological aesthetic values of the territory

Science can explain them, modify them, manipulate them, but it is always man who decides. This is what the World Wild Fund asserts, pointing out moreover that "Nature does not support the human footprint.”

Hence the importance of overcoming the “dichotomy between the economic sphere and the socio-cultural one” through ethics respecting others and the environment in its entirety: therefore ecosustainability.

This did not happen in the case of the present: a crisis for the economy and for values.
Art beyond beauty: from aesthetics to ethics

Is art synonymous with beauty?

In other words, is beauty attributable only to aesthetics?

And is aesthetics all there is to the idea of art?

This would be an outdated, decadent idea, belonging to those who dislike or distrust it and believe they can banish it to the farthest corners of the cultural world.

On the contrary, art is never solely or forcedly beautiful, its vocation is not decorative but metaphysical. There remain curiosity, knowledge, learning and intelligence with their great alchemy, giving a sense or meaning to what has none or showing why its sense or meaning is impossible.

It can therefore be said that within our perception our sense of ethics goes accompanies that of aesthetics.
Evolution of art and technical-material knowledge over the centuries

A reading of Western art over the years can be based on a critical methodology linked to the evolution of society’s technical-material knowledge.

But not for this should every work of art be considered as the result of determinism.

Indeed, starting with common tools each artifice provides its own symbolization represented by the artifact itself.

And this can be an expression of society at the time as well as determining an anticipation and opening towards a sense of ethics and meaning through the work of art seen as an epiphany.
Evolution of art and technical-material knowledge over the centuries

**Historical periods**
- Roman art

**Events and knowledge**
- Warfare techniques
- Mimetism

**Modus operandi**

**Representatives**
Evolution of art and technical-material knowledge over the centuries

**Historical periods**
- Early 1400s

**Events and knowledge**
- Science of vision

**Modus operandi**
- Perspective

**Representatives**
- Brunelleschi, Alberti, Piero Della Francesca, Masaccio
Evolution of art and technical-material knowledge over the centuries

- **Historical periods**
  - Renaissance

- **Events and knowledge**
  - Great discoveries (Christopher Columbus, merchants)

- **Modus operandi**
  - Hazy dynamism, motions of the soul

- **Representatives**
  - Leonardo
Evolution of art and technical-material knowledge over the centuries

**Historical periods**

1600s

**Events and knowledge**

First investigation of the human body parallel to that in anatomy

**Modus operandi**

Frenzied figures

**Representatives**

Bernini, Rubens
Evolution of art and technical-material knowledge over the centuries

Historical periods

The break of 1789 (French Revolution)

Events and knowledge

Advent of bourgeois society
- painting of great fear
- celebratory (the rise of the new ruling class is metaphorised)

Modus operandi

“Monsters”

Rediscovery of the classics

Representatives

Goya, Füssli, Friedrich, David, Ingres
Evolution of art and technical-material knowledge over the centuries

Historical periods

1800s

Events and knowledge

Development of thermal energy, the discovery of electricity (Galvani), the battery (Volta)

Modus operandi

- pathologies of the individual
- popular reality is fixed on canvas
- or escape into an imaginary past

Representatives

• Géricault
• Coubert
• Preraffaelliti
Evolution of art and technical-material knowledge over the centuries

- **Historical periods**: Modern Age
- **Events and knowledge**: Invention of photography
- **Modus operandi**:
  - Response to the birth of photography
  - Impressionism as the final expression of mimetism
- **Representatives**: Monet
Evolution of art and technical-material knowledge over the centuries

1900s
- Technological innovation: discoveries of Marconi, Einstein
- Season of the Avant-Gardes: painting becomes the witness of doctrines elaborated by the “masters of suspicion” such as relativism, Marxism, psychoanalysis
- Representatives: Picasso, Chagall, Dalì
Evolution of art and technical-material knowledge over the centuries

**Historical periods**

**Events and knowledge**

**Modus operandi**

**Representatives**

The Contemporary Art

Everything is more rapid

A return to alternative representations in the arts, (installations, performances,....) together with the renewal of instruments: a transition from traditional to electronic systems

Christo Javacheff, Pollock, Cattelan
The confusion between price and value is one of the greatest cultural calamities of our time, as regards price quotes for works of art, whether ancient, modern or contemporary.

But today there is another aspect of art which is coming to the fore: everything in art must have a price.

– in fact the price is what is paid and the value is what is obtained –

is one of the greatest cultural calamities of our time, as regards price quotes for works of art, whether ancient, modern or contemporary.

What is truly important in art is not the pseudoscientific processes, but the moments of intensity, insight and vision that cannot be attributed to a method and cannot be repeated by others, but are the product of the individual artist.

William Blake, vividly sums up the meaning and greatness of art when he says: “If the parts of perception were cleansed, everything would appear as it is, infinite” and it is the artist who puts us in touch with this process of perception.
Reference is made in particular to the authenticity of the work, whether it is an artifact of historical-artistic, archaeological, archival-library or music interest.

It is this aspect that gives a real dimension of “cultural education” and “personal ethics”.

From this derive two interconnected aspects:

- The need to complete and integrate different skills “protection of cultural heritage”
- Setting limits for the technical interventions in compliance with a higher instance “ethics of conservation and restoration”
Interdisciplinarity in the cultural heritage sector

It is crucial today that experts from different backgrounds and with different expertise contribute in an interdisciplinary way.

That is to say, it is important for a professional with a historical-humanist background to complete his training with an input of technical-experimental as well as legal-management aspects. This will not only enable him to resolve problems concerning the protection and valorization of cultural heritage, but also compete at a professional level nationally and internationally, enhancing territorial resources which may potentially be a source of qualified training.
Diagnostics involving the use of non-destructive, non-manipulative and non-invasive investigations allows:

- an artifact to be catalogued
- indications for restoration work
- its virtual use in cultural environments
- the detection of fakes or partial tampering
- verification of authenticity and dating
- knowledge of the author, materials, techniques, history of interventions
- verification of conservation state of artifact, both aesthetically and structurally

The Faculty founded in 1996, together with the Department established in 1998, aim to offer historical and technical-experimental support in elaborating strategies and methods for the conservation and valorization of cultural heritage.
### Principal diagnostic techniques used in relation to different material typologies

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<tr>
<th>Mineral</th>
<th>Metal</th>
<th>Glass-Ceramics-Porcelain</th>
<th>Paints-Inorganic pigments</th>
<th>Organic</th>
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<tr>
<td>-X-ray diffractometry</td>
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**Equipment**

- Techniques for monitoring artifact

- Electronic thermohygrometers
- Luxmeters
- pH meter and conductivity meter
- Dry/wet automatic sampler
- Fixed and portable samplers for total suspended particulate matter and fine dust
- Surface moisture meter
- IR spectrometry
- Gas chromatography

**Equipment**

- Techniques for environmental monitoring

- Electronic thermohygrometers
- Luxmeters
- pH meter and conductivity meter
- Dry/wet automatic sampler
- Fixed and portable samplers for total suspended particulate matter and fine dust
- Surface moisture meter
1. Appropriate methodologies and analytical techniques for the characterization of cultural heritage
2. Air pollution and deterioration of monuments and historical and artistic environments
4. Art diagnostics and verification of authenticity
5. Evaluation of the suitability of products used for restoration, conservation and maintenance of cultural heritage

Case studies: themes

- Attribution and state of conservation of a painting, a sculpture and a codex: diagnostics and authentication
- State public libraries in Rome: assessing their conservation status and quality of life and work
- Restoration of the Basilica of St. Peter's: correctness of the intervention
- Pollution and degradation of the artifacts
- Research on submerged artifacts in underwater archaeology
Case studies

Historical anamnesis

the case history includes the “historia” of the artifact and the attribution given before our examination

Subjective evaluation

the subjective evaluation refers to the assessment made by the historian (art historian, archaeologist, bibliologist and/or documentalist and/or paleographer)

Objective evaluation

which accompanies the objective assessment made by the technician (diagnostician, chemist, conservator, restorer)

Results

Case studies

Attribution and state of conservation of a painting, a sculpture and a codex

Dante codex

Madonna with child

Oil on wood attributed to Alvise Vivarini

Our subjective-objective evaluation confirmed the attribution made before our examination

Madonna with child

Marble sculpture attributed to Francesco Laurana

Our subjective-objective evaluation confirmed the attribution made before our examination

Parchment palimpsest manuscript

Our subjective-objective evaluation contributed to increasing its historical-documental value and therefore its cultural value, determining its consequent economic commodity value
The diagnostic technologies employed:

- Visible, infrared, ultraviolet photography
- Infrared reflectography
- Videomicroscopy for image analysis
- X-ray fluorescence
- X-ray diffractometry
- Fourier transform infrared spectrophotometry
- Colorimetry
- Microscopy
- Thermohygrometry
The 11 volumes include both general and specialist subjects.

The first volume contains presentations given by experts who participated in several Study Days held recently on this subject.
Master in “Planning and Promotion of Artistic and Cultural Events”
activated by the Faculty for the Conservation of Cultural Heritage
University of Bologna

The following are actively involved:
- Cultural Units (Museums, Libraries, Archives, Foundations)
- Research Centres (Centre for Planning, Design and Materials Technologies, Brindisi; Interdepartmental Research Centre for Automation Systems Engineering, University of Palermo)
- Productive Units (Banks, Companies, Firms)
- Ministries (Ministry for Education, University and Research, Ministry for Cultural Heritage and Activities)

The Master is designed for all those who for work or for personal interest wish to improve their knowledge related to technical, legal, managerial, economic, and marketing issues in the specific sector.
Historical-technical Journal
“Conservation Science in Cultural Heritage”
available in hardcopy and online

It has responded to issues regarding both interdisciplinarity and internationalisation.

The Journal has a Creative Commons License and has been given the opportunity of applying the SPARC “seal” (Scholarly Publishing and Academic Resources Coalition): important certification for “open access” journals.

The Journal is accessible online and has been included in several international websites and platforms EBSCO Publishing and HW Wilson Company (USA)

Edited by:
• Department of Histories and Methods for the Conservation of Cultural Heritage
  Alma Mater Studiorum University of Bologna, Italy;
• Interdepartmental Research Centre for Automation and Systems Engineering, University of Palermo;
• Centre for Planning, Design and Materials Technologies, Brindisi
The driving force of the three Ts

- research
- culture
- economy

The achievement of specific objectives starts with this and with the presence of a new social category: The creative class.

This class – whether composed of experts from experimental sciences or scholars from human science – share values of

- individuality
- difference
- merit

that is to say human, scientific and social resources
There is no doubt that “past” means:
- treasure
- experience
- heritage
- enrichment
- education

In research and training >>

There is also no doubt that one must necessarily think on the “present” in relation to and in function of the “future” in particular in the field of cultural and environmental heritage >>