



*Italian Higher Education
in Technology for Cultural
Heritage Conservation*

Luigi Dei
Department of Chemistry
& CSGI Consortium
University of Florence

The past

Biologists, chemists, geologists,
physicists, mineralogists applied to
Cultural Heritage Conservation (CHC)



No University education,
education after the University
with hard work, in action, on CHC



Limits

Difficulties for the traditional scientists applied to CHC



- ✓ Multidisciplinary approach, the rule not the exception for CHC
- ✓ Relationships and exchange of information with no-scientists




The present & future

Technologists (3-years course) and
scientists (3+2-years courses) for
Cultural Heritage Conservation (CHC)



University education,
multidisciplinarity in natural sciences
and rudiments in human sciences:
ready to work in CHC after University



First-level 3-years Course in Technology for CHC

Faculty of Sciences-University of Florence

Biology 9 ECTS

Chemistry 36 ECTS

Mathematics and Informatics 12 ECTS

Geology and Mineralogy 27 ECTS

Physics 21 ECTS

Art, Architecture, Laws, Archaeology 30 ECTS

Technology (wood and buildings) 18 ECTS

English 3 ECTS

Free choice 12 ECTS

Stage 6 ECTS – Thesis 6 ECTS

Total 180 ECTS



Graduated in the 1st-level 3-years course is the “Technologist for CHC”


Scientific diagnostics analysis on all the materials constituting a cultural heritage “object”



Solving simple multidisciplinary CHC problems




Good communication with other CHC professionals



Second-level 2-years Course in Science for CHC

Different choices in the various
Universities:

- ✓ specialisation in a topic of the 3-
years course
- ✓ articulation in many addresses
- ✓ same structure of the 3-years
course, but aimed to deepen
scientific disciplines



Second-level 2-years Course in Science for CHC

Faculty of Sciences-University of Florence

Biology 6 ECTS

Chemistry 12 ECTS

Mathematics and Statistics 6 ECTS

Geology and Mineralogy 18 ECTS

Physics 15 ECTS

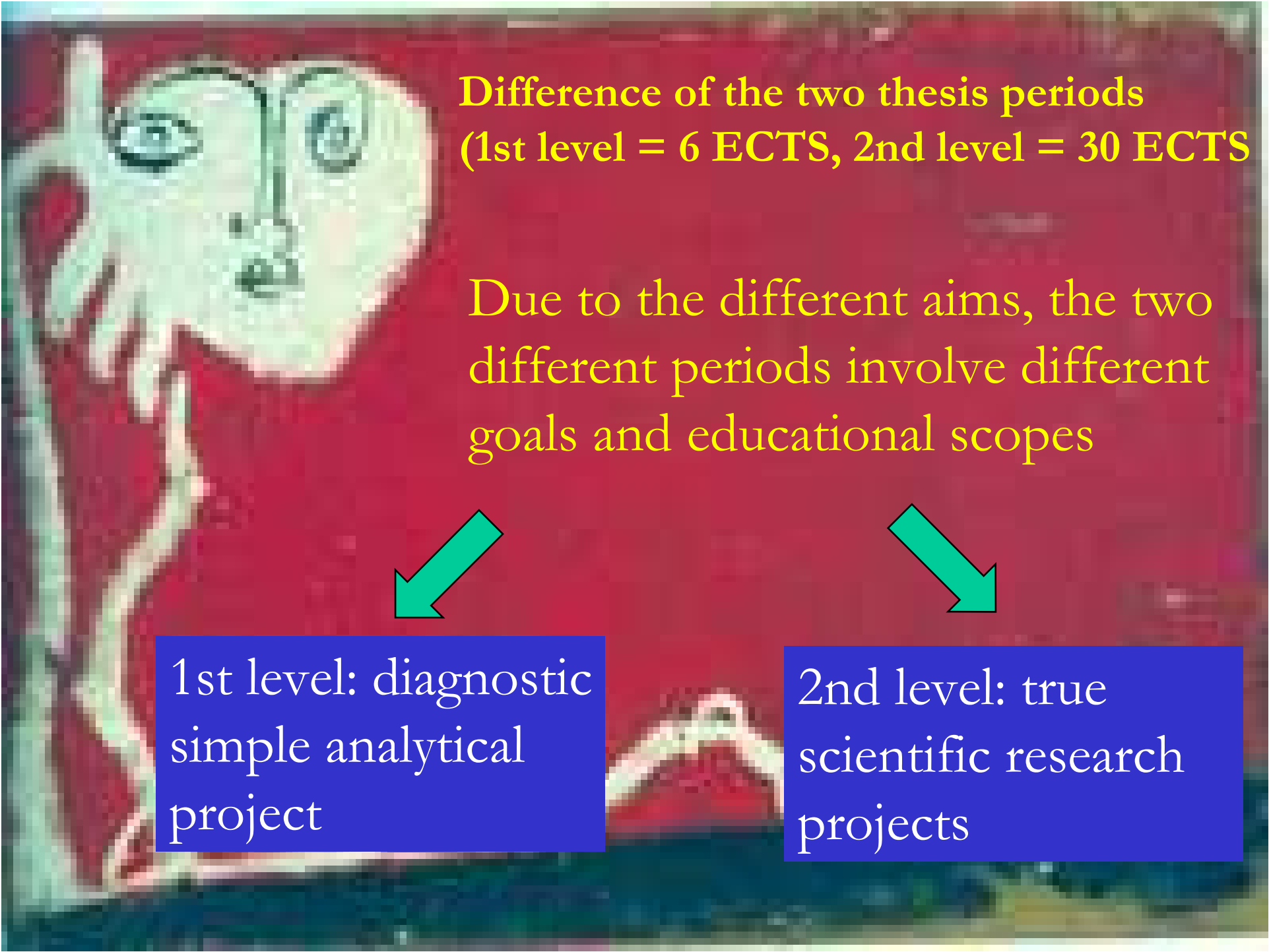
Art, Architecture 12 ECTS

Technology (environmental technical physics)
6 ECTS

Free choice 12 ECTS


Stage 6 ECTS – Thesis 30 ECTS

Total 120 ECTS




**Difference of the two thesis periods
(1st level = 6 ECTS, 2nd level = 30 ECTS)**

Due to the different aims, the two different periods involve different goals and educational scopes



1st level: diagnostic
simple analytical
project



2nd level: true
scientific research
projects



Graduated in the 2nd-level 2-years course is the “Conservation Scientist”

Scientific consultancy of every problem dealing with material science in CHC



Solving complex multidisciplinary CHC problems




Participation to the direction of conservation workshops



Example of two 2nd level theses

Irene Natali and Manuela Cossalter in cooperation with a PhD student (chemist) Scilla Grassi developed a new class of elastic gels for easel paintings cleaning



High solvent retention as traditional gels



Ease of removal due to the peculiar viscoelastic properties





Articulation of the session

Oscar Chiantore (University of Turin)
The experience in Turin and the different
educational profiles

Rocco Mazzeo (University of Bologna)
The experience in Bologna and the
European doctorate

Giovanni E. Gigante (University of Rome 'La Sapienza')
The national coordination effort: results
and statistics



Osvaldo Licini (1894 - 1958)
Self-portrait

The background of all the slides
shown is *Amalasantu* by
Osvaldo Licini