

# Centro di Restauro Archeologico

Soprintendenza per i Beni Archeologici  
della Toscana

Center for Conservation  
Superintendence of the Archaeological Heritage of Tuscany



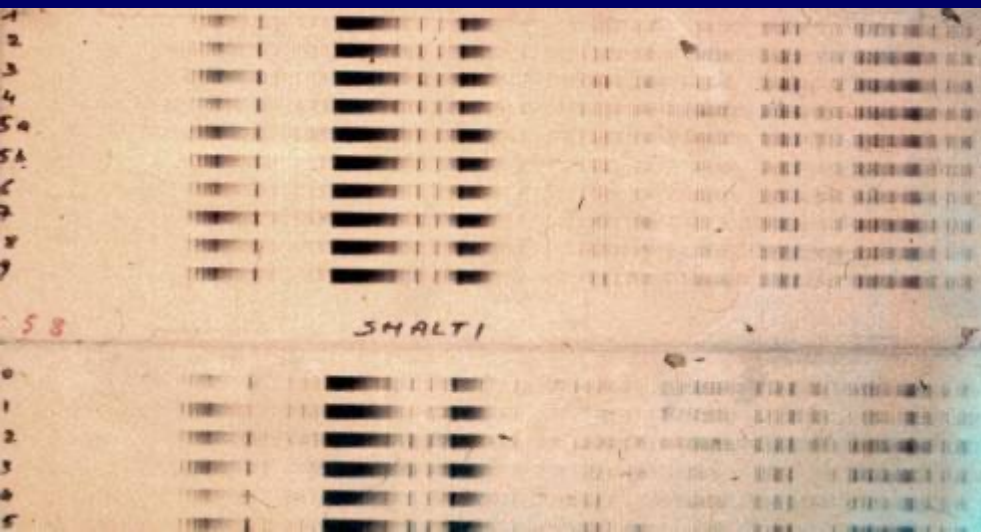
**The Conservation Center was founded following on the serious damage caused to the Archaeological Museum by the Arno flood (November 4, 1966)**



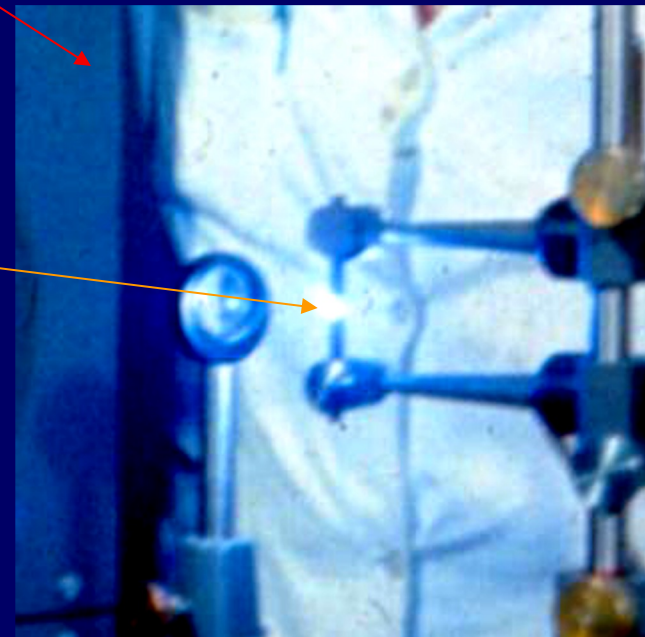
Thanks to various financial supports, a Restoration Laboratory was devised and equipped with several diagnostic devices.

1970

Emission Spectrophotometer  
for qualitative elemental  
analyses



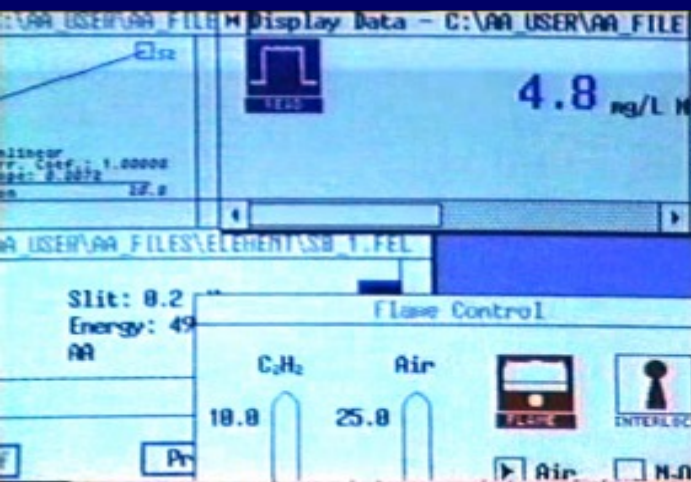
sample





# ATOMIC ABSORPTION SPECTROMETER

Quantitative measurements of the alloy compositions



1971





1970



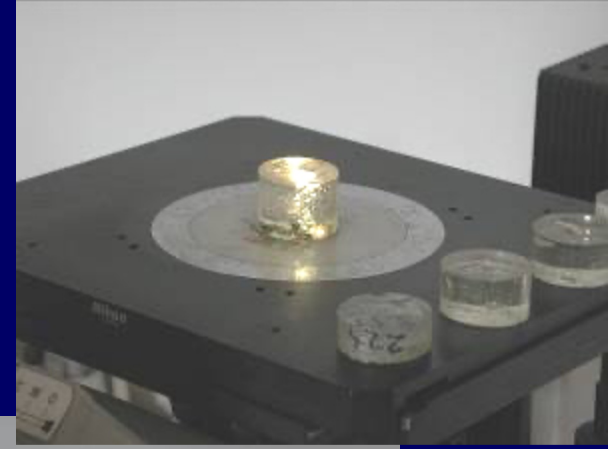
## X-Rays Lab

(Suitable for metal artifacts: 300 kV, 6 mA)

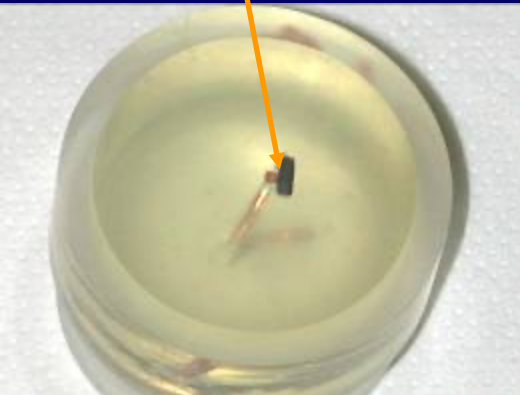




# Metallographic microscopy



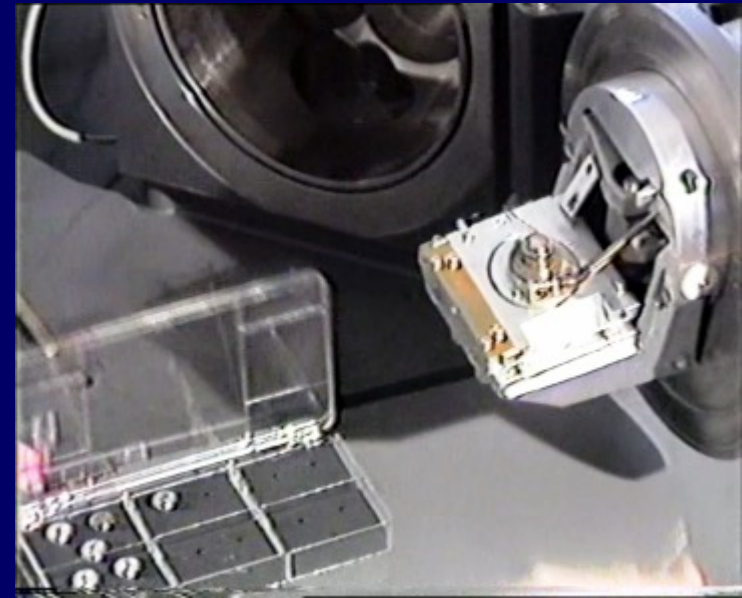
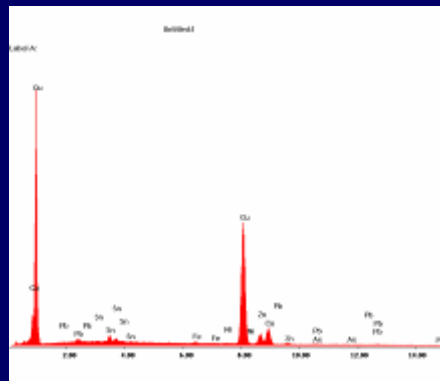
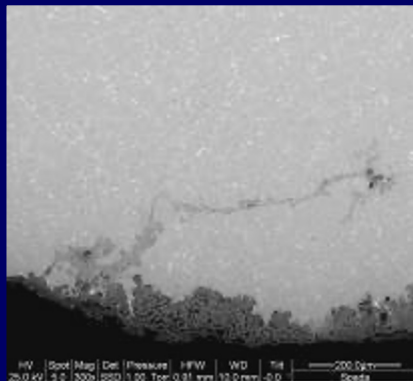
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1972

# Scanning Electron Microscope ( SEM-EDX )

1985



# Synergic interaction with other scientific institutions and laboratories in Italy and abroad

- 1) Preservation of different archaeological finds
- 2) Investigation of the deterioration mechanisms
- 3) Study of the ancient techniques
- 4) Chemical and physical analyses
- 6) Radiographic investigations
- 7) Experimentation of new products for restoration, cleaning, integration, protection, etc.
- 8) Education

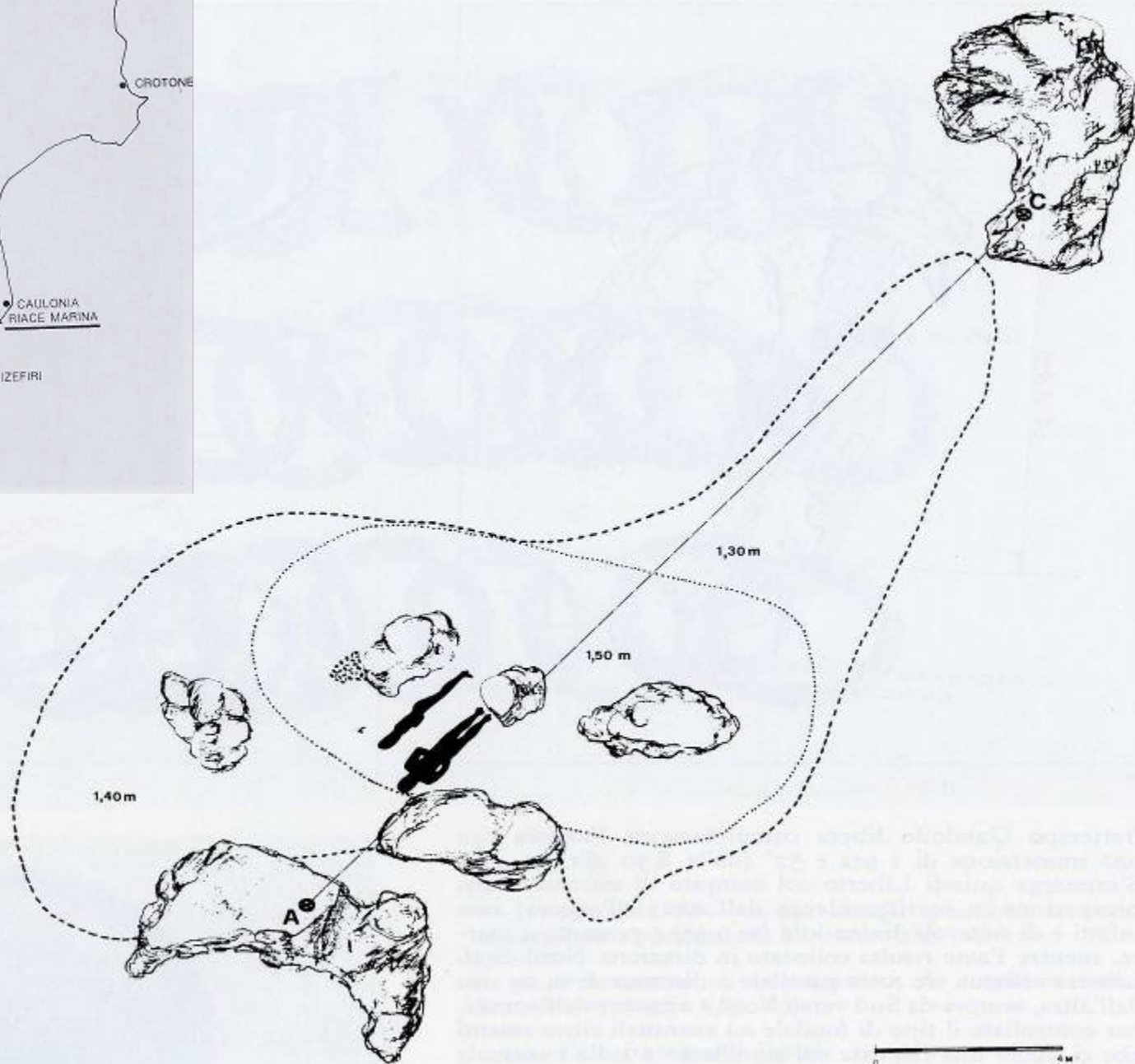


# SOME IMPORTANT RESTORATION WORKS



The  
Riace  
Bronzes









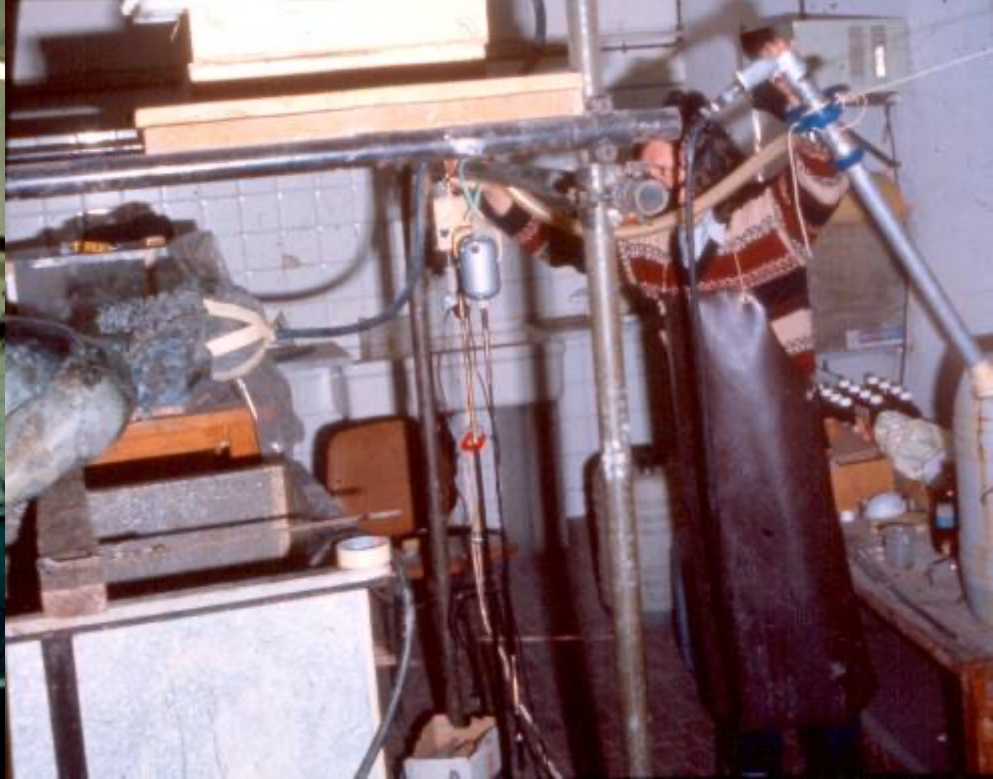




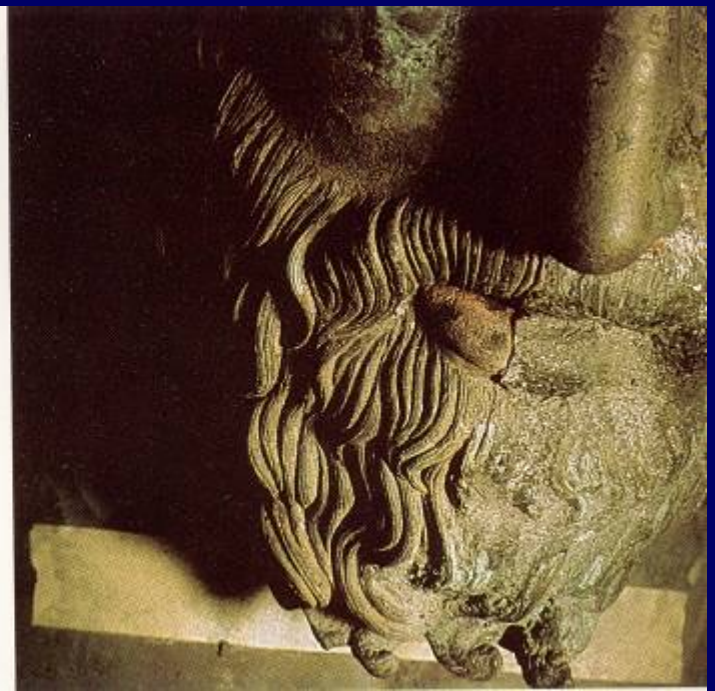
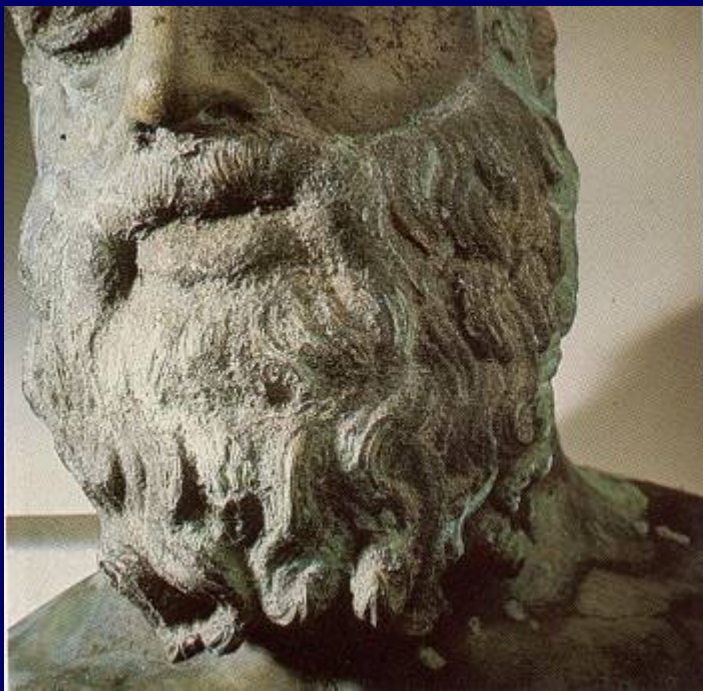














First exhibition of the Riace bronzes in Florence (December 15, 1980)

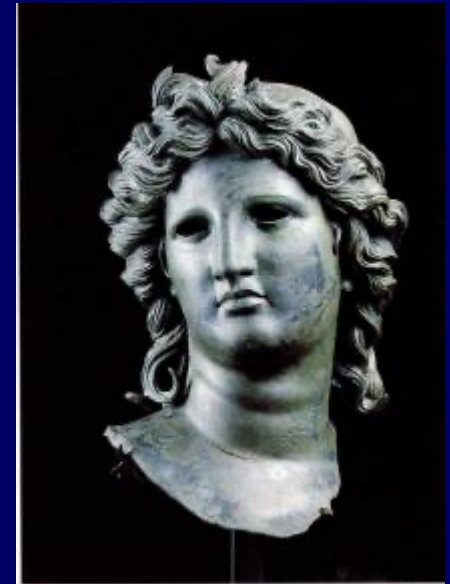




**Gilded bronzes from Cartoceto**



**Ephēbus from  
Pompei**



**Apollon from  
Salerno**



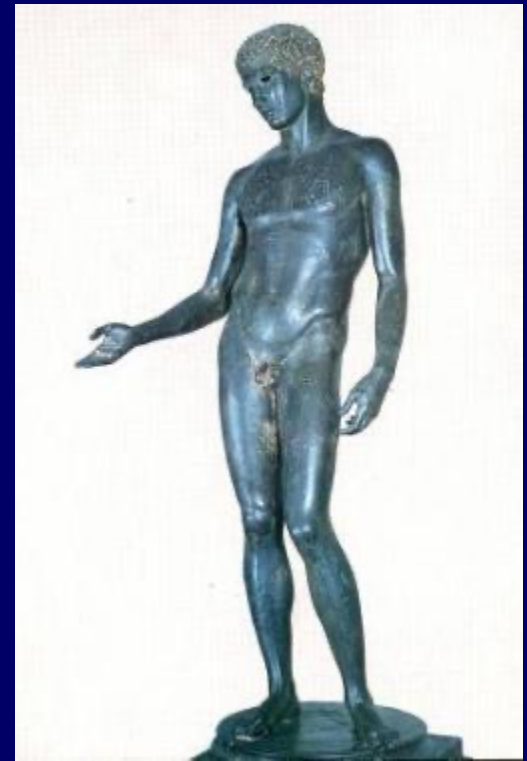
**Silver amphora from Baratti (Populonia)**



The Prince from Brindisi



The Togatus from Brindisi



The "Idolino" from Pesaro



The Cortona candelaber



The she-wolf from Fiesole



## THE MINERVA FROM AREZZO



**Before restoration**



**After restoration**

## THE MINERVA FROM AREZZO



Before restoration



After restoration



Looking for joins and reconstructing





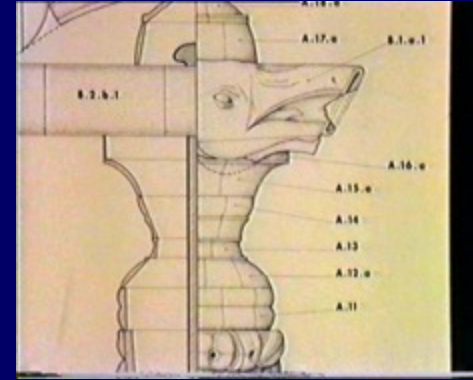
The Etruscan chariot  
from Populonia  
(7 Cent. BC)



As displayed in the  
National Archeological Museum  
of Florence



## Funerary Roman *kline* (bed) from Amplero (L'Aquila)



Early 1 Cent. BC



## Underwater recoveries







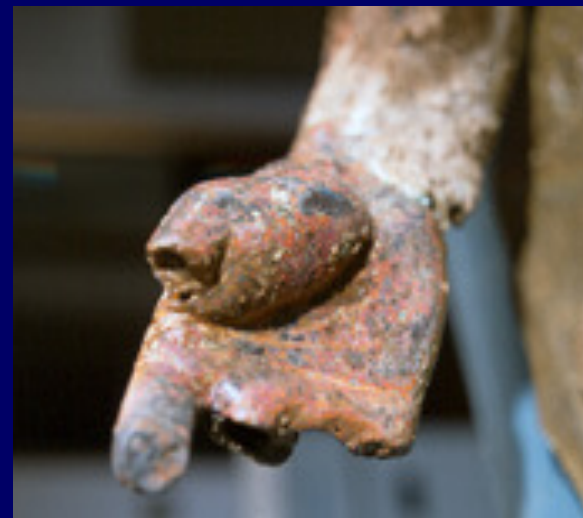




De-salting of the bronze  
Prince from Brindisi







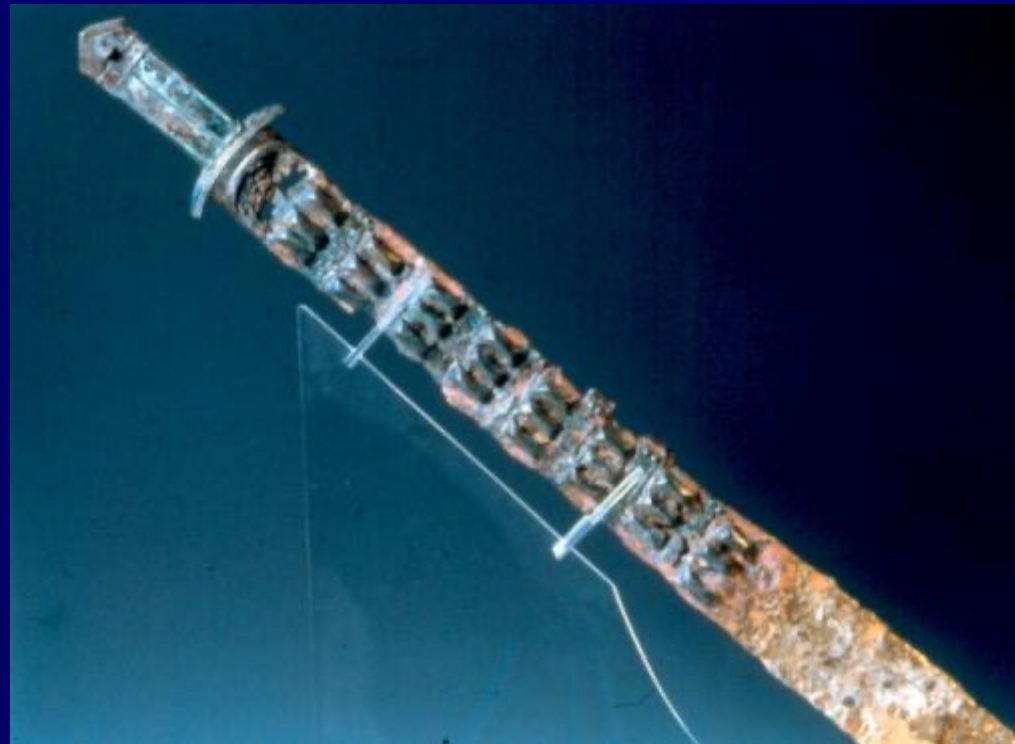
The Hellenistic  
Prince  
from Brindisi







Bronze sword  
from the sea  
of  
Giardini  
Naxos  
(East Sicily)  
7 Cent. B.C.



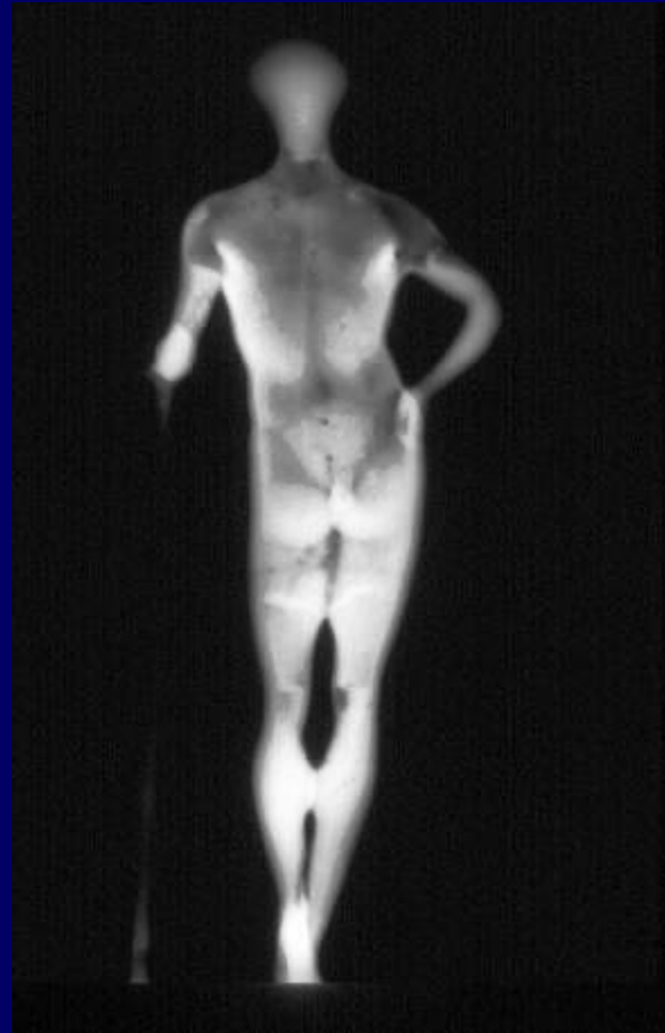
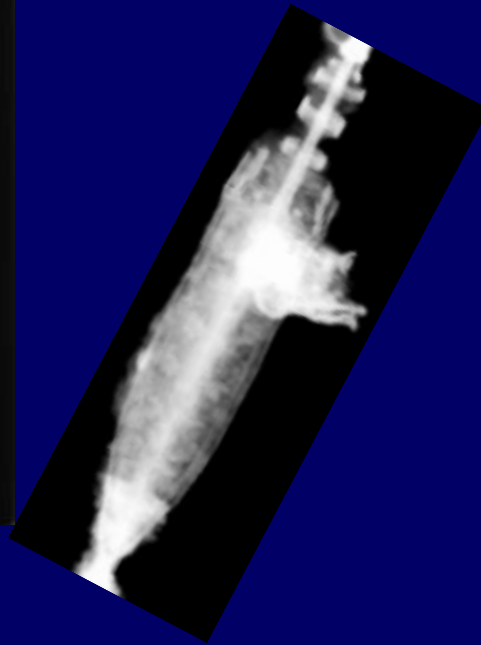
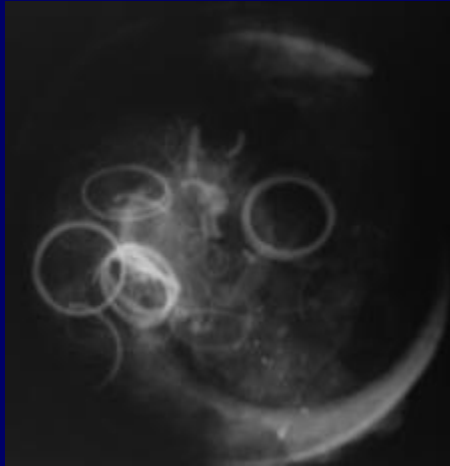
# ARCHAEOMETALLURGICAL INVESTIGATIONS

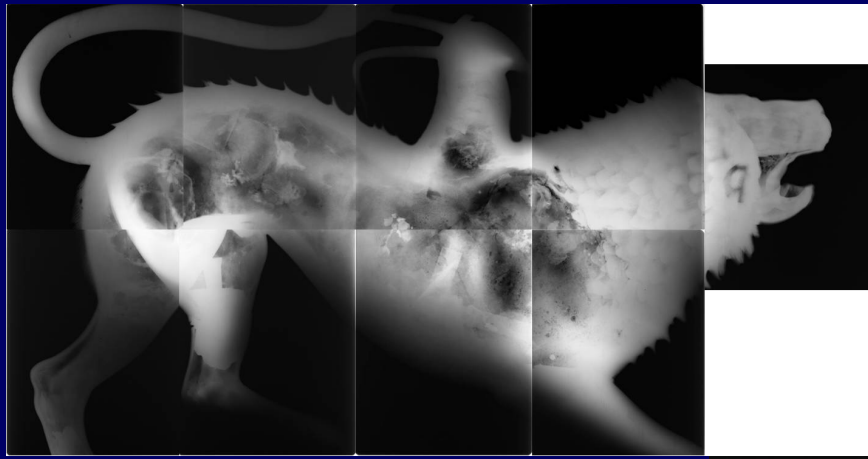


The “Idolino” from Pesaro



# X-RAYS ARCHIVE INCLUDES ABOUT 3500 PLATES





Photomontages of  
X-rays plates





# AUTHENTICATION WORKS IN COLLABORATION WITH THE CARABINIERI (Section PROTECTION OF THE CULTURAL HERITAGE) AND OTHER INSTITUTIONAL CORPS



Direct observation

X-Rays

Analysing alloy and patina

Investigation through the Metallographic microscope and SEM

Analysing the fusion earth

Accurate observations of the fusion technique

# The Museum collections







**HUNDREDS OF BRONZE STATUETTES, MIRRORS AND TOOLS,  
OF UNCERTAIN PROVENANCE, MAINLY FROM THE MEDICI AND  
LORRAINE COLLECTIONS**





Paris, Louvre  
The 'Sarcophagus of a  
Married Couple'

(Etruscan: late 6th cent. B.C.)

↑  
Before and after →  
the cleaning and  
restoration







The François Krater  
by  
Ergotimos and Kleitias  
(about 570 B.C.)





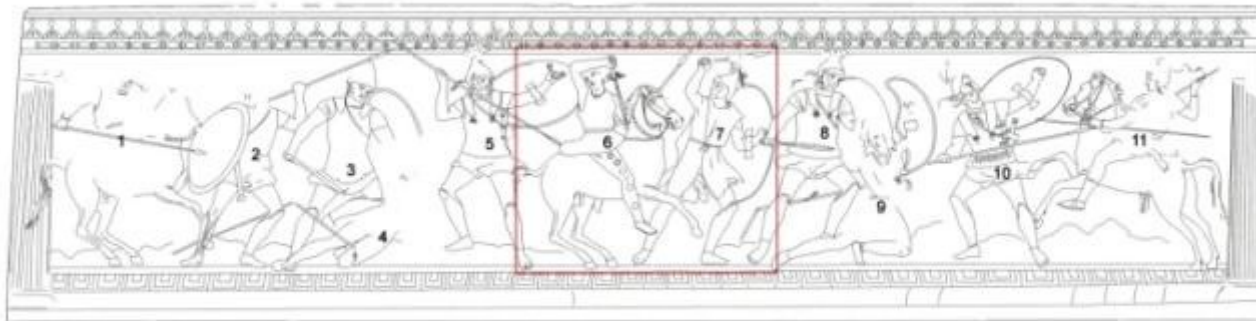
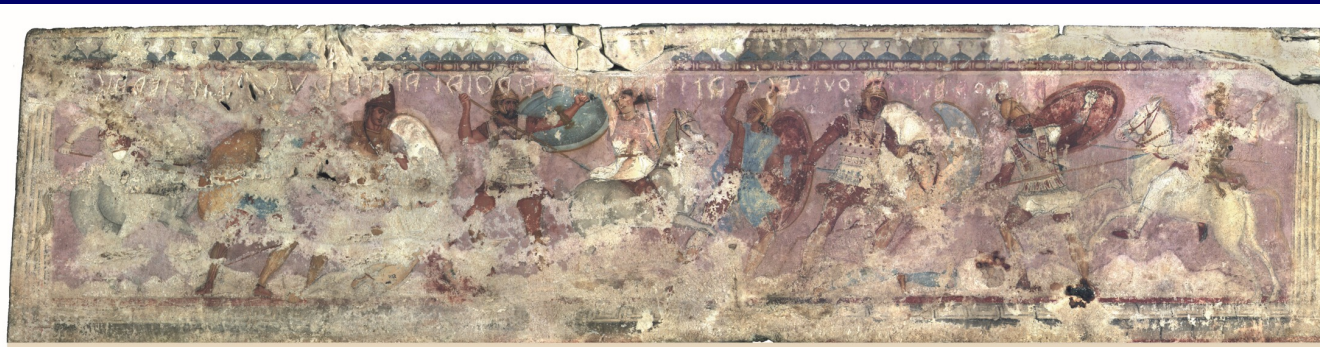
Terracotta pediment and *sima* from Talamone (Grosseto)







Terracotta pediment from Luni (La Spezia)



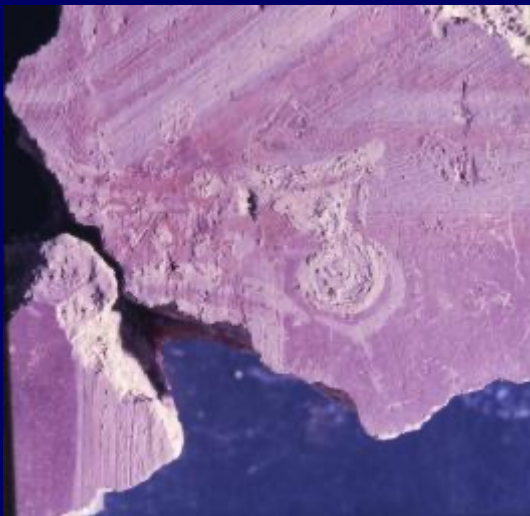
LATO 1 fig. 6-7 mappatura

The Sarcophagus  
of the Amazons  
(late 4 cent. B.C.)





## Roman Frescoes from Fiesole and the Gorgona Island







Roman mosaics from the *Mansio* at Collesalveti (Livorno)  
4th Cent. A.D.



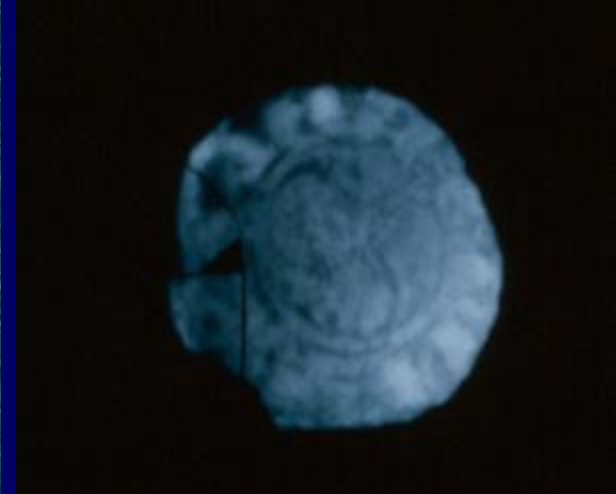


Mosaic from Populonia, illegally sold in the 1940s and given back by Christie's in 1999  
2nd Cent. B.C.

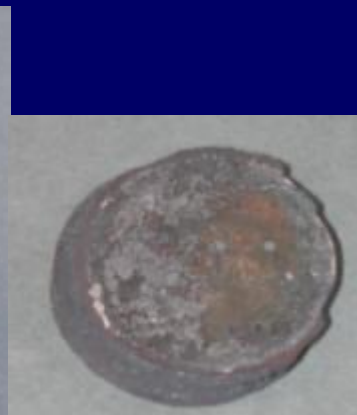


Bronze coins hoard from Rimignano (Livorno)





## Bronze and silver coins



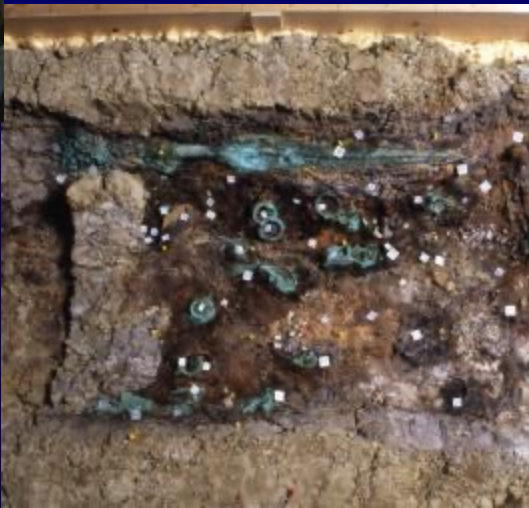
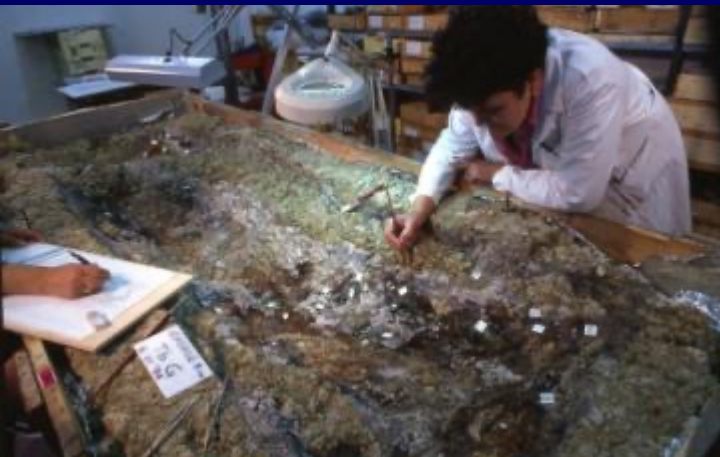
# Jewelry collection







## Stratigraphical investigations in the lab





Anthropological investigations





## Anthropometrical measurements





Florence, National Archaeological Museum: 18th cent. frescoes on the ceiling of the Room for the Etruscan large scale bronzes





The room with the Arringatore and the head of the Boy from Fiesolae already installed

