INVESTIGATING RECONSTRUCTING AND PRESERVING THE PAST

Issues of reconstruction and conservation

Italian and International contributions

Impact of Tourism
3. Investigating, reconstructing and preserving the past

• changing methods and contributions of nineteenth and twentieth century archaeologists to our understanding of Pompeii and Herculaneum

• changing interpretations: impact of new research and technologies

• issues of conservation and reconstruction: Italian and international contributions and responsibilities; impact of tourism

• ethical issues: study and display of human remains
Issues of conservation and reconstruction: Italian and international contributions and responsibilities; impact of tourism.
How are the issues of preservation and conservation being addressed by a variety of groups since the late 1990's? In what ways is this an improvement over past approaches to the archaeology of this area? 10 marks
1. Issues of conservation

Deterioration of the exposed parts of the sites.

- Lack of protective structures, theft, vandalism, poor materials used to stabilise structures or protect them, lack of funds.

The issue of whether or not excavation should continue.

2. Issues of reconstruction

Should buildings be left as found or reconstructed.

- Does reconstruction reduce the accessibility to original remains, or create twentieth century interpretations of remains.

- Why reconstruct? Protection or understanding, or for tourism, spectacular?
Deterioration: Some useful details

- Steel reinforcing beams exposed as poor concrete flakes off, have rusted and expanded, causing more damage to buildings. Concrete cancer is a problem in older restoration work - metal reinforcing within concrete rusts and eventually the concrete collapses.

- Poor quality mortar has been used and in time has cracked, allowing water and vegetation to penetrate the very walls it was designed to protect.

- Weeds such as brambles, take root in bare patches of earth, on the tops of walls, in cracks in the ruins and gaps in mosaic floors; as they grow they penetrate plaster walls and break up floors. It has been estimated that thousands of square metres of floor surfaces, including mosaics, have been destroyed by the invading weeds.

- In Pompeii approximately 700 houses have been uncovered. By 1990 only 100 were in a state of preservation which would enable a full archaeological examination and recording.

- By 1957 one-third of the known paintings had faded to the extent that they were no longer visible. During the following 20 years almost half of the images visible in 1957 also disappeared. Many of these were never properly recorded.
Light exposure of painted walls, frescoes and paintings

- Problem with wall paintings is the high calcium content which dissolves under the influence of acid rain
- Artists in ancient Pompeii painted the town red 2,000 years ago with a brilliant crimson pigment that dominated many of the doomed city's wall paintings. They were protected by a protective layer of “punic wax”
- Scientists now believe that a chemical reaction takes place between chlorine elements in rain and either the wax or the cinnabar to produce the blackening
- The wall at right shows the heavy damage due to blackening of cinnabar in the Poppea's villa in Oplontis
Frescoed walls absorb moisture from the atmosphere. The moisture carries to the wall soluble surface salts that effloresce and injure the fresco pigments. To halt such injury water-permeable fixatives may be applied to help stabilize the pigment and prevent it from flaking off. A more drastic treatment is transfer, by which the mural and upper layer of plaster are cut away from the wall altogether and made fast to a new support.
INVASION OF Plants

Amongst the species of plants causing problems, the acanthus whose leaves adorn corinthian columns and walls, wild strawberry, ivy, lichen and mosses. Henry De St Blanquet identified 31 types of parasitic plants, which over time can dislodge tiles and mosiacs, weaken mortar which destabilizes walls. Large root systems can also undermine foundations of buildings and invade drainage systems, adding to the existing problems of water damage.

The roots of ivy are very invasive and contribute to the disintegration of mortar and plaster. The weight of such vegetation also damages unsupported walls.
Solution: vegetation clearing projects
Reconstruction projects—planting original species

A research project was designed by the University of Sheffield to retrieve evidence for the date, layout and landscaping of this sanctuary. Work began in 1998 and was completed in 2007.

The second image shows the restored garden of the House of Venus in the shell.
Archaeologist Wilhemina Jashemski made an extensive study of the gardens, orchards and vineyards within the walls of Pompeii. Using plaster casts of the cavities, which formed around the roots of trees and vines and the analysis of pollen found in the ash, Jashemski was able to identify the plants that were growing at the time of the eruption. This orchard includes olive and fruit trees and grapevines. A section of the city wall can be seen in the foreground while Mount Vesuvius dominates the background.
Deterioration issue: Poor site management

Problem: Since excavations have frequently aimed at speed rather than preservation there has not been a comprehensive management plan for the sites. The result has been considerable deterioration of buildings and especially paintings.

The solutions have been to introduce a coordinated stabilisation and preservation plan controlled by the Italian superintendanze who also uses the support of archaeological teams from all interested countries including Sweden, Britain, the United States.
Deterioration issue: Poor Restoration and preservation work

– Problem because of past restoration work; errors in materials (steel beams, poor quality concrete, unsupported roofing), vegetation damage

– Solution: development of appropriate mortars, unobtrusive, use of plastics to protect outdoor graffiti, removal of weeds, use of aluminium roofing protective structures.
Deterioration issues: The following misconceptions are now being reversed

a) Previous belief: that the archaeologist is an excavator and not a preserver. Current belief: The emphasis now is on preservation – restriction on excavation

b) Previous belief: that leaving floors, walls, plaster and mosaics partially exposed is preferable to covering them with modern protective structures. Current belief: the emphasis now is on placing protective covers over small features and large roofing over buildings wherever possible. Researching better protective measures. The major responsibility of archaeological groups in Pompeii and Herculaneum lie in reducing the deterioration of the remains.

c) Previous belief: that the general public should be allowed to explore the remains without restriction. Current belief: barriers, rotating access to buildings is a compromise measure to slow down the deterioration caused by tourism.
Reconstruction debate

• Reconstruction in both sites now considered only as a means of stabilising and protecting remains.
• Computer aided images are an alternative means of presenting impressions of restored buildings.
• Digital recording of buildings, artefacts, computer technology important in documenting remains, cataloguing.
Poor site management

Problem: Since excavations have frequently aimed at speed rather than preservation there has not been a comprehensive management plan for the sites. The result has been considerable deterioration of buildings and especially paintings.

The solutions have been to introduce a coordinated stabilisation and preservation plan involving archaeological teams from all interested countries including Sweden, Britain, the United States.
Italian contributions and responsibilities

• Before 1997 the sites were under the control of the general Italian archaeological ministry in Rome. In 1997 the Italian authorities allowed all revenue raised in the Naples region to stay in Pompeii’s budget, and allowed the superintendanza to actively seek private investment.

• Law N°352 of 8 October 1997 on Cultural Assets, passed unanimously by the Italian parliament, granted autonomy to the Pompeii Archaeological Office.

• From 1995 to 2009 The superintendanza Guzzo was the overall manager of the Pompeii Archaeological Office; this is the archaeological body responsible for all sites in the Naples region. The superintendanzahas budgeting and policy responsibilities. -organisational issues and administrative and financial management,

• Guzzo established new Italian guidelines to address the issues of conservation and preservation.
Article: Pompeii rises again

- Guzzo: Pompeii takes in about $35 million a year, plus the EU has contributed $30 million for five year program of restoration.
- Guzzo policy: Focus shift to preservation, very little excavation.
  - By mid 1990’s only 14% of the site was open to the public because of deterioration; now about 30% is open to tourists. About 25 buildings. (40 years ago the figure was 64).
  - Roping off houses, rotating accessible buildings to reduce damage of tourism.
• One policy expressed by Guzzo is the continuation of tourism but introduction of management practices to limit the damage caused by tourism. Another is the acceptance of International cooperation under the overall management of the Italian authority. Excavation has been restricted within the walls of Pompeii, and limited outside the walls; in the most recent years, excavations have been carried out outside the Porta Stabia, and also near the river Sarno. At Herculaneum, controlled excavation at the Villa of the Papyri and on the perimeter of the exposed insulae has also been allowed.

• Specific areas of Italian responsibility include the partial excavation of the Villa of the Papyri and the stabilisation works in the Marine Baths of Herculaneum.
International contribution and responsibilities

• 1996 World Monument Fund declared Pompeii one of the world's most endangered sites. 1998 UNESCO put Pompeii on the World Heritage List.

• 1997 Italian government gave permission for Guzzo to accept international funds and teams. These are answerable to the Italian superintendanza i.e. not completely autonomous.

• In 2008 the Italian government declared a year long state of Emergency in Pompeii and funded an evaluation of the situation of "decay and careless management" in order to develop strategies to manage the problems. Funding is a critical factor in enabling the work - to Improve drainage from the area of the villa of the papyri in Herculaneum, for example, cost 130,000 euros in one year. International cooperation has been an essential component in addressing the problems of both sites.

• Ownership of artefacts - the export of such material is now prohibited by the Italian government.
The Herculaneum project

- A collaborative project begun in 2001 to conserve and enhance the archaeological site (cooperation of Guzzo, Wallace Hadrill and Packard i.e. Italian superintendanza, British school of Rome and Packard Humanities institute)
- 2 aims; to halt widespread decay and to develop a sustainable conservation strategy
- First stage was to develop better conservation and preservation techniques on a designated insulae at Herculaneum (above Suburban baths)
- Prevent deterioration due to water, humidity, exposure, poor restoration techniques of Maiuri period.
- Use of scaffolding, clearing of vegetation, new mortars,
Achievements/ actions of the Herculaneum project

• Development of stabilising measures including:
  * replacing gaps with light coloured concrete to prevent further plaster pealing - stabilising crumbling plastered column remains.
  * placing covers over vulnerable remains such as ancient grafitti slogans, and vulnerable buildings. Read this article about the experiments with plastic covers. The poor quality of cover in the 1980's contrasts with the current transparent cover which is much more effective in protecting the remains.
  * stabilising the edge of crumbling mosaics at the House of the Telephus relief.

• Using water permeable fixatives: Frescoed walls absorb moisture from the atmosphere. The moisture carries to the wall soluble surface salts that effloresce and injure the fresco pigments. To halt such injury water-permeable fixatives may be applied to help stabilize the pigment and prevent it from flaking off.
Know a second international project

- **The Philodemus project** is another example of international cooperation between American and British researchers. Computer enhancement and digital imaging has enabled the researchers to piece together about 60% of the scrolls found in the villa of the Papyri. The 1800 carbonised scrolls comprised the Greek library of this villa.
Insula I project

- **Insula I : an international effort. Insula I, 9** British School at Rome/University of Reading Pompeii Project In region 1 international cooperation is also occurring. Each national team is focussing on a specific feature e.g. the Dutch are examining the roads and insulae structure, the Spanish are studying the pre-Roman features, and the Italians are examining the construction history of Insula I 4. The British team are focussing on Insula I 9.

- A prime aim of the British Reading project has been to harness the potential of the computer to store large quantities of data and images, and render interlinked information easily and cheaply accessible.

- Every wall and floor surface in the insula has been manually measured, photographed, and recorded electronically as an AutoCAD drawing, (images of measuring, photo of wall, CAD drawing]. On this basis we can arrive at a picture of the main phases of construction of a house.
Pressure from tourism
Pompeii is an international tourist attraction with over two and a half million visitors to the site each year, and more than 20 000 on Italian public holidays. Before 2003, no special walkways or viewing platforms had been constructed so tourists walk along ancient roads and footpaths. Any that are not paved with stone have been worn down. A clear example of this is the footpath along the Via dell'Abondanza which is being worn down, exposing pipes. Images from the past show its height above the road before this erosion. As footpaths were edged with volcanic tufa or limestone which is relatively soft this edging needs replacing as it wears. In ancient times they would have been replaced, but this is not happening today. In some places ancient lead water pipes laid under paths have also been exposed and damaged.

GUZZO: The correlation between the growing number of visitors and the area open to the public, equivalent to 30% of the excavated area, has shown human impact to be the main factor to be taken into consideration on the Pompeii site.
Each year Pompeii alone admits 2.5 million tourists through its gates. The general movement adds to the wearing down of street surfaces, particularly in frequented areas like the Forum complex. Accidental brushing as well as deliberate touching of walls, columns and frescoes allows perspiration and body oils to react with the ancient surfaces. Flash photography in the past has magnified the damage caused by light exposure. Looting and vandalism has currently become a major security problem for Management.

Some tourists have deliberately vandalised the site. Tourists have been seen pushing over pillars, writing graffiti on painted walls, and picking up pieces of mosaics, plaster, pottery and marble. The graffiti below defaces a fresco of Herculaneum. Graffiti covers a wall of a terrace of the House of Telephus (Herculaneum project).
Boardwalk in the House of the Stags
Graffiti in the House of the Telephus Relief.
Less than ¼ of the excavated town is now accessible to the public. In 2006 only 16 monuments, villas and houses could be viewed as opposed to 60 in 1956. The most frequented buildings are systematically closed to the public to reduce tourist impact and enable restoration and conservation measures to be applied.

Walkways are now being constructed e.g. the House of the Stags at Herculaneum-At Herculaneum, as part of the current move to protect what has been excavated, board walks have been built in the House of the Stags and (currently off limits to tourists) in front of the boat sheds over the old beach front.

erecting barricades to protect buildings from too many visitors. Increased supervision and restrictions on entry to project buildings is helping to reduce the damage from tourism. The house of the labyrinth mosaic for example has been off limits to tourists while it is being restored and stabilised. Teams of archaeologists are now a common sight beyond barriers restricting public access. 1. Closed road. 2. padlocked entrance 3. Closed brothel 4. fragile sign on fresco in the house of venus in the shell.

* A recurrent problem is theft. Tourists have taken small items which were on display in homes; armed robbers stole over 250 objects including gold rings, from a storeroom at Herculaneum. As a result of the danger of theft, in 2003 a plan to move all pottery, capitals, columns and decorations to museums began. The plan also included fitting alarm systems in several houses.
In the past two decades, there has been a growing recognition that there is an international responsibility to preserve Pompeii and Herculaneum. The issues of deterioration of the sites as a result of exposure and the lack of protective measures, and of restoration methods and motives have been exacerbated as a result of lack of funding, increased tourism and overall site mismanagement. Since the appointment of Pier Guzzo as director of the Superintendanza of Naples, these issues have been addressed with increasing success.
Second part of Answer; Italian contributions.

The Italian superintendanza carries the overall responsibility for the issues of conservation and restoration. The Italian superintendanza has introduced higher entrance fees which allow access to other sites as well as Pompeii which reduces concentration at Pompeii. Italian archaeological teams have been assigned responsibility for the more significant sections of the sites including the Villa of the Papyri and for the analysis of human remains. On all archaeological sites, the superintendanza is responsible for the majority of stabilising and restoration projects such as the House of the mosaics.

The Italian responsibility also includes management of tourist access. While tourism remains as part of Guzzo’s policy of making the sites accessible to all, increased numbers have placed pressure on the fragile remains. Temporary and permanent barriers to tourist damage, board walkways over mosaic floors and directed tourist traffic flow have been part of the Italian contribution to site maintenance and management. Italian Conservators working in the most significant of the buildings in both towns including the Suburban baths of Herculaneum, have also replaced gaps with light coloured concrete to prevent further plaster pealing and have placed covers over vulnerable remains such as ancient graffiti slogans and vulnerable buildings. Additionally, in the case of recently restored areas, visits are by reservation and street level erosion is being minimised by creating new visitors routs and erecting barricades.

The third area of Italian contributions concerns the overall management of international contributions. Over recent years a coordinated stabilisation and preservation plan involving archaeological teams from all interested countries including Sweden, Britain & the US has reduced the occurrence of poor site management and provided an additional source of funding and expertise. As Guzzo, states, “Our responsibility lies primarily in taking all necessary measures to slow the inevitable deterioration and conserve as much as possible for future generations”. This coordinated effort is hoping to achieve this goal - to preserve and conserve Pompeii and Herculaneum. The “newly established relationship with scientific and research institutions” encouraged by Guzzo is a component of this cooperation.
Third part – International contributions.

International archaeological teams from countries such as Britain, Sweden, the USA & Germany are contributing to the cataloguing of buildings and artifacts and improved approaches to conservation. In region 1 international cooperation is occurring & each national team is focusing on a specific feature. For instance, the Dutch are examining the roads and insulae structure, the Spanish are studying the pre-Roman features and the Italians are examining the construction history of the insula. Additionally, insula 9 is also receiving special attention. The British school of archaeology at Pompeii has used computer application in order to electronically record the dimensions of Insula 9, which covers more the 3000 metres square. Each surface in insula 9 has been measured, photographed & recorded electronically as an AutoCAD drawing. Such measures are an improvement over past approaches to the archaeology as they ensure that the uncovered remains of Pompeii and Herculaneum are properly catalogued and preserved in order to attain an overall picture of what life was like in Campania. Corporate sponsorship has also allowed for the responsibilities of restoration and conservation to be addresses. For instance the NEAPOLIS project sponsored by IBM, Italia and Fiat Engineering has allowed for a vast database of all known archaeological remains & documents relating to Pompeii to be created.
International cooperation has been most successful through the acceptance of specific projects. The Pompeii Forum Project is a collaborative research venture which electronically documents architecture & decoration. It seeks to produce more accurate plans, photographs & computer models of the standing remains. Beginning in 1994 documentation has been performed using a total station that interfaces with AutoCAD. The data can be transformed on-site into plans and models using a laptop computer equip with AutoCAD. Such research ventures and technological advancements has allowed for the remains to be catalogued and recorded more thoroughly.

The Philodemus project is another example of international cooperation between US & British researchers. This project is supported by a major grant from the National Endowment for the Humanities and by the generous contributions of individuals and participating universities, and uses computer enhancement & digital imaging to piece together 60% of the scrolls found in the villa of the Papyri. This project is an example of how much science technology is aiding archaeologist in preserving and conserving Pompeii and Herculaneum. Without such technologies, archaeologists would not have been able to gain as much understanding about the daily lives of Romans.
At Herculaneum, The British School at Rome announced that an $18-million preservation project will be launched. This project was made possible through the application of a law that allows private organizations to work at state owned sites. Additionally, the Herculaneum Conservation Project was conceived in 2000 and it has been a significant step towards creating a unified goal in terms of conservation and restoration. This project aims to prevent the decay that afflicts all parts of the site through measures such as using scaffolding to stabilise collapsing structures, consolidate crumbling plaster surfaces and disintegrating mosaics, eradicating weeds and excluding pigeons. These measures will help to reduce decay, however, they are also helping to develop a conservation strategy to safeguard the survival of the site. This requires a multi-disciplinary collaboration of archaeologists, conservators, architects & engineers. Thus, the Herculaneum Conservation Project has been a significant step towards creating a more efficient preservation and conservation program as it aims to prevent all sources of deterioration and also develop a strategy which will ensure the site will continue to survive.

Additionally, in 2003, two companies in New York sponsored a meeting in Pompeii that brought together a range of archaeologists, conservators, architects and other specialists to compare ideas and help the restoration and conservation effort to continue in a more unified manner. Such unification is important as it ensures that all archaeologists have a common understanding and knowledge of the site and its preservation.
The development of a coordinated international effort which includes specialist archaeological teams from across the world has improved the approaches to archaeology to the area as it has allowed particular teams to focus on their specialist areas, and has also allowed for a variety of groundbreaking technology from particular countries to be used in Pompeii and Herculaneum. The convergence of archaeologists from a range of countries has also benefited Pompeii and Herculaneum as it has allowed for archaeologist to put forward their own unique ideas and opinions about how best to excavate, stabilise or conserve a particular area.